

Islamic Republic of Iran
Iranian Cultural Heritage, Handicrafts and Tourism Organization
ICHHTO

Nomination of
The Cultural Landscape of Maymand
for Inscription on the World Heritage List

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Executive Summary

UNESCO
World Heritage Convention
TEHRAN 2012



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Troglodyte Maymand

- **Country (and State Party if different)**

Islamic Republic of Iran



Fig. 1. Iran

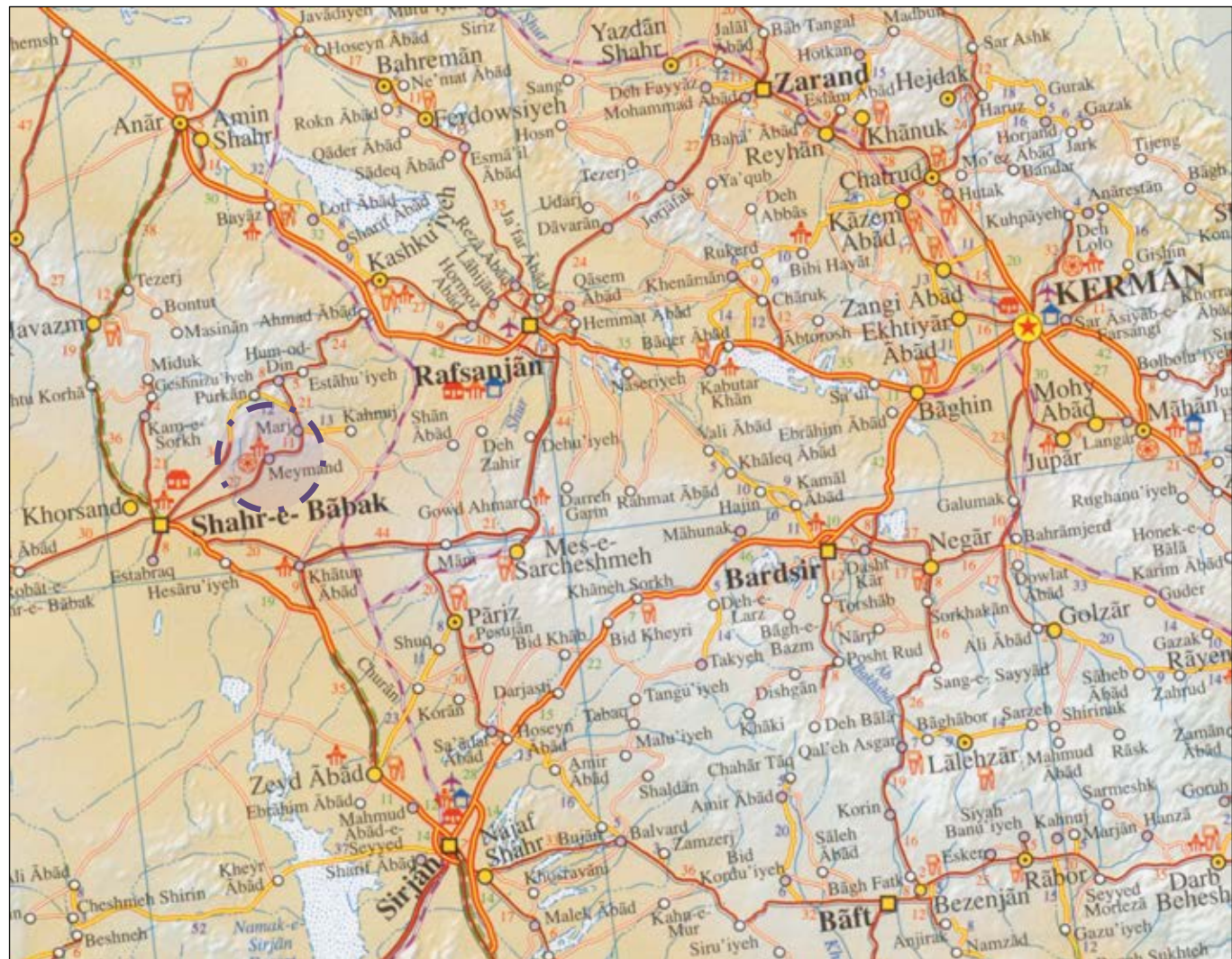
- State, Province, or Region

Kerman Province, Shahr-e Bābak Township

Fig. 2. Location of Kermān province in Iran



Fig. 3. Location of Maymand in Kermān province



- **Name of Property**

The Cultural Landscape of *Maymand*



Fig. 6. General View of Cultural Landscape of *Maymand*

- **Geographical Coordinates to the Nearest Second**

The cultural landscape of *Maymand* covers an extended area with the following geographical coordinates:

South: N 30 07' 28" E 55 21' 24" North: N 30 17' 30" E 55 21' 16"

West: N 30 10' 05" E 55 19' 07" East: N 30 09' 23" E 55 25' 24"

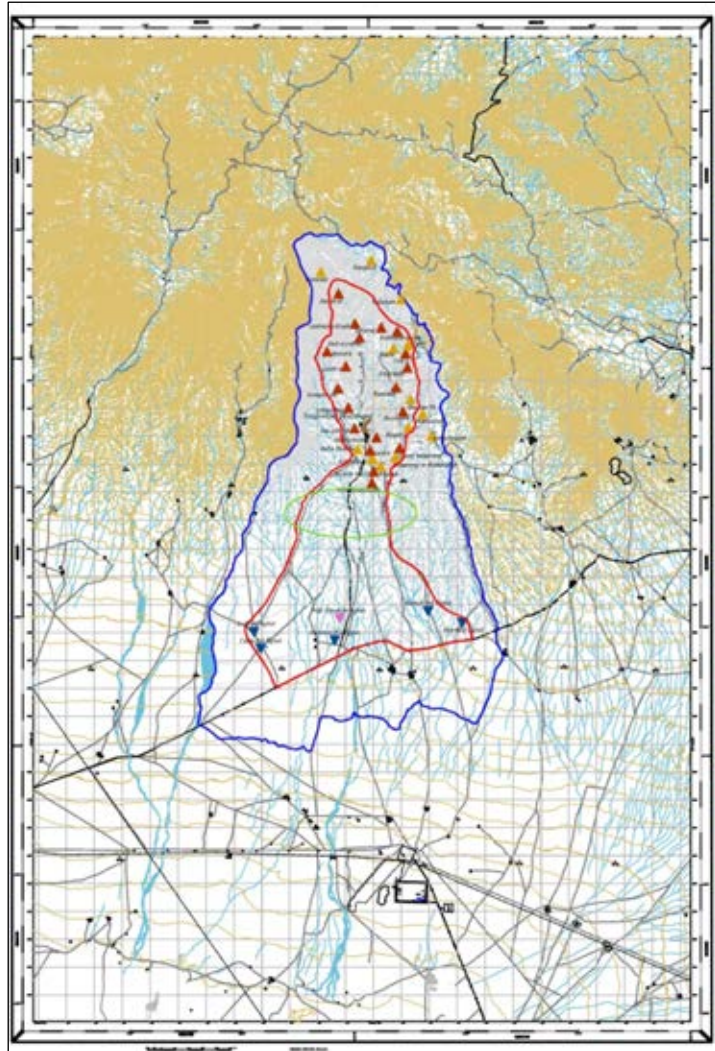
Troglodyte village as the focal point of this cultural landscape is located:

N 30 13' 44" E 55 22' 32"

Coordinated of all the *Sar-e-Bāghs* and *Sar-e-Āghols* and other elements of Cultural Landscape of *Maymand* are attached.

- **Maps and Plans, Showing the Boundaries of the Cultural Landscape of Maymand**

Fig. 7. Cultural Landscape of Maymand, Distribution of Hamlets (Ābādīs/Sar-e Bāghs) and Folds (Āghols)



-  Abandoned Hamlets
-  Alive Hamlets
-  Troglodyte Maymand
-  Eshām
-  Alive Fold
-  Abandoned Fold
-  Core Zone
-  Buffer Zone



Fig. 8. Sar-e-Bāgh



Fig.9. Troglodyte Maymand



Fig. 10. Eshām



Fig.11. Sar-e-Āghol

- **Area of Nominated Property**

Core zone of the cultural landscape of *Maymand* covers an area of 4985.85 hectares and buffer zone of *Maymand* covers an area of 7024.65 hectares.

Cultural Landscape of <i>Maymand</i>	Area core zone (ha)	Area Buffer zone (ha)	Total (ha)
	4953.85	7024.65	11978.5

Fig. 14 Area of Cultural Landscape of *Maymand*

- **Justification**

Statement of Outstanding Universal Value

Summary

The Cultural Landscape of Maymand is located in the Western part of Kerman Province in south-eastern Iran. The area is relatively concentrated (some 20 x 20km) on the southern slopes of Iran's central mountains, Mount Shirkuh, which surrounds the area on northern, western and eastern sides, and rises up to some 2600m. The difference of altitude in the landscape area is about 1000m from north to south, providing diverse climate conditions to benefit living in the different seasons. It is an unspoiled region, which bears testimony to the different forms of interaction of man and nature living in harmony over millennia. Indeed, it is an exceptional and outstanding example of a cultural landscape, where 'three-phased' seasonal and 'inner' migration (transhumance) has continued to be practised in the traditional form until today. While this type of lifestyle will have been common in many parts of the world, including Iran, it has been mostly lost, leaving only a relict landscape or individual elements often turned into museums. Therefore, Maymand remains a rare if not unique example still living.

The focal point in the centre section of the cultural landscape consists of the troglodytic villages of Maymand, representing a great variety of types of winter habitation, i.e. cave dwellings excavated into the slopes of natural depressions in the ground, thus also providing places for hiding in case of enemy attack. Following the seasonal movement of the livestock towards higher or lower altitudes according to requirements, the cultural landscape has grown to provide all the necessities to humans and animals. Indeed, the territory bears testimony to the gradual development of a great diversity of different types of shelters for humans and animals (*Sar-e-Āghol*) associated with a specifically adapted lifestyle. The area includes water sources (wells and *qanats*) and gardens (*Sar-e-Bāgh*), means to provide for food, medicine, clothing, tools and objects using locally developed techniques and handicrafts, and based on a thorough knowledge and understanding of nature and the ingenious use of natural resources.

Fig. 15 A View of Cultural Landscape of Maymand



Criteria

Criterion (iii): bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

The cultural landscape of Maymand bears exceptional and even unique testimony to the evolution over centuries of a traditional way of life in close interaction with nature. It bears testimony to significant social, economic and religious activities from the ancient times. And the traditional lifestyle is still part of the present-day farming and animal husbandry. Indeed, in a relatively limited area, this cultural landscape comprises a significant range of elements and man-made structures, representing different stages of their evolution. These include shelters for humans and animals, adapted to the seasonal requirements, such as natural caves, man-made troglodyte villages, mountain villages, gardens, and spring-time shelters on the plains (*Sar-e-Āghol*). The residential structures are combined with constructions for diverse purposes, such as shelters for animals, systems for water management, and access routes (dry river, pathways, *kashkor*).

Fig. 16/19 Different Spaces of Cultural Landscape of Maymand



Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

The nominated property is an outstanding example of a cultural landscape that illustrates significant stages in the development of human habitat based on transhumance, and dated initially to the Parthian and early Sassanid periods, ca. 3rd century BC to AD 3rd century. The troglodyte residences of Maymand illustrate the evolution of such habitat from the use of natural caves and simple holes dug into the ground (*markhaneh*, *kapar*), to more elaborate man-made troglodyte spaces for a diversity of purposes, including residences, forts (*dezh*), religious spaces (fire temples, mosques, *Hosseiniyeh*), baths, and schools. Other non-residential spaces include shelters for sheep (*kuz*, *darkuz*, *korm*, *talgard*), beehives, mills, food storages (*jir-e-dan*), vegetable gardens (*sar-e-bagh*), pools, water tanks, wells, and underground water canals (*qanats*), as well as graveyards (pre-Islamic and Islamic), providing the framework for living with what was required in the different seasons.

Fig. 20/23 Different Spaces of Cultural Landscape of Maymand



Criterion (v): *be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;*

The Cultural Landscape of Maymand is an outstanding example of a traditional settlement structure, resulting from human interaction with the environment and involving transhumance, which has become vulnerable under the impact of irreversible change due to globalization. The seasonal and daily movements of people with their livestock over relatively short distances, typically to higher pastures in summer and to lower valleys in winter, i.e. transhumance, has been based on an excellent knowledge of the nature and an ingenious use of natural resources, the scattered water resources, such as seasonal rivers, *qanats* and springs, as well as different types and species of vegetation, such as herbal plants and wild almond trees.

Fig. 24/29 Different Spaces of Cultural Landscape of Maymand



Integrity and authenticity

The Cultural Landscape of Maymand is a rare example of transhumance territory that has retained its traditional functions alive, and that continues to bear testimony to the historical evolution of the habitat, consisting of troglodyte residences, and a variety of service spaces and structures of which many still in use. The nominated area comprises all the significant elements that document the traditional transhumance functions, as well as the associated residential and non-residential structures. Furthermore, these elements have kept their traditional form and are in good state of conservation. The traditional techniques, materials and craftsmanship have continued in use until the present, and the landscape has maintained the spirit of the traditional ensemble, expressed in the continuity of farming and animal husbandry. The landscape area has also retained significant sources of information of the different phases of development of this lifestyle.

Protection and management

The World Heritage area and the buffer zone of the Maymand cultural landscape are defined taking into account the significant elements that justify its outstanding universal value. This cultural landscape consists of troglodyte village of Maymand, Sar-e-Bāghs and Sar-e-Āghols, natural sites such as a cave as well as miscellaneous sites like mills, castle, pre-Islamic graves, *qanats*, etc. Life in Maymand involves all these elements and therefore all of them are introduced as the core zone of the site, while a larger area including other related features that in some cases have similarities with elements of Maymand cultural landscape forms its buffer zone. Specific set of regulation and policies are set in order to preserve and protect the life based on sustainable development policies. The area is subject to traditional management system, which is formalised in the management plan prepared specifically for the nominated property.

- **Textual Description of the Boundaries of the Cultural Landscape of Maymand**

Description of the Core Zone

Point **C.1**(N:30 08' 41" ,E: 55 20' 41") is located in the junction of *Āghol-e Tālebīhā* dirt road and *Shahr-e Bābak* to *Maymand* asphalt road. We shall then move toward *Maymand* and in the junction of *Maymand* road we get to point **C.2** (N: 30 09' 17",E: 55 21' 59"). In the junction of the dirt and asphalt roads at a sandy hill, one reaches point **C.3** (N: 30 09' 38",E: 55 23' 02"). After passing by point **C.4**(N: 30 09' 28",E: 55 23' 32"), one reaches points **C.5**(N: 30 09' 34",E: 55 24' 20") at the junction of the dirt road and *Lāposht Dez* asphalt road. Along the same line and at point **C.6** (N: 30 09' 41",E: 55 25' 01") and **C.7**(N: 30 10' 04",E: 55 24' 51") we reach respectively to *Āghol -e Bakhshīhā* and *Āghol-e Morteżā* roads. We then move northward along the both sides of lower *Mehrūkān* road and *Tavakol Abad* village and pass by point **C.8**(N: 30 10' 54",E: 55 23' 53"). We go by *Āghol -e Morteżā* along the same path until we reach point **C.9**(N: 30 11' 36" ,E: 55 23' 07") at *Āghol -e Bakhshīhā*. At the next point of **C.10**(N: 30 12' 30" ,E: 55 23' 04") one reaches the river and to the east of *Pādezh Ābādī*, point **C.11**(N: 30 12' 57",E: 55 23' 08") is situated. The path continues northward and passes by *Mowrange-e Rūdkhāneh* and *Mowrang-e Bālā* until point **C.12** (N: 30 13' 42",E: 55 23' 36") located next to *Rūgāzū Ābādī*. We move among *Kamūchak* and *Rezmalek Ābādīs* along *Owdān Tīt* and reach to point **C.13**(N: 30 14' 41",E: 55 23' 44"). The path stretches northward and goes by point **C.14**(N: 30 15' 19",E: 55 23' 37") next to *Pūrāz Ābādī*. We then turn northwest and after crossing the valley reach points **C.15**(N: 30 15' 58",E: 55 22' 55") and **C.16**(N: 30 16' 25" ,E: 55 22' 30"). The path continues until the most northern point of the core zone line, **C.17**(N: 30 16' 37",E: 55 21' 50"). That is located to the north of *Darbīd Ābādī*. Then we turn south toward *Ābādī* and *Eshkaft- lāshkorgūīyeh* until point **C.18**(N: 30 15' 30" ,E: 55 21' 39"). We continue the path in the *Bon Lā* valley until point **C.19**(N: 30 15' 07",E: 55 21' 24") and pass by point **C.20**(N: 30 14' 30",E: 55 21' 36") next to *Gozgestān Ābādī*. Then we move along the dirt road and reach *Shams* village where point **C.21**(N: 30 13' 14" ,E: 55 22' 16") is situated. Moving southward along the dirt road, one reaches point **C.22**(N: 30 12' 27",E: 55 21' 18"). We shall cross the semi-deep valley of *Gohar-e Bādāmi*, point **C.23**(N: 30 11' 43",E: 55 21' 19"), and continue the dirt road toward *Āghol-e Lotfīhā*. We

then pass by point **C.24** (N: 30 10' 55",E: 55 20' 44") and reach point **C.25**(N: 30 09' 47",E: 55 19' 56") next to *Āghol-e Lotīhā*. The path continues in the dirt road along the *Āghol-e Talebīhā* until the line reaches the *Shahr-e Bābak* to *Maymand* main road at point **C.1**(N:30 08' 41" ,E: 55 20' 41").

Description of the Buffer Zone

The starting point for the buffer zone line is point **B.1**(N: 30 07' 57",E: 55 18' 56"). From this point the line branches off the *Shahr-e Bābak-Maymand* asphalt road and continues along the dirt road that stretches toward watershed management canals until it reaches point **B.2**(N: 30 07' 43",E: 55 19' 03") that is located at the end of *Āghol-e Lotfīhā* pastureland. The line continues in the same direction until point **B.3**(N: 30 07' 28",E:55 21' 24") that is located at the end of the border between *Āghol-e Tālebīhā* and *Āghol-e Hājīhā*. The path continues eastward and passes by point **B.4**(N: 30 08' 09",E: 55 21' 40"), located at the end of *Āghol-e Darkhūnīhā* pasture border; then it continues along *Maymand* river and passes by point **B.5**(N: 30 08' 15",E: 55 22' 23") located at the end of *Āghol-e Ebrāhīm Hājī* pasture border until it reaches point **B.6** (N: 30 07' 55",E: 55 23' 22")located at the end of *Āghol-e Gūro* pastureland. The line passes by point **B.7**(N: 30 03' 44",E: 55 23' 51") that is located along *Āghol-e Gūro -Khātūn Abad* road and crosses the Lay Sang *Sorkh* River until it reaches to *Aghole- Bakhshīhā* and *Mortezā*. The path continues from this point in *Āghol-e Akhūnd* pastureland where point **B.8**(N: 30 08' 04",E: 55 25' 06") is located. The path continues northward from this point until it reaches point **B.9**(N: 30 09' 53" ,E: 55 25' 35") in the junction of *Āghol-e Akhūnd* dirt road and *Shahr-e Bābak-Maymand* asphalt road. Point **B.10**(N: 30 10' 27" ,E: 55 25' 15") is located along the dirt road toward the north. Point **B.11** (N: 30 11' 33" ,E: 55 24' 53")is located in a crossroad and continuing along the dirt road, one reaches point **B.12**(N: 30 12' 25" ,E: 55 24' 29"). Point **B.13**(N: 30 12' 46" ,E: 55 24' 27") is located at the end of dirt road. Parallel to *Mowreng-e Rūdkhāneh* village, we pass by point **B.14**(N: 30 13' 11",E: 55 24' 29") and cross the dirt road until we reach point **B.15**(N: 30 13' 27" ,E: 55 24' 17"). Parallel to *Kel-e Hossein* village and next to the dirt road one reaches point **B.16**(N: 30 13' 49",E: 55 24' 21") and after the road bend, we pass by points **B.17**(N: 30 14' 23" ,E: 55 24'

34") and **B.18**(N: 30 14' 31" ,E: 55 24' 16"). We then turn upward and pass by the crest and at the village road bend, reach points **B.19** (N: 30 14' 58",E: 55 24' 12")and **B.20**(N: 30 15' 47",E: 55 23' 59"). Point **B.21** (N: 30 15' 24" ,E: 55 24' 02")is located next to *Pūrāz* village. The line continues upward in an uphill path and reaches points **B.22**(N: 30 15' 47",E: 55 23' 51") and **B.23**(N: 30 15' 57",E: 55 23' 40") next to the road bend. Then we go next to *Tīdūīyeh* village and in pass by points **B.24**(N: 30 16' 23",E: 55 23' 15"), **B.25**(N: 30 16' 33",E: 55 23' 16"), **B.26**(N: 30 16' 41",E: 55 23' 03") and **B.27**(N: 30 16' 50",E: 55 22' 52") located in a narrow gorge. We shall continue the path along the dirt road until we reach point **B.28** (N: 30 17' 14",E: 55 22' 53")located at a crossroad. Point **B.29**(N: 30 17' 22",E: 55 22' 37") is situated to the north of *Dargazū* village. Point **B.30** (N: 30 17' 29",E: 55 21' 53")is the most northern point of the buffer zone line, where we detach from the dirt road. The path continues eastward until point **B.31**(N: 30 17' 31",E: 55 21' 16"). Point **B.32**(N: 30 17' 20" ,E: 55 20' 55") is located toward southwest direction. After passing by point **B.32**, we turn south and pass by *Bodehdar* village where point **B.33**(N: 30 16' 43",E: 55 21' 09") is located. Then we go over a hill and reach point **B.34**(N: 30 16' 14",E: 55 21' 18") near *Darebīd* village. On the hilltop, we pass by point **B.35**(N: 30 15' 49",E: 55 21' 17") and toward southwest we reach point **B.36**(N: 30 15' 37" ,E: 55 20' 55") at the azimuth of the neighboring hill. The path continues along the crest toward the south until we reach point **B.37**(N: 30 15' 12",E: 55 21' 01") located at the hill peak. Point **B.38**(N: 30 14' 38",E: 55 21' 00") is located south of point **B.37** and west of *Gozgestūn* village. Along the southern crest, we pass by point **B.39** (N: 30 14' 06",E: 55 20' 58")and at the azimuth of the southern hill reach point **B.40**(N: 30 13' 27",E: 55 21' 01"). We come down along the crest and towards the south, point **B.41** (N: 30 13' 02" ,E: 55 20' 27") is located. Point **B.42** (N: 30 12' 14",E: 55 20' 06") is situated to the north of *Āghol-e Asadī*. Along the dirt road we move southward and pass by point **B.43**(N: 30 11' 38"" ,E: 55 19' 50"). The path continues southward towards the dirt road located to the west of the path. Point **B.44**(N: 30 10' 46",E: 55 19' 28") is located along it. Point **B.45**(N: 30 10' 09",E: 55 19' 07") is located at the crossroad of two dirt roads and to the north of seasonal stream. Point **B.46**(N: 30 09' 40",E: 55 19' 13") is located to the east of the stream and west of *Āghol-e Lotfīhā*. Point **B.47**(N: 30 08' 33",E: 55 18' 57") is situated south of the seasonal stream and continuing the river course, one reaches point **B.1**(N: 30 07' 57",E: 55 18' 56") that is the buffer zone line starting point.

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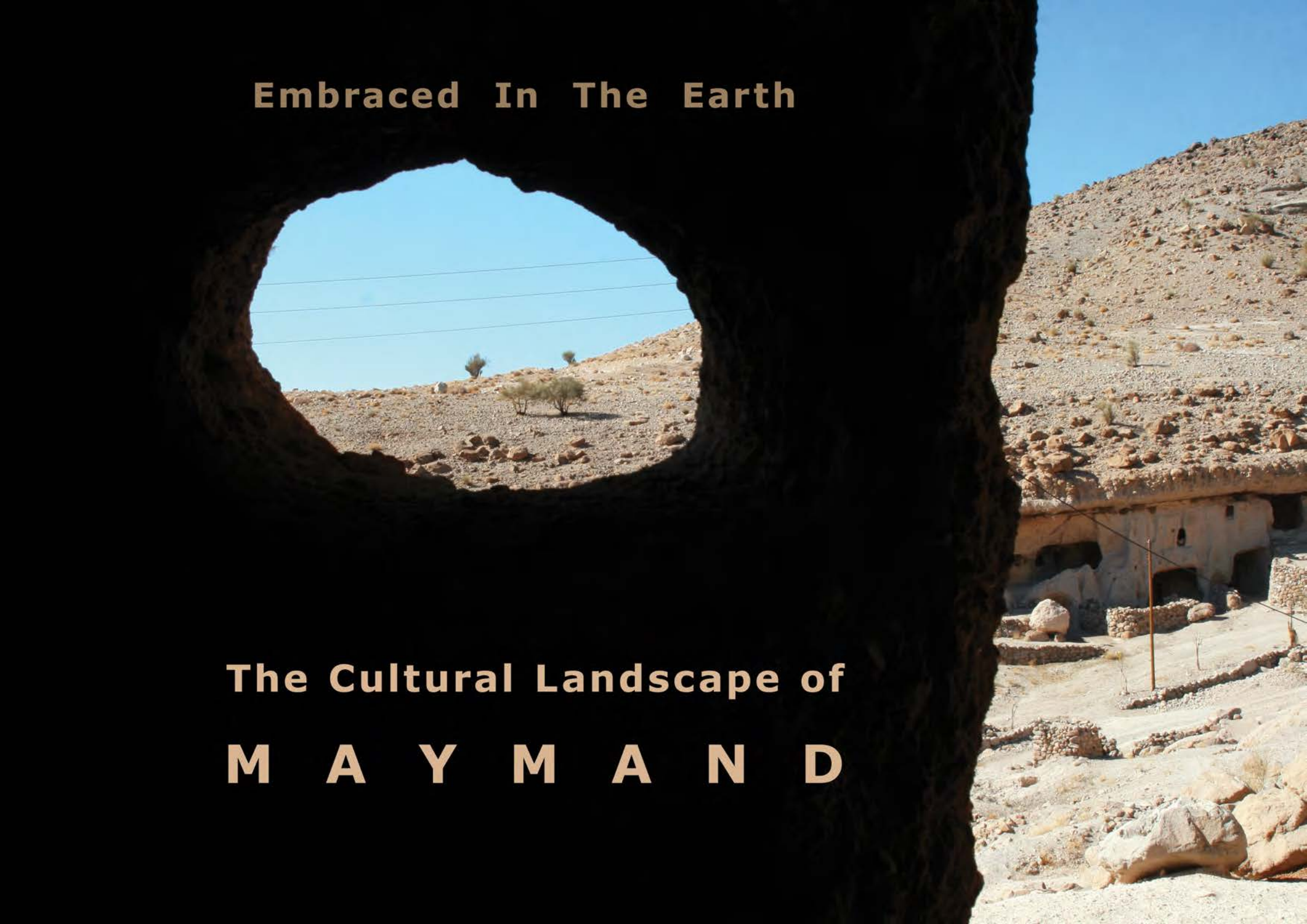
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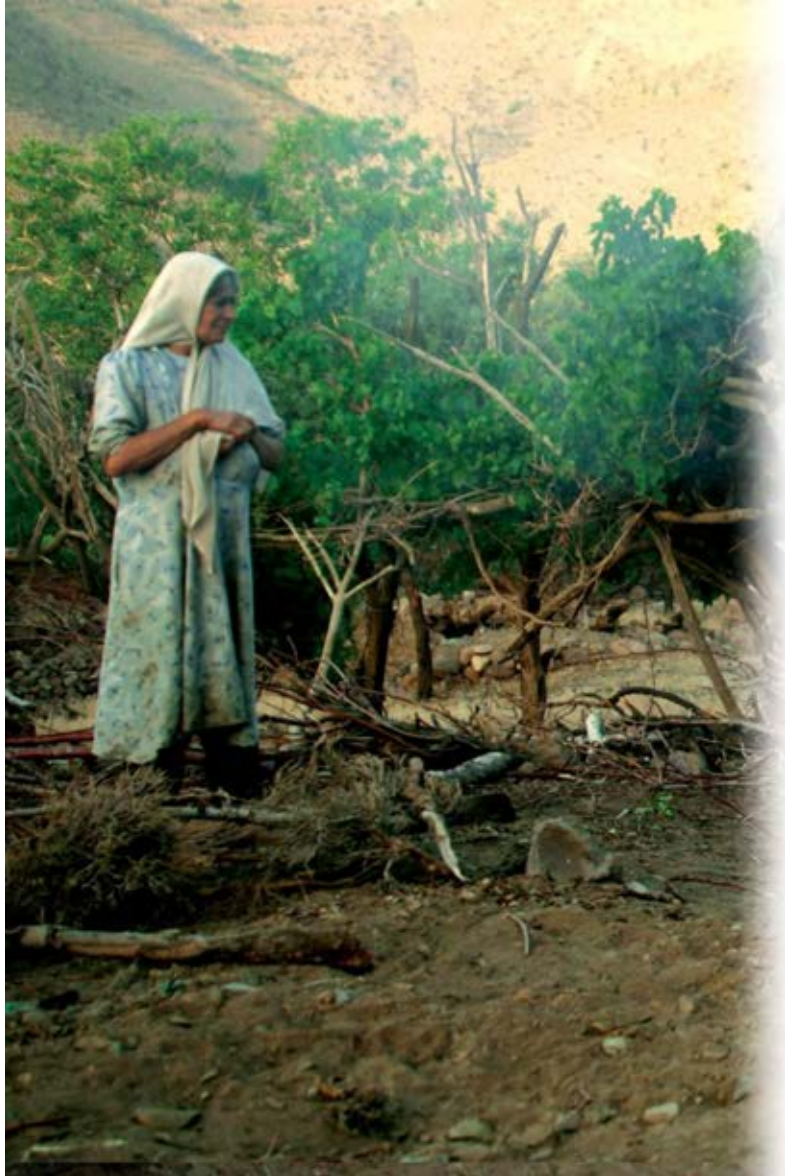
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Report

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World Heritage Convention
TEHRAN 2012



Title	Page
Chapter 1: Identification of the Property	
1.a Country	1
1.b Province and Location of the Site	2
1.c Name of Property	5
1.d Geographical Coordinates to the Nearest Second	6
1.e Maps and Plans Showing Boundaries of the Nominated of the Property and Buffer zone	7
1.f Area of Nominated Property	11
Chapter 2: Description	
2.a Description of Property	12
Foreword	12
The nature of cultural landscape of <i>Maymand</i>	13
Geographical Location	13
Geology and Soil Classification	14
Water Resources	15
Climate and Altitude	21
Vegetation	22
Animals	25
Natural Features	26
Natural Attractions	28





Title

Page

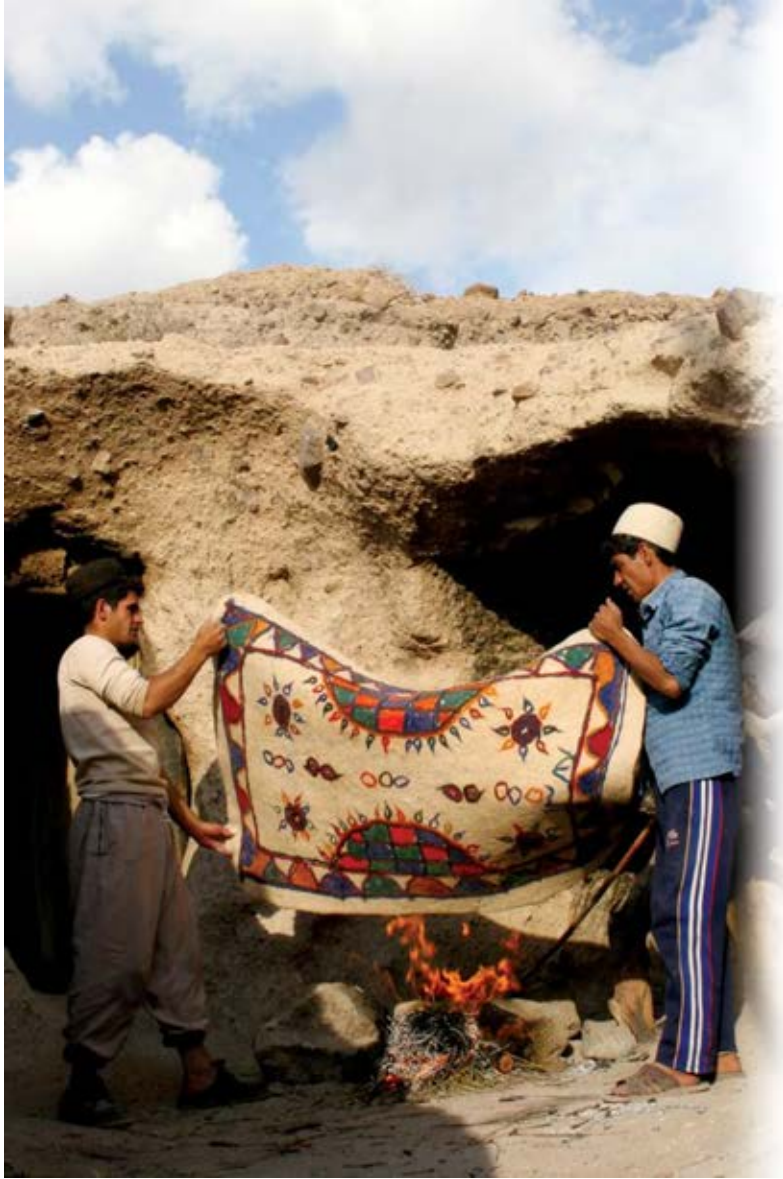
Man in interaction with nature	29
Social structure and lifestyle	32
Architecture	37
<i>Sar-e-Āghol</i>	39
Climate	41
Lifestyle	41
Structures and spaces	42
Cattle spaces	43
Brick-Made <i>Āghol</i>	43
Wooden <i>Āghol</i>	43
<i>Kūz and Darkūz</i>	44
<i>Korm</i>	45
<i>Talgard</i>	45
<i>Jirehdān</i>	46
Sheep Prison (<i>Zendān-e-Gūsfand</i>)	46
Human spaces	46
<i>Kapar</i>	46
<i>Markhāneh</i>	48
<i>Mashkdān</i>	48
Water Pool	49





Title	Page
<i>Eshām</i>	51
<i>Pelās</i>	51
<i>Sar-e-Bāgh</i>	52
Climate	54
Lifestyle	54
Skelton and Spaces	56
Human spaces	57
<i>Kapar</i>	57
<i>Gombeh</i>	59
Pazdūn	61
<i>Mashkdān</i>	61
<i>Chahārpāyeh</i>	61
<i>Kel-e-Dūshāb</i>	62
Water mill	64
Kharman- kamarī	66
Cattle spaces	66
<i>Keleh</i>	66
<i>Parvārband</i>	66
Talgard	67
Troglodyte <i>Maymand</i>	68
Climate	70
Lifestyle	70





Embraced In The Earth
The Cultural Landscape Of Maymand

Title	Page
Introduction to Troglodyte Fabric	71
Access routes to village fabric	74
Tarmac routes	74
Dust routes	74
Dry River (<i>masīl</i>) in the middle of the village	74
<i>Kāshkor</i>	74
<i>Rekhneh</i>	75
Stone steps	75
<i>Kicheh</i> Bāgh	76
Quarter's Centre	77
Residential Units	77
<i>Kicheh</i>	78
<i>Eyvān</i>	80
<i>Sarsoffeh</i>	81
<i>Otāq</i> (Room)	82
<i>Dargāh</i> (Doorway)	84
<i>Anbār</i> (storage places)	85
<i>Tavileh</i> (Animal shed)	85
Architectural elements	85
<i>Tāq</i>	85
Patāq	85
Owrīz	86





Title	Page
<i>Toqol</i>	87
<i>Panābād</i>	89
<i>Talvāreh</i>	90
<i>Dīdān</i>	91
<i>Akhīyeh</i>	92
Door	93
<i>Kleydūn</i>	97
Samples of Native Construction Methods	98
Wall-arranging	98
Restoration of Frail ceilings	103
Door-making	105
Outstanding buildings	106
Mosque	107
<i>Hosseiniyeh</i>	111
Bath=House	112
School	115
<i>Ātashkadeh</i> (Fire temple)	122
The Non-Residential Sites Scattered in <i>Maymand</i>	126
<i>Dezh</i> (Fort)	126
Grave Yards	127
<i>Som</i>	129

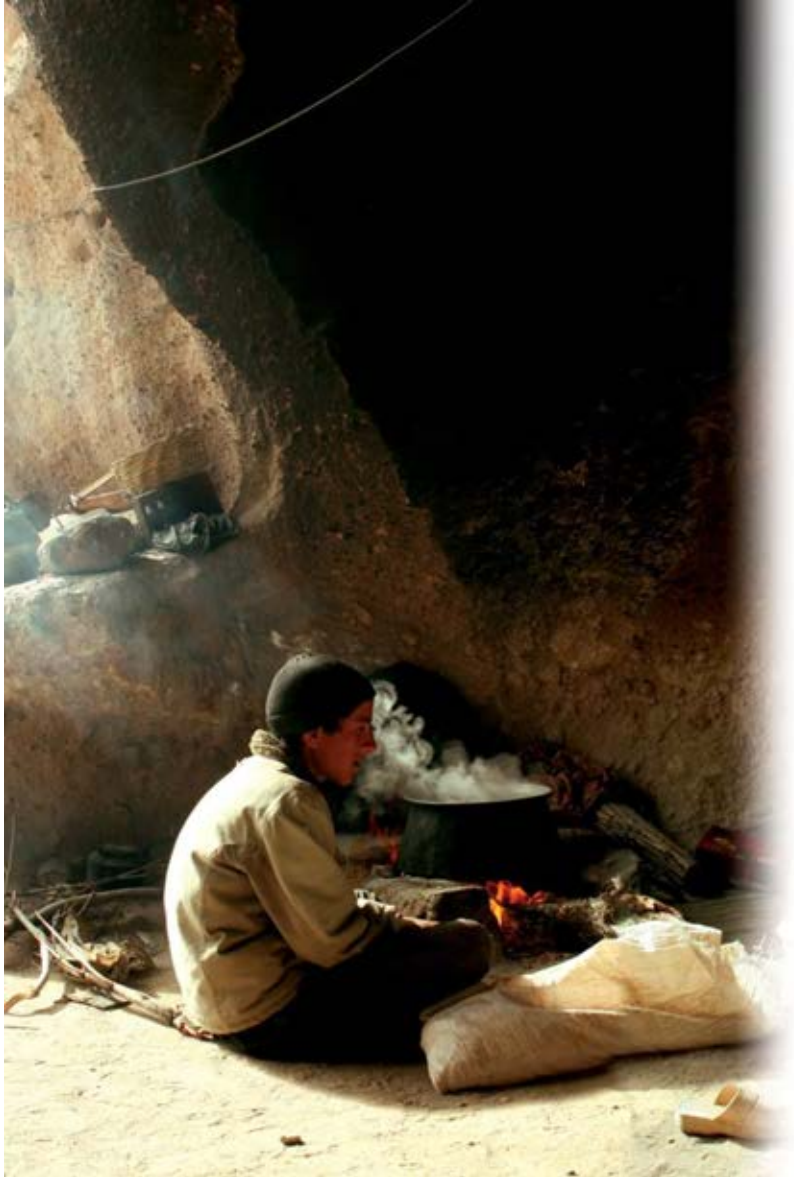




Embraced In The Earth
The Cultural Landscape Of Maymand

Title	Page
Rock Arts	129
Livelihood	131
Cattle Breeding	131
Hunting	134
Beekeeping	135
Agriculture	136
Hand-crafts and tools	140
Food	143
Clothing	147
Traditional medicine and herbal remedies	150
Beliefs, faiths and Rituals	151
Life and Sustainable Thinking	154
Energy Consumption Optimization	154
Recycling	156
2.b History and Development	158
History	158
Development	165
Chapter 3: Justification for Inscription	
3.a Criteria Under Which Inscription Is Proposed	173
3.b Proposed Statement of Outstanding Universal Value	190





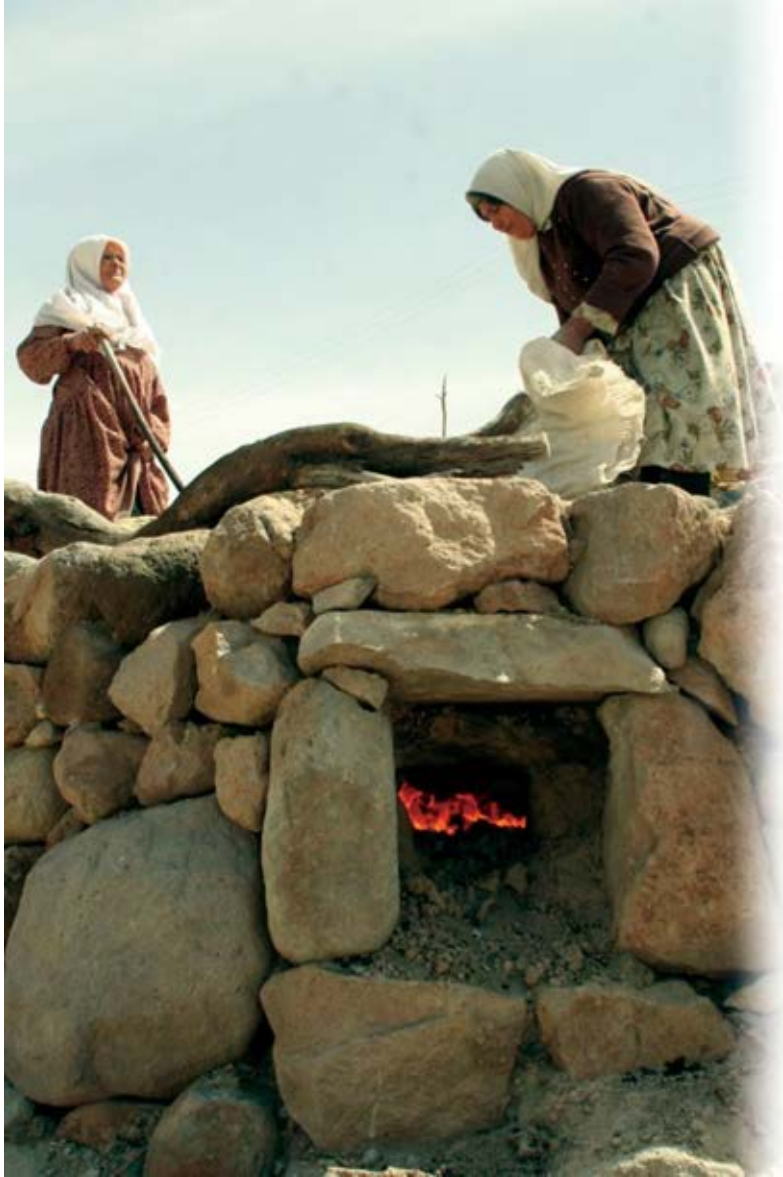
Title	Page
3.c Comparative analysis (including state of conservation of similar properties)	203
3.d. Integrity and/or Authenticity	265
Chapter 4: State of Conservation and Factors Affecting the Property	
4.a. Present State of Conservation	276
4.b. Factors Affecting the Property	330
i: Development Pressures	330
ii: Environmental Pressures	338
iii: Natural Disaster and Risk Preparedness	338
iv: Tourism and Visitors Pressures	340
v: Number of Inhabitants Within the Property and the Buffer Zone	342
Chapter 5: Protection and Management of the Property	
5.a Ownership	345
5.b Protective Designation	347
5.c Means of Implementing Protective Measures	354
5.d Existing Plans Related to Municipality and Region in Which the Proposed Property Is Located	358
5.e Property Management Plan or Other Management System	361
5.f Sources and Levels of Finance	378





Title	Page
5.g Sources of Expertise and Training in Conservation and Management Techniques	382
5.h Visitor Facilities and Statistics	384
5.i Policies and Programmes Related to the Presentation and Promotion of the Property	399
5.j Staffing Levels (professional, technical, maintenance)	407
Chapter 6: Monitoring	
6.a Key Indicators for Measuring State of Conservation	410
6.b Administrative Arrangements for Monitoring Property	414
6.c Results of Previous Reporting Exercises	417
Chapter 7: Documentation	
7.a Photographs, Slides, Image Inventory and Authorization Table and Other Audiovisual Materials	448
7.b Texts Relating to Protective Designation, Copies of Property Management Plans or Documented Management Systems and Extracts of Other Plans Relevant to the Property	488
7.c Form and Date of Most Recent Records or Inventory of Property	512
7.d Address Where Inventory, Records and Archives Are Held	514
7.e Bibliography	515





Title	Page
Chapter 8: Contact Information of Responsible Authorities	
8.a Preparer	520
8.b Official Local Institution/Agency	520
8.c Other Local Institutions	522
8.d Official Web Address	522
Chapter 9: Signature on Behalf of the State Party	523





Title	Page
Appendix	
Appendix I	Glossary 1
Appendix II	Four Elements and Four Migration Stages in Maymand 17
Appendix III	Maymand Rock Arts 35
Appendix IV	A Comparative Study of Handicrafts in The Historic Village of Maymand 45
Appendix V	Maymand and Health 71
Appendix VI	Ethnobotany of Maymand Village 91
Appendix VII	Maymand Eco-Museum 101
Appendix VIII	Maymand region flora 106
Appendix IX	Diversity of living species of the historical village of Maymand 114
Appendix X	Geographical Coordinates and Population 119
Appendix XI	Slides 122



Chapter 1



Identification
of the Property





1.a Country (and State Party if different)

Islamic Republic of Iran



Fig. 1.1 Iran



1.b State, Province, or Region

Kermān Province, Shahr-e Bābak Township



Fig. 1.2 Location of Kermān province in Iran

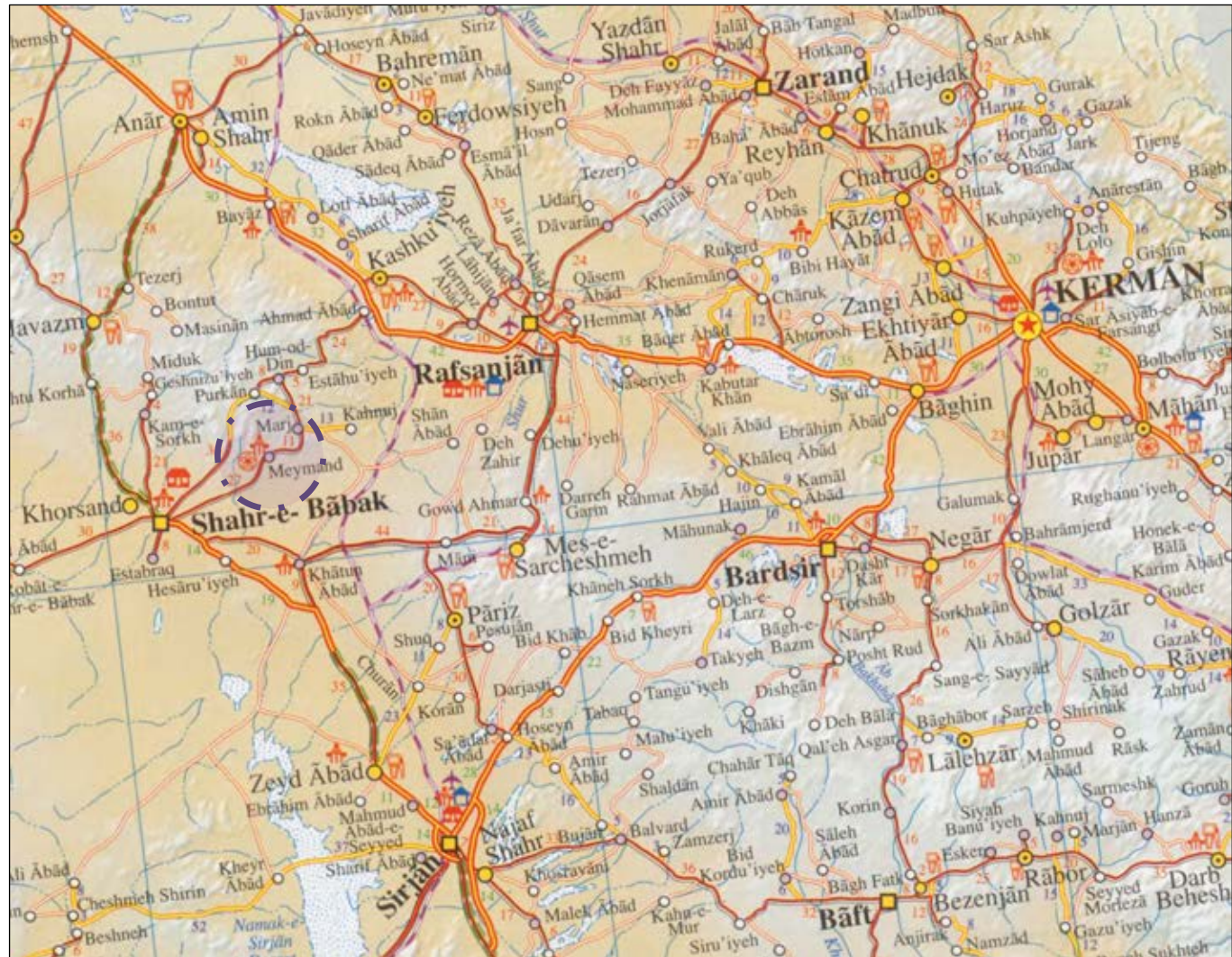


Fig. 1.3 Location of Maymand in Kermān province



Fig.1.4 Location of Shahr-e Bābak Township in Kermān province

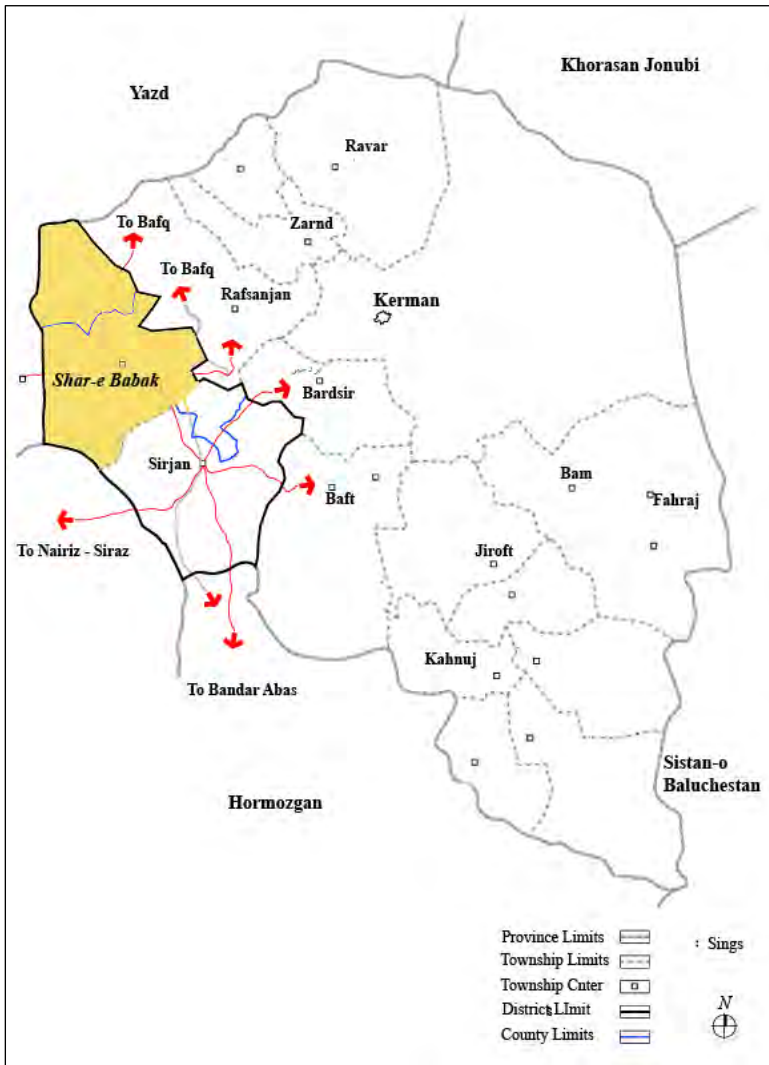
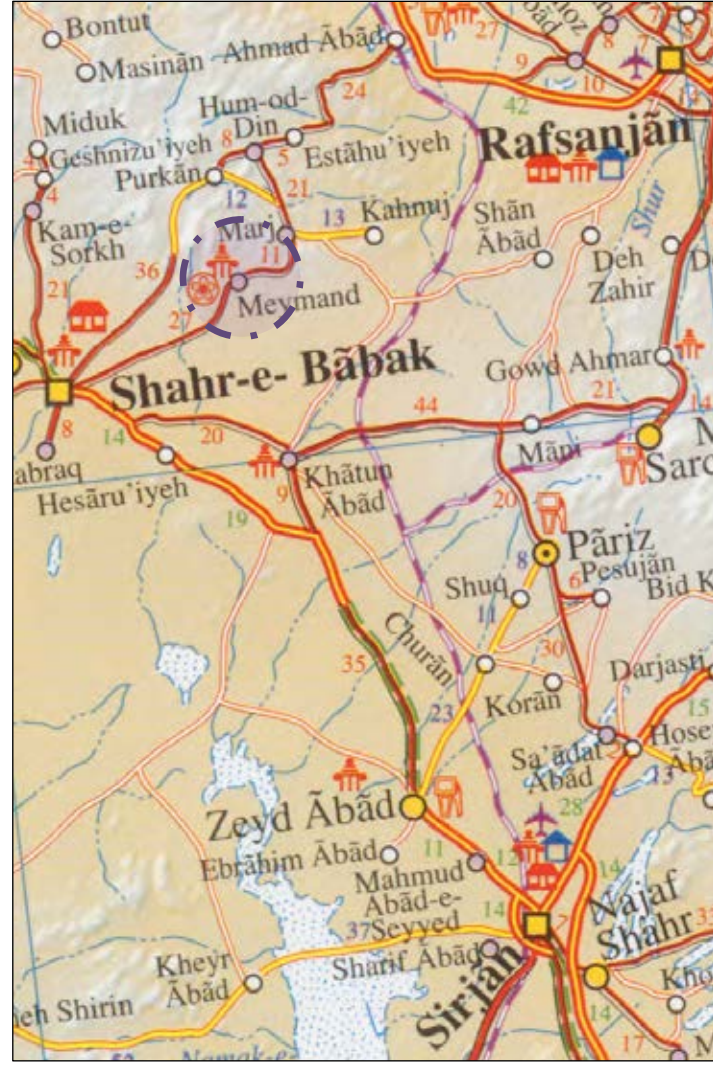


Fig.1.5 Location of Maymand in Shahr-e Bābak Township





1.c Name of Property

The Cultural Landscape of *Maymand*



Fig.1.6 General View of Cultural Landscape of *Maymand*



1.d Geographical Coordinates to the Nearest Second

The cultural landscape of *Maymand* covers an extended area with the following geographical coordinates:

South: N 30° 07' 28" E 55° 21' 24" North: N 30° 17' 30" E 55° 21' 16"

West: N 30° 10' 05" E 55° 19' 07" East: N 30° 09' 23" E 55° 25' 24"

Troglodyte village as the focal point of this cultural landscape is located:

N 30° 13' 44" E 55° 22' 32"

Coordinated of all the *Sar-e-Bāghs* and *Sar-e-Āghols* and other elements of Cultural Landscape of *Maymand* are attached.



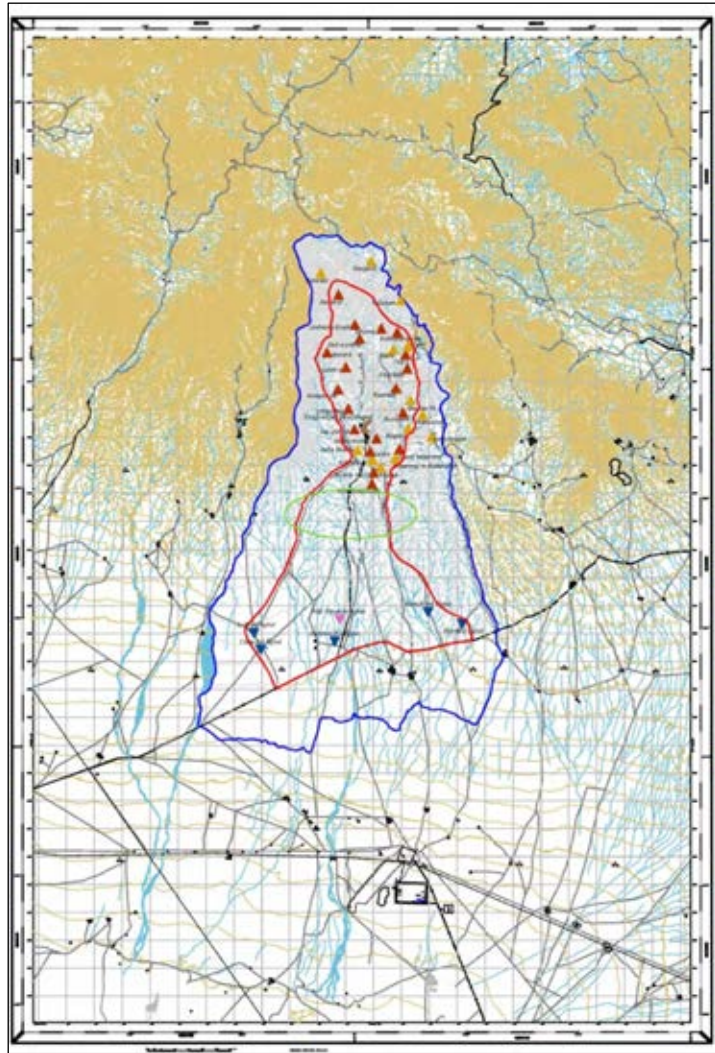
1.e Maps and Plans, Showing the Boundaries of the Nominated Property and Buffer Zone

Fig.1.7 The list of Cultural Landscape of Maymand's map

No	Title	Map Ref.
1	Aerial Photo of Troglodyte Maymand	
2	General Map of Cultural Landscape of Maymand	A
3	Buffer Zone	B
4	Core Zone	C
5	Distribution of Ābādīs and Āghols	C-I
6	Distribution of Watermills	C-II
7	Distribution of Petroglyphs Area	C-III
8	Distribution of Pre-Islamic Graves and Dezhs(forts)	C-IV
9	Routes of Seasonal Migration	C-V-1,2,3
10	Ābādīs Plans	C-I-1-1,2,3,4,5
11	Āghols plans	C-I-2-1,2,3
12	Troglodyte Maymand's Plan	C-I-3
13	Troglodyte Maymand Kīchehs' Plan	C-I-3-1,2,3,4,...,36
14	The Aerial Tourism Routs Map	C-VI
15	The Troglodyte Maymand Tourism Routs Map	C-VII



Fig. 1.8 Cultural Landscape of Maymand, Distribution of Hamlets (Ābādīs/Sar-e Bāghs) and Folds (Āghols)



- ▲ Abandoned Hamlets
- ▲ Alive Hamlets
- ▲ Troglodyte Maymand
- Eshām
- ▼ Alive Fold
- ▼ Abandoned Fold
- Core Zone
- Buffer Zone



Fig. 1.9 Sar-e-Bāgh



Fig.1.10 Troglodyte Maymand



Fig. 1.11 Eshām



Fig.1.12 Sar-e-Āghol



Fig.1.13 Core zone and buffer zone of Cultural Landscape of *Maymand*



Fig.1.14 Core zone and buffer zone of Cultural Landscape of *Maymand*



1.f Area of Nominated Property

Core zone of the cultural landscape of *Maymand* covers an area of 4985.85 hectares and buffer zone of *Maymand* covers an area of 7024.65 hectares.

Fig.1.15 Area of Cultural Landscape of *Maymand*

Cultural Landscape of <i>Maymand</i>	Area core zone (ha)	Area Buffer zone (ha)	Total (ha)
	4953.85	7024.65	11978.5

Chapter 2



Description





2. a Description of property

Foreword

The village of troglodyte *Maymand*, which has been registered in the list of national heritage in 2001, is one the most exceptional living complexes that has been formed according to the needs of human beings.

This living complex is located amid gardens laid out along the banks of a network of seasonal rivers which cross the area from north to south. The village is like a small gap in surrounding verdure, and one finds almost endless gardens and naturally-planted ravines on the road to the village and immediately behind it. The village enjoys a uniquely favorable location which provides its residents with both suitable accommodation and convenient access to the surrounding pastures and gardens.

Since earliest times, the village residents, with a deep knowledge of the village's situation and its surroundings as well as its valuable natural resources such as water, flora and fauna and the soil itself, have learned to value the abundance of natural resources in their settlement, and to live in such a way so as not to disturb the serenity of nature around them.

For this reason, after thousands of years of continuous human habitation at the site, the natural environment here has remained pristine. It is this remarkably unspoiled territory that surprises any visitors to the area.

What overwhelms the visitors most is how the locals have learned to make peace with nature, to take whatever necessary from it without causing the slightest trouble to their environment.

In this cycle, the interaction of human beings with nature can be found in all aspects of the villagers' life; food, clothing, hand crafts and everyday tools and objects, the building materials and methods of construction, architectural patterns, living spaces, lifestyles and people's behavior are all inspired by the very nature and soil in which they are born, raised and eventually rest.



The nature of cultural landscape of *Maymand*

The nature of the *Maymand* region strikes visitors with its unusual richness. Each having its own value, these natural, sometimes contrasting patterns together form unique and harmonious mosaics of landscapes with an unprecedented beauty; in one corner, there are endless flat fields with single *Beneh* trees (wild pistachio) scattered here and there while in *Sar-e-Āghol* one can see *Markhāneh*, *KŪz* & *DarkŪz* and *Kapar*. Elsewhere hills covered with miscellaneous flora and herbal plants and *Mar* woods (wild almond) are seen with green valleys which accommodate *Sar-e-Bāgh* and eventually troglodytic amazing houses inside the mountains astonish the viewer's eyes with their natural patterns.

Geographical Location

Maymand village, the centre of *Maymand* district, is located 36 km northeast of *Shahr-e Babak* sub-province in the western part of Kerman province. *Sirjan*, *Rafsanjan* and *Anar* are important neighboring towns of *Maymand*. *Maymand* village is extended over an area that is hemmed by the *Khatūn-Ābād* plain and the *Khorrīn* Mountains. *Maymand* district is located between *Pāghal'eh* district in the east, *Rāvīz* district in the north, *Medvārāt* and *Khorsand* districts in the northwest and west and *Pārīz* and *Sarcheshmeh* districts in the southeast.¹ (Fig.2.1)



Fig

1 . For more details look at Chapter one



Geology and Soil Classification

Based on Petrography studies, Andesitic is the dominant rock form of the region. Since major minerals of this stone are plagioclase and amphibole, it is called amphibole andesitic. Its other minerals include tiny fine feldspar grains. Hence, the texture of the stone is glassy porphyry. Andesitic is a kind of volcanic dark gray stone, which when oxidized would turn dark brown to reddish brown.

Sedimentologic studies show that the fine grain structure of the region's sediments has remained coherent and that the sediments are not alluvial. In fact, the fine grain structure of this region is a product of andesitic stones corrosions which is still not developed into soil and sediment².

Maymand valley soil is volcanic tuff consisting of 30-40 million years old lithic tuff, pumice and volcanic cinder. This is located on top of volcanic melted materials and is brownish grey in color. It is softer and more penetrable than stone while being stronger than normal soil with tiny and joined fragments³.

Geologically, alluvial fans of the region belong to the late Cenozoic and early Quaternary⁴.

It is worth mentioning that the full report of the geological study of the region can be found in the MCHB⁵ library⁶.

2. Mostowfi Fard, R(1382-2003)

3. Soil study of *Maymand* was conducted by Dr. Darvish Zadeh of Tehran University Faculty of Science in winter 1995 under request of Dr. S. Shahshahani, author of *Sara-ye Maymand*



Water Resources (Figs.2.2-2-3)

Maymand's water resources can be divided into a number of sections:

1- Subterranean water resources including water springs and Qanats

In total, there are 26 water springs, 21 of which belong to Maymand. The closest one to the village is *Ney-Rīzū* which supplies water throughout the whole year. As for subterranean water canals or *Qanats*, 51 are known whose water is used for irrigation of farms and orchards as well as for the use of villagers and their farm animals. 23 of these *Qanats* are situated within the bigger *Maymand* area while two are inside the village itself, the closest one to the village being *Had-Konūyeh*⁷ (Figs. 2.4- 2.5)

In the mouths of the water springs or *Qanats*, little basins are made, called *Kel-e-ow* or *Kelū*, such as *Kelū-Maymand* and *Kelū-Morādī*.⁸(Fig. 2.6)



Fig.2.6
Kelū- Morādī

7 . Ebrahimi Maymand, H (1381-2002) ,MCHB

8. Usually, any bowl-like cavity in the ground which is carved into the stone and holds water is called *Kelū*.



Fig.2.4

Ney- Rīzū spring: the upper *Kel- e- ow* is covered to be used by people while the lower one is allocated to farm animals.

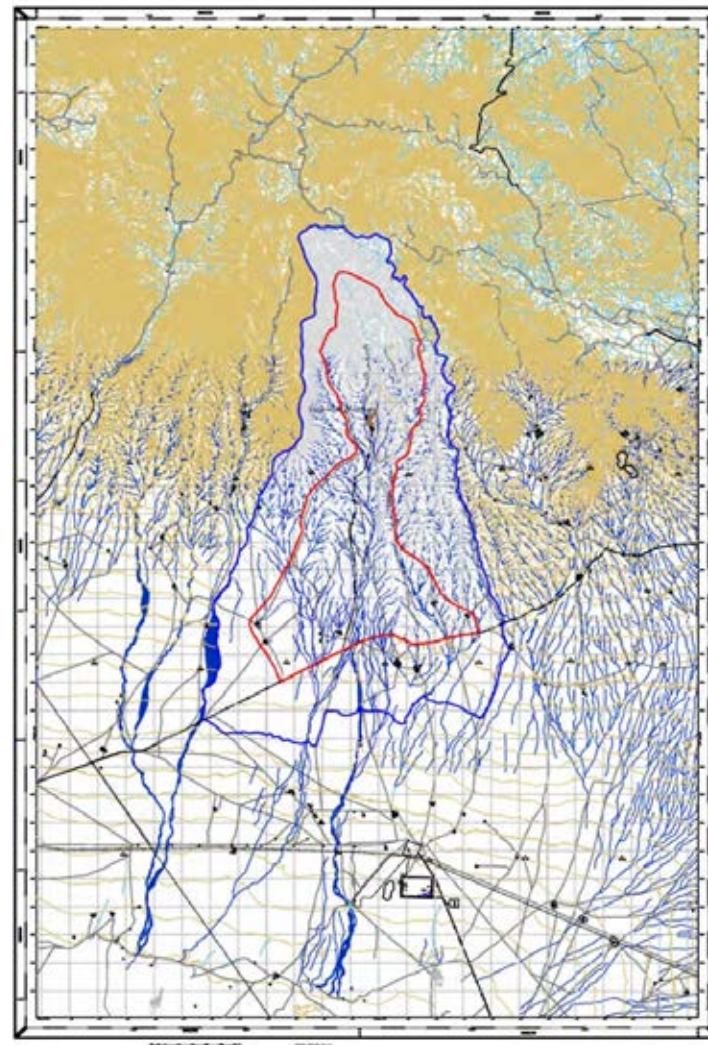


Fig.2.5

The *Qanat's* origin



Fig.2.2
Seasonal rivers



-  Troglodyte Maymand
-  Seasonal River
-  Core Zone
-  Buffer Zone

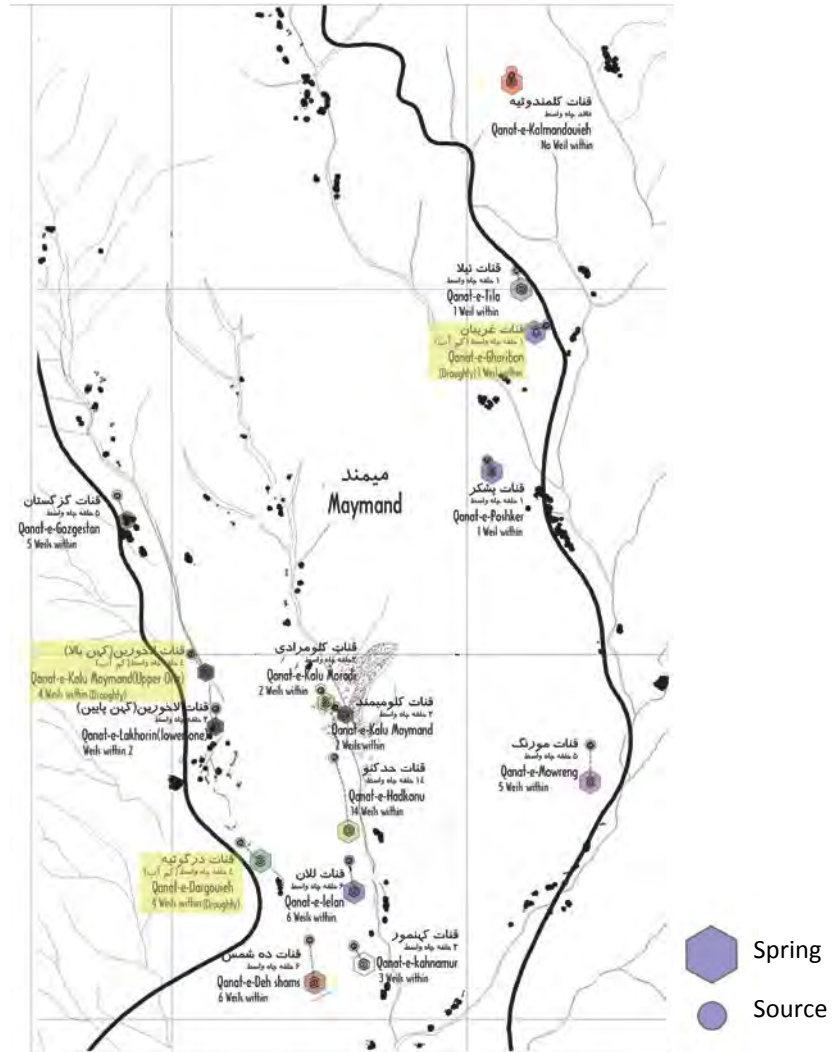


Fig.2.3
Qanats



Kelū- Maymand's water is pumped into a water container and then transferred to the main water network of the village. In drier seasons when water is scarce, some extra water is pumped into the container.

In the past, the villagers used to carry water in *Dalv* (bucket) from *Kelū- Maymand* to *Kel-e-sang* for the use of farm animals. For their own use, they also used to carry water in *Mashk*⁹ from *Kelū- Maymand*.

To irrigate the fruit orchards, the water of springs and *Qanats* is gathered in pools. Recently, these water pools are made with strong cement walls, while an increasing number of gardeners and farmers utilize trickle irrigation methods to water their crop.

2- Surface water resources including rivers, rain water and transported water

Important rivers of the region include *Dar-e-Bīd*, *Lākhīs* and *Bon-e-lā*. (Fig.2.7)

Sometimes, barriers are made over the rivers so that the water can be sent to the pools through narrow brooks. Two seasonal rivers that fill up the pool are *Maymand* and *Korom*. *Maymand* River fills up *Seh-Tāyī* (Triple pond) Pool and *Hāj-Hābīb* Pool while *Korom* River fills *Bandī*, *Kenārī* and *Režā* Pool. (Fig.2.8)

Rain waters are gathered in pools and *Kel-e-Sang*. In the mountains and at the foot of mountains surrounding the village there are found naturally made bowl-like rocks which hold water in them. Shepherds lay pebbles around them (*Chīl*) to mark them so that they can use the water for making tea when there is not a near spring in sight. The water in *Kel-e-Sang* goes stale and smelly after a while, though, and not good to use anymore. (Fig.2.9)



Fig.2.7
Seasonal Rivers



Fig.2.8
Seh-Tāyī pool



Fig.2.9
Kel-e-Sang

9. *Mashk*: leather water containers made of cow's skin



The largest sample of *Kel-e-Sang* exists on top of the *Qal'h- Marj* Mountain which is in the shape of a pair of rectangular pools, roughly sized 2x3x1/5 meter inside which the water trickling down from the grooves is gathered. (Fig.2.10-2.11)
 There used to be a water container (*Howz*) near the *Āghol* which has been replaced by a water tanker nowadays.¹⁰ (Fig.2.12)



Fig.2.12
 The hollow space in the water container in *Sar-e-Āghol*

In the past, due to the remoteness and the long distance between *Pātāq*¹¹ houses and the water spring, they used to collect the gradually thawed snow on top of the rocks in containers and call it *Barf-Āb*.



Fig.2.10
 Natural grooves leading trickles of water to be gathered

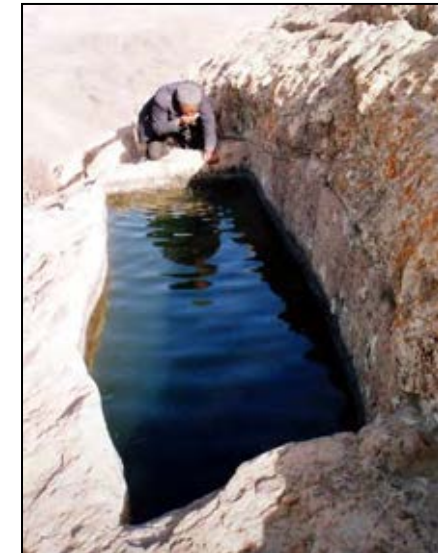


Fig.2.11
Kel-e-Sang in *Qal'h-Marj* Mountain

10 . For more details look at section on *Sar-e-Āghol*, pool

11. *Pātāq*: The highest level of the mountain foot inside which houses are carved



Natural water reservoirs: (*Ali-Esmāīl* and *Hossein-Qeshm* Water reservoirs)

In troglodyte *Maymand*, between *KalāghŪn* and *Gedā* quarters and under *Tāq*¹², there exists a natural recessed hollow in which rain water is gathered and used by locals. (Fig.2.13)

Fig.2.13
Natural water reservoir under *Tāq*



Transported water:

A water tank has been built on the ground with construction materials and metal in the fields; this water can be bought or received on an 'allowance' basis. In a project which has been completed recently, a water-well was carved in the fields; its water is pumped into a huge water tank which is mounted overlooking *Maymand*.

12 . *Tāq*: Ledges at the highest row of houses surround *Maymand*



Climate and Altitudes

Maymand has a dry-and-mild to hot-and-mild climate which consists of only two distinctive seasons. Spring and autumn season are particularly short, and the maximum and minimum temperature are correspondingly 28/6 and 4/3 degrees centigrade. The average annual rainfall is 162/6 mm with a maximum of rainfalls in the winter, while the average annual humidity is 34%. In the recent years there has been a decrease in the rainfall. The dry river down at the bottom of the village is indicative of many flood-waters which used to flow within the village which was led to *Lākhīs* River in the past, though no sign of which is seen nowadays. The wind normally blows from south-east to north and north-west.¹³ The region's heights are the continuation of Iran's central mountains, namely Mount *Shīrkūh* in *Yazd*. These chains of mountains are surrounding the village from north, east and west.

On the east side there is *Kamar-Khākū* Mountain (2635 m high), *Gerdkūh* Mountain (2639 m high) is on the north and *Khorrīn* Mountain (2609 m high) is situated on the west of *Maymand*.

Also *Kamar- Eshkaft* Mountain is on the north (2160 m high) while *Sarjang* Mountain (2030 m high) is located on the north-east. The altitude difference between the highest and lowest in *Maymand* area from the southern fields to the highest altitudes in the north, is roughly 1000 meters which is spread over about 18 km of land. (Fig.2.14)

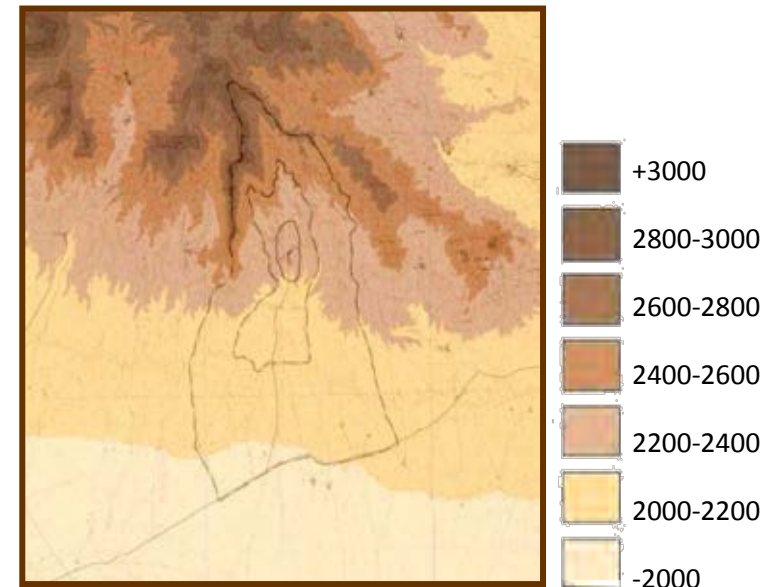


Fig.2.14
The region's heights

13 . Ramzannejad Ghadi,R (2006) ,MCHB



Vegetation¹⁴

Due to the altitude variation the scattered water resources such as seasonal rivers, Qanats and springs, *Maymand* has a wealth of diversity in floral patterns to offer. Different types and species of vegetation are found including therapeutic herbs (*Alāleh*¹⁵, cumin, *Kalpūreh*¹⁶ (Germander), *Khārkhāsak* (thistle)¹⁷, *Khākeshīr*¹⁸, yarrow, *Esfand*¹⁹, thyme, Marsh-mallow...) and industrially used plants (*Gavan*²⁰, *Senjed*²¹, willow), provender plants (*Kelūr*, *Jāz*²², *Lāshūk*²³, *Pichūk*²⁴, *Salmeh*²⁵, *Kangar*²⁶, rhubarb, *Mar* (wild almond), *Kemā*²⁷ ...) and tree species (wild almond, *Beneh* (wild pistachio), *Kahkom*²⁸, *Qons*²⁹, *Shaghan*....). Located at the foot of mountains and enjoying a suitable climate in which a range of plants grow, the job of most people in *Maymand* is animal husbandry.³⁰ (Figs.2.15-2-16)

14 . For more details look at Appendix VIII

15 *Ziziphora clinopodioides*

16 *Teucrium polium*

17 *Tribulus terrestris*

18 *Descurainia sophia*

19 *Peganum harmala*

20 *Astragalus*

21 *Elagnus angustifolia*

22 *Artemisia vulgaris*

23 *Taeniatherum crinitum*

24 *Convolvulus arvensis*

25 *Chenopodium album*

26 *Gundelia tournfortii*

27 *Ferula Ovina*

28 *Acer monspessulanum*

29 *Amygdalus eburnean*

30



It is worth mentioning that the residents of *Maymand* use most of these vegetation and plants for diverse uses from food, medicine and clothing to architecture, hand crafts and tool-making.

A full report of the study of Flora of *Maymand* is available in the library and document centre of MCHB.³¹



Khārkhāsak



Senjed



Rhubarb



Mar Forest (wild almond)



Beneh Forest

Fig.2.15
A view of the region's vegetation

31. Ramzannejad Ghadi,R (1385-2006) ,MCHB

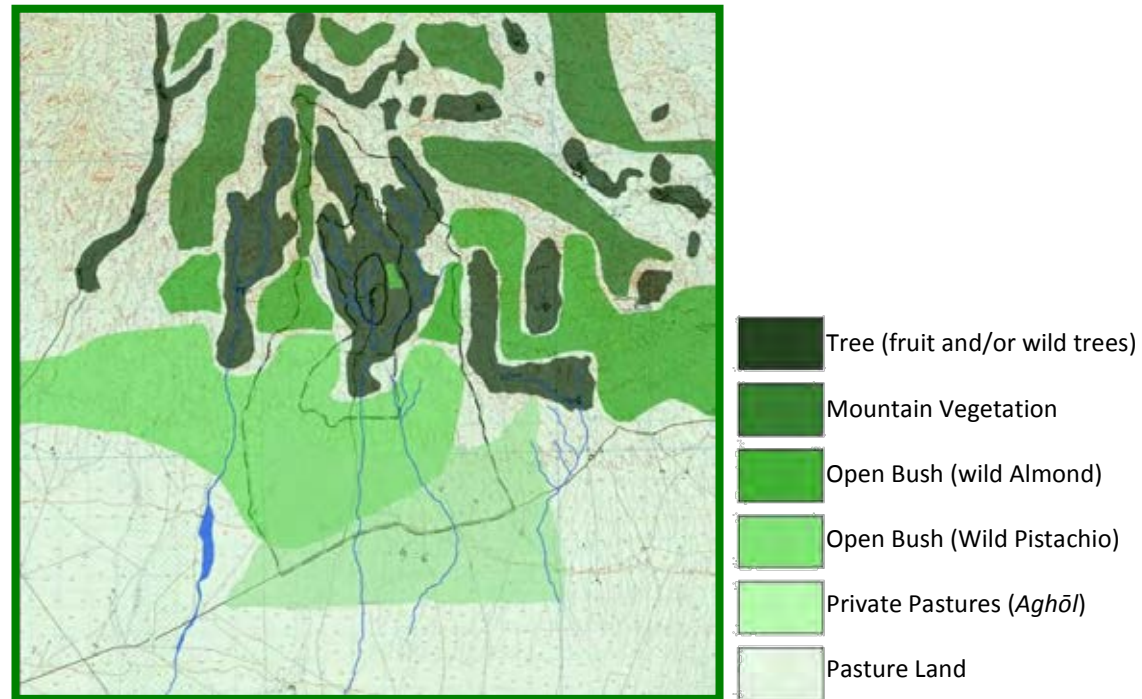


Fig.2.16
A map of region's vegetation



Animals³²

Maymand has a wealth of diverse species of animals some of which are under the threat of extinction due to different reasons including insufficient environmental protection and an increase in the industrial pollutions as well as a gradual transformation of the vegetation of the region. Foxes, wild boars, jackals, wild rams, snakes, scorpions, *Sikhūr* (porcupines), *Chaghūt* (sparrow), *Esmālū* (a kind of beetle) are among the animals found in *Maymand*. (Figs.2.17)

A full report of the region's animals is available from the library and document centre of MCHB³³.



32 . For more details look at Appendix IX

33 . Pakniya, O (1383-2004) ,MCHB



Natural Features

1- Valleys

Since accessing subterranean waters and seasonal rivers takes place mainly via valleys, valleys are the main places for summer dwelling where most orchards exist. (Fig.2.18)

2- Fields

To keep the orchards and agricultural sites intact from animal grazing, the villagers have taken cattle animals away from them. It is possible to collect surface waters from seasonal rivers to water cattle animals while for feeding they graze from plants watered by surface waters. The only tree grown in these fields is *Beneh* (wild pistachio). (Fig.2.19)

3- Kamar

Kamar is a special kind of soil which has the potential to be carved into rooms or *Kamar* houses. Most troglodytic works can be found in such kind of soil, including *Korom Bath*, *Pishestā* and *Kamar-e-Marj* which are located in the neighbouring villages. (Figs.2.20-2.22)



Fig.2, 18
The valley and the orchards



Fig.2, 19
The single *Beneh* trees
growing in the fields



Fig.2.20
Korom Bath



Fig.2.21
Pishestā



Fig.2.22
Kamar-e-Marij

Maymand and some other *Sar-e-Bāgh* villages such as *Lākhorīn* and *Had- konūiyeh* as well as the mills and *Dūshāb* Factory are all among the troglodytic pieces of *Maymand* region. Although the same type of soil exists in other parts of *Maymand* such as *Kamar-Sefid*, no such troglodytic structures can be found there. This is despite the fact that historically there is evidence that there has been migration to *Eshām* era. (Fig.2.23)



Fig. 2.23
Eshām in *Kamar-Sefid*



Natural Attractions

These include:

1- Natural caves

Caves are natural shelters used by shepherds, hunters and *Maymandies* who want to explore the area and recently tourists, the most outstanding of which are as *Eshkaft-lāshkorgūyeh*³⁴ and *Kot-e-Palang*.

The natural phenomenon of *Eshkaft-lāshkorgūyeh* which exists on the west side of the *lāshkorgūyeh*, north *Maymand*, is a place for praying and pilgrim for the native people of the region. The entrance is about 100 meters with a height of 50 meters. (Figs.2, 24)
Kot-e-Palang is a cave on the way to *Tirkhorrin*. It has interesting cavities inside with shadows and lights which form a shape resembling a leopard. (Fig.2, 25)



Figs.2. 24
Eshkaft- lāshkorgūyeh

2- Natural projections:

Two significant heights around *Maymand* include *Zong-e-Dobolāgh* and *Tirkhorrīn*. *Zong-e- Dobolāgh* is a massive rock which has been divided into two equal parts as a result of ‘weathering’ or other natural causes. *Tirkhorrīn* is a mountain on the north side of *Maymand*. (Figs.2.26)



Figs.2.26
Tirkhorrīn



Fig.2.25
Kot-e-Palang

34. *Eshkaft* is a recession or hollow in the body of mountain



Man in interaction with nature

Here, all natural elements and their properties are known and understood; with especial attention to ‘places’ where they can be used, they are employed wisely and appropriately to meet human needs.

The people of this region have used the green meadows and pastures to graze their cattle in the first four months of the year³⁵. However, and if necessary, they have revived and rejuvenated these grazing lands so that they will not dry out and fade away. For instance, to rejuvenate the fields in dry seasons, they have an amazingly clever yet effective method of gathering seeds from other places and having the sheep spreading them all over the land by putting the seeds in small bags and tie it under the animals’ neck while grazing, so that the fields will grow again. The act of rejuvenating and re-growing the pastures is not only because of the people’s need to provide food supply for their animals, but is also based on their traditional beliefs and cultural values about nature. This system of beliefs still present in the actions and behaviours of local people – that for instance it is a sin to uproot a plant- has made them loyal guardians of the nature thus protect it from destruction. With such values and beliefs there is never any need to introduce or enforce nature protecting regulations from outside.

People use the trickling seasonal waters as well as spring and *Qanat* waters for drinking needs of themselves and their animals as well as to water their plants and fruit trees, to create agricultural dry and irrigated farms and to bring more green lands to the relatively dry area. It also contributes to the economy of the family.

The traditional cultural beliefs and values have come to help in a sage usage of water, too. For instance, *Maymand* people never throw away any leftovers of unused water; instead they use it to water their plants and trees.

It seems that the local people of *Maymand* have managed to harmonize all their social, economical and even cultural and religious configurations and infrastructures with those of the nature with close attention to their natural environment and its especial features.

What can be gathered from the remnants and relics in the vast hills surrounding *Maymand*, which are mainly lots of Pre-Islamic graves and graveyards and *Dezh* (fort), indicates the existence of extremely significant social, economical and religious activities in the ancient times of this region.

35. Based on Iranian calendar in which the year starts with the spring season on 21 March



It may be suggested that with the diminishing of those political/religious system of thoughts in specific historical eras, these approaches and especially the method of burial of the dead has also vanished and today we can only witness its traces.

Moreover, it is evident that this place is a lively land that has kept its traditional way of social and economical life in close connection with its natural habitat, so much so that it may be claimed that many of those old ways of life and activities, albeit in a fainter version, still can be remarkably detected within the lifestyle of the residents of *Maymand* region.

Furthermore, this land is a vibrant place whose residents' main job is still farming and animal husbandry the way it used to be in ancient times; the human-nature interaction in this regard is still taking place in the same old manner and the cycle of life goes according to the very procedure it used to be centuries ago.

Surely compared to olden ages, the number of habitants of the region has decreased. Yet, the remaining crowd is still as hardworking and with their laborious efforts and the support of MCHB in the last 8 years they live in harmony with the nature; with hardly any change, they still employ the very methods their ancestors used with regard to animals, water, soil and also their habitation in pastures, fields, fruit orchards and farms or their winter dwelling inside the mountain troglodytic constructions. Such diligence and perseverance along with human's compatibility and flexibility is the proof of human's capability in finding efficient methods and fitting approaches to live in peace with nature.

Whatever seen in this village and its orchards, farms and pastures is an evidence of the people's wise harmonisation and agreement with natural resources of the region and a confirmation of the appropriateness of their traditional management methods. There exists, however, evidence on the deterioration of some of the vegetation in the region especially *Beneh* or wild pistachio; though the villagers believe that nature's rage and the climate change has also a part to play in this. Now that agriculture in this area is confronting serious obstacles and problems, the villagers have initiated some creative strategies and methods in farming management to improve their living wages as well as to preserve their natural resources.



It may be concluded that the lifestyle of *Maymand* natives and all they make and use including water-mills, handcrafts and traditional tools, local food and medicine based on medicinal plants and living in troglodytic constructions which are all in one way or another inherited from their ancestors can lead us to the social life and lifestyle of those ancient residents of this land.

An example would be appropriate to support this claim of a strong bond between the *Maymandies* beliefs and their relationship to nature. Believing in life after death and wishing happiness for the souls of their beloved dead relatives, *Maymandies* make water pools to collect rain water for the sake of their dead relatives so that any passer-by using the water would pray benevolently for the happiness of their soul. They also would plant a tree or trees for the sake of a particularly young person who has died, so that the comfort offered by the tree's shade to the living passers-by would reach their loved one in the heavens.

All these are among the beliefs passed from generation to generation since ancient times which still have a profound influence on people's lives, having survived centuries of practice and usage. It is interesting that in the absence of any written law, instinctive strategies of preserving nature and living with/ in nature and utilising its potentials for everyday life needs without harming it is made possible as a result of such a strong bond between social, cultural and religious beliefs in relation to nature and natural environment.



Social structure and lifestyle

People of *Maymand* call themselves tribesmen; however their lifestyle features elements of both of a tribesman and villager. Each tribe in *Maymand* settles down in a specific area of the region, which means each village is dedicated to one tribe, e.g. *Lākhorīn* village belongs to *Lākhorīnī* tribe. In each tribe there exist a number of sects or families, the name of each being gradually used as the family name of the people of that sect. (E.g. *Ebrāhīmī* sect/family from *Lākhorīnī* tribe) Currently, tribal structure has been gradually changed or weakened and previous values affecting life and architecture have become much diluted. Among the people, migrants from *Yazd*, Kerman and some Azeri can be also tracked.

The stream of life in this village is based on migration in two forms of seasonal migration and in-place migration:

Seasonal Migrations:

The main migration is performed four times a year respectively in four living contexts of *Sar-e-Āghol*, *Eshām*, *Sar-e-Bāgh* and Troglodyte *Maymand*.

A few members of family usually consisting of men spend time in *Sar-e-Āghol* caring the sheep (feeding, birth delivery, milking and feeding the *Khalameh*) from mid winter to early spring. In order to find new water sources and pasture as well as protecting *Sar-e Āghol* pastures, families spend some time in *Eshām*, making dairy products, collecting plants and wild almond in early spring and when new plants grow. From early July until early November families come to *Sar-e Bāgh* for cultivation and gardening. When autumn cold weather arrives, they move to troglodyte *Maymand* and spend winter time making handicrafts.

In modern days, however, climatic changes and urbanism, have affected the genuine migration of *Maymandies*. *Eshām* period has weakened and hence today we are facing with three-phase migration phrase. In addition to this, during the few last decades, many of the residents have moved or move to the nearby town of *Shahr-e Bābak* during cold seasons. (Figs.2.27-2.31)

It is notable that the nomadic lifestyle of *Maymandies* has even influenced the shape and nature of their tools. Tools such as small mattresses, *Kilim*, *Dalv*, *Khorjīn*, *Kowcheh-Dān* and *Kot-e-Morgh*



Settling period	First Period Early winter to late spring	Third Period (Early spring)	Third Period Early summer till early autumn)	Fourth Period Early autumn till late winter
<i>Sar-e-Āghol</i>	320		18	18
<i>Eshām</i>		limited		
<i>Sar-e-Bāgh</i>			426	
Troglodyte <i>Maymand</i>	16		16	130

Fig.2.27

The distribution table of *Maymand* population throughout a solar year

Reason for population increase in the *Sar-e-Bāghs* during summer seasons is the return of many *Maymandies* and their families from towns to *Ābādīs* (villages) in order to check on their gardens and agricultural products. It is for the same reason that during the cold seasons the number of residents in the troglodytes decreases due to the migration of many of villagers' to the nearby town of *Shahr-e Babak*.



Fig.2.28
Sar-e-Āghol



Fig.2.29
Eshām in *Kamar-Sefīd*



Fig.2.30
Sar-e-Bāgh



Fig.2.31
Troglodyte *Maymand*



In-Place Migration:

Moving and changing place within the same architectural unit is called in-place migration which is performed in order to acclimatize to the changes of weather and temperature as well as to use energy resources more efficiently.

The crucial point here is that such in-place change of place occurs within all four different architectural units whilst on seasonal migration. This means that when in Troglodyte *Maymand* they move from room to *Eyvān* (veranda) and then *Toqol* whereas while in *Sar-e-Bāgh* moving happens among three spaces of *Gombeh*, *Kapar* and *Pishgāh*; in *Eshām* it goes from *Pelās* to *Kapar* to *Pishgāh* and finally in *Sar-e-Āghol* the move is from *Markhāneh* to *Kapar* and then to *Pishgāh*. These movements within the same place shows how deep these people understand and how intelligently they interact with their natural habitats³⁷. (Figs.2.32-2.41)



Fig.2.33
Toqol



Fig.2.34
Eyvān

		Regional Migration			
In-Place Migration In search of:	<i>Sar-e-Āghol</i>	<i>Eshām</i>	<i>Sar-e-Bāgh</i>	<i>Troglodyte Maymand</i>	
	<i>Markhāneh</i>	<i>Pelās</i>	<i>Gombeh</i>	A kamar room	
	<i>Kapar</i>	<i>Kapar</i>	<i>Kapar</i>	<i>Eyvān</i> or <i>Sarsoffeh</i>	
	<i>Pishgāh</i>	<i>Pishgāh</i>	<i>Pishgāh</i>	<i>Toqol</i>	

Fig. 2.32
In-Place Migration

37. The meaning of these terms and names of places can be found in the glossary.



Fig.2.35
A Kamar room

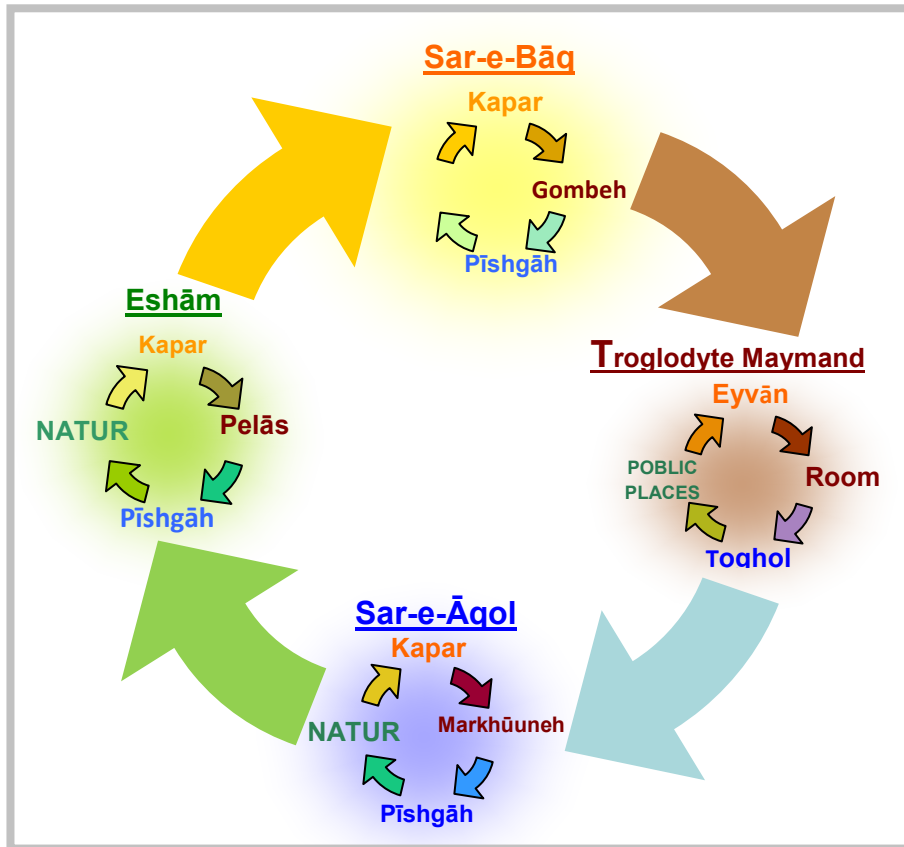


Fig.2. 36
Main four-phase life cycle and in-place migration



Fig.2.37
Gombeh



Fig. 2. 38
Kapar and Pishgāh in Sar-e-Bāgh

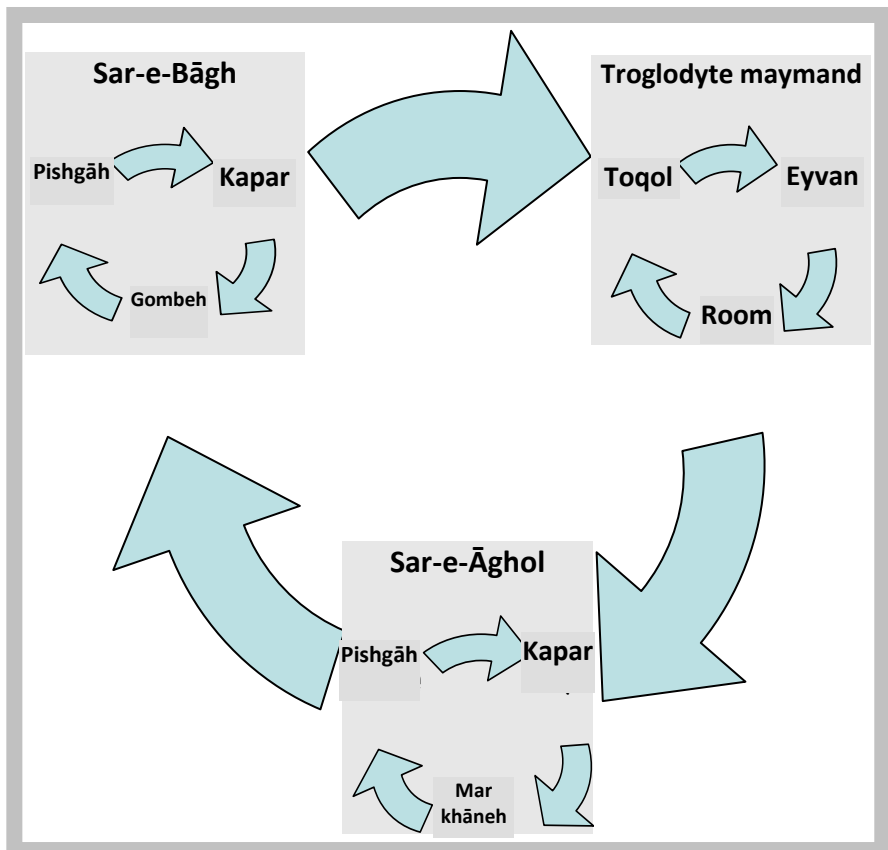


Fig. 2. 39
Three-phase life cycle

It is evident that life in *Maymand* is based on a deep knowledge and understanding of the specific characteristics of nature and learning to adapt to it; to live in peace and harmony with nature in order to take the most advantage of what it has to offer.



Fig.2.40
Kapar and Pishgāh in Sar-e-Āghol



Fig.2.41
Markhāneh



Architecture

Before beginning to discuss architecture, it is noteworthy that throughout this chapter, this cultural landscape is regarded as a masterpiece of human genius in constructing an amazing residential complex which is formed organically and in the simplest way in accordance with its natural surroundings.

Architectural characteristics:

- Triple and quadruple migration within the region and within the same architectural unit; (space order) (Fig. 2.42)
- Use of untouched regional materials; without any lining and with minimum manipulation

Novelty of the architecture materials is comparable with the pure and virtuous nature of *Maymandi* people. These people behave more naturally and innocently in their daily customs and personal behaviour.

- Construction by the owner; architecture without architect
- Diversity within harmony (hidden scheme of architectural spaces)
- Recycling: natural (*Owrīz*) and industrial (use of tires for animal crib)
- Construction technology which is formed simply and intuitively.
- Maintaining balance with the help of natural forces

In no architectural forms it is not possible to uphold balance merely by using strong joints (except for doors) or mortars (except for the bath) but they maintain stability through a clear understanding of sense of balance. That is the maturity of the same understanding which has been reflected in the physical fitness and balance of these people.

Architecture in this cultural landscape is formed based on a complete knowledge of the climate and a thoughtful interaction with the environment, directing it according to the life requirements and utilising naturally prepared facilities. Further study of this architecture reveals how sage and knowledgeable the creators have been; the knowledge which has taken the maximum advantage of the natural blessings and carefully constructing and adding to the natural environment while being watchful of and consistent with the organic rules of nature.

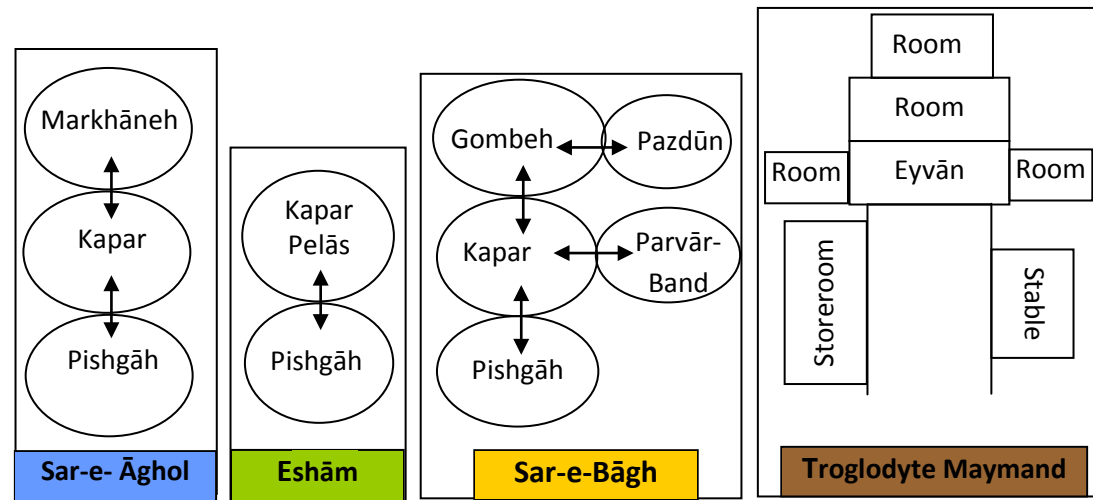


Fig.2.42
Spatial order and connection

The existing architecture in *Maymand* can be divided into two categories:

Residential Architecture:

The architecture of residential complexes which are the spaces for everyday life of the *Maymandies*, is itself formed of four distinctive environments; troglodytic structures, *Sar-e-Bāgh*, *Eshām* and *Sar-e-Āghol*.

Non-residential Architecture:

These are scattered architectures for diverse purposes including services such as water-mills and graveyards; defensive such as *Dezh* (forts), ritual such as petroglyphs and finally constructions like *Kel-e-Sang* which is a water tank and *Kel-e-Dūshāb* which is used for containing *Dūshāb* (syrup of grapes). Each of these manmade structures has its own functional features and uses, gracefully combined with its surroundings to eventually form a magnificent texture capable of meeting the entire human needs. As one of the most original native architectures, the architecture of *Maymand* has experienced the least changes to preserve its originality in all aspects such as form, materials, function and even in construction methods and techniques as well as the use of regional materials.

Following, the components of the *Maymand* architecture will be introduced and their relative parameters and elements will be studied:



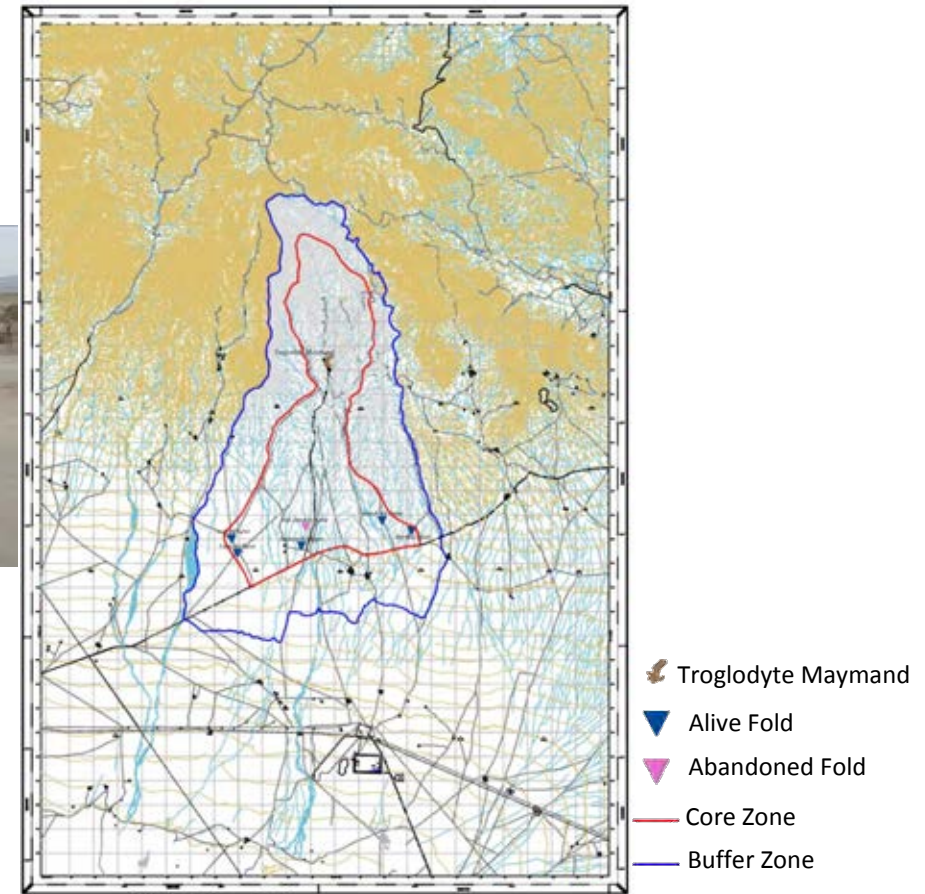
Sar-e-Āghol³⁸

Sar-e-Āghol is the springtime habitat of the *Maymandies*. These places are located on the southern fields where the cattle has a place to reside. The names of a number of the *Āghols* are: the *Abbāsīhā*, the *Qiāsīhā*, the *Koromīhā*, *Gūro*, the *Lotfīhā*, *Mortežā*, the *Mashadīhā*, the *Mehdīhā* and *Yāhīyā*. (Figs. 2.43-2.45)

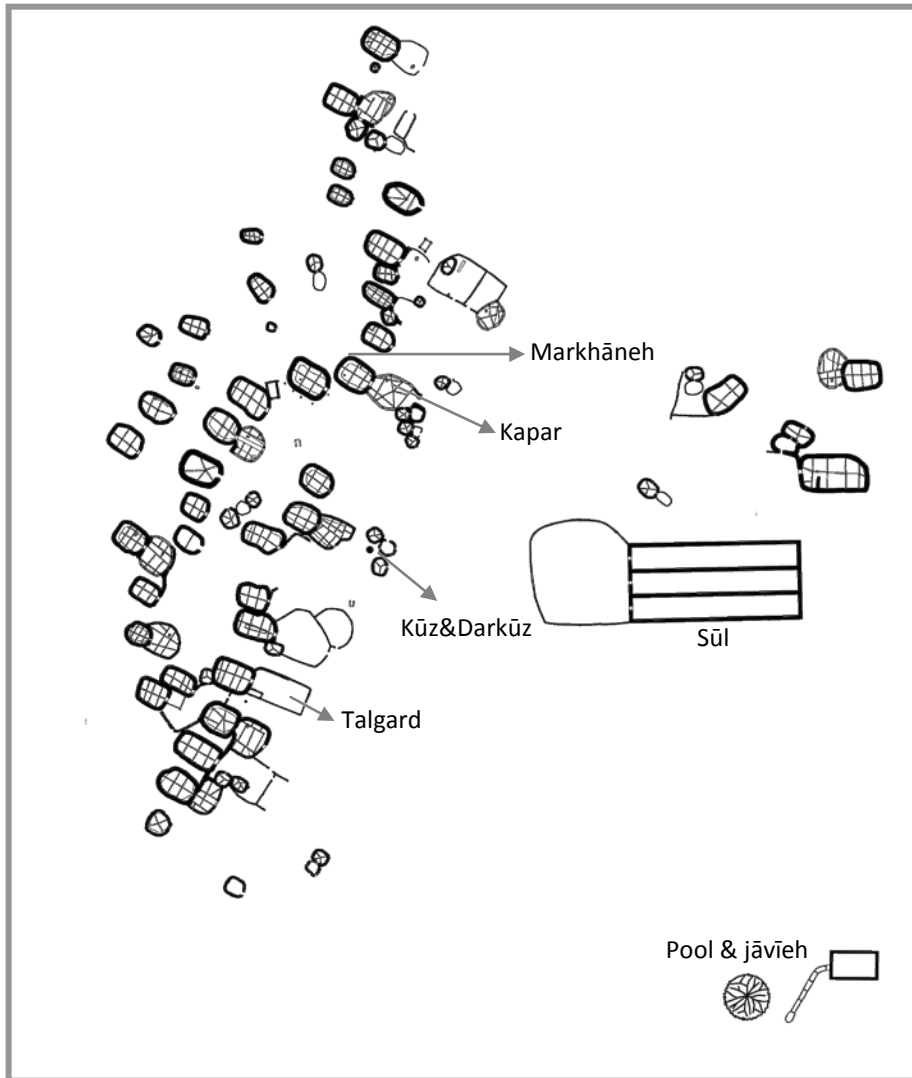
Figs. 2.43
Sar-e-Āghol



38. Temporary residence in Āqols



Figs. 2.44
Dispersion map of *Sar-e-Āghols*



Figs. 2. 45
Mortezā Āghol plan



Climate

During the first period (April to July) the life is leading in *Sar-e-Āghols*. In this period, high winds are blowing usually in the fields. The *Āghols* are constructed in a way that almost a half is under the ground with fully covered roofs. These structures are really secured against spring rainstorms and high winds of the plain. (Fig. 2.47)



Fig. 2.46
The roof covering of *Markhāneh* in *Sar-e-Āghol*

Life Style³⁹

The *Sar-e-Āghols* are situated on the *khātun-Ābād* Plain to the south of the village. One of the main features of life in these places is the interconnection of all spaces with the production activities of animal husbandry in this period. Residing here at the time of the sheep reproduction makes the inhabitants able to look after their sheep and lambs and to provide dairy products. Some of the villagers are installed in *Sar-e-Āghol* with their families while in some other cases only the man of the family is dwelling. (Figs. 2.47-2.48)



Fig. 2.47
Animal husbandry



Fig. 2.48
Boiling milk

39. The life style formation and the relationship with the nature are mentioned in Natural Features

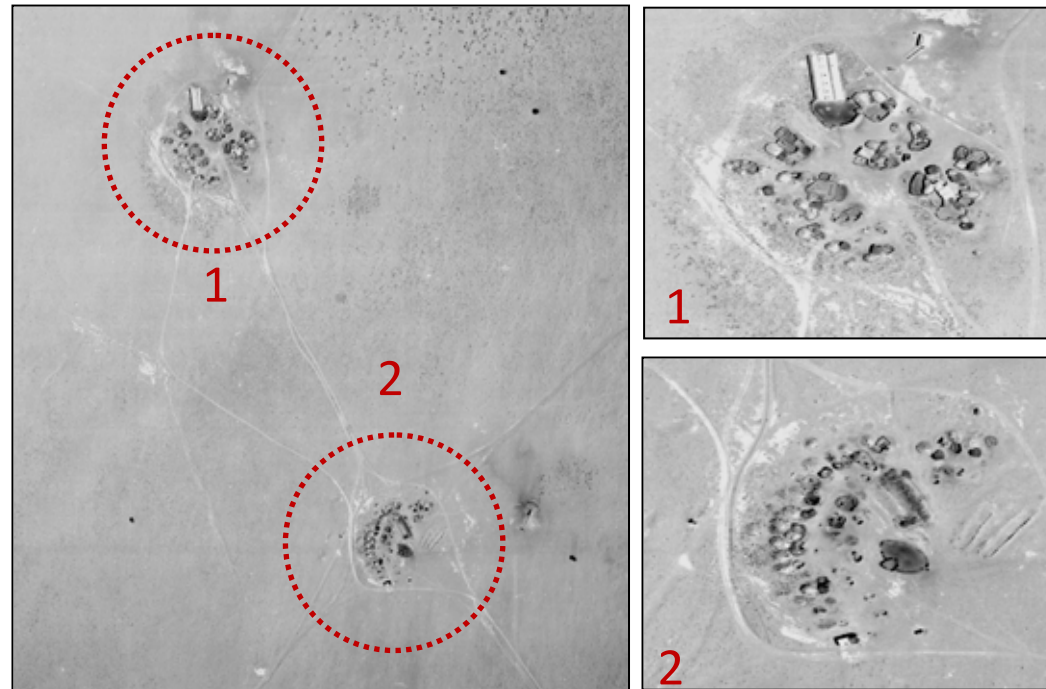


Structures and Spaces

Sar-e-Āghols are the complexes for residing and animal husbandry having two sets of open and closed spaces for human and the cattle:

Cattle spaces: wooden *Āghol*, brick-made *Āghol* or *Sūl*, *Kūz* and *Darkūz*, *Talgard*, *Korm*, *Jirehdān* and *Zendān-e-Gūsfand* (sheep prison)

Human spaces: *Kapar*, *Pishgāh*, *Markhāneh*, *Mashkdān* and pool (Figs. 2



Figs. 2.49
An arial photo of the *Lotfihā* and the *Jālebīhā Āghols* 2006



Cattle Spaces

Brick-made *Āghol* (*Sūl*)

The main materials are bricks or rocks and mortar having an arch roof of 3 m wide and 20 m long. Normally, they are constructed in triple groups to keep the sheep inside during winter. *Sūl* has an integrated space with no internal partition-walls. The cattle are taken out for grazing in *Talgard*. Nowadays in *Maymand*, *Sūl* has taken the place of ancient wooden-roofed *Āghols*. (Figs. 2.50-2.51)



Figs.2.50
Brick-made *Āghol* (*Sūl*)

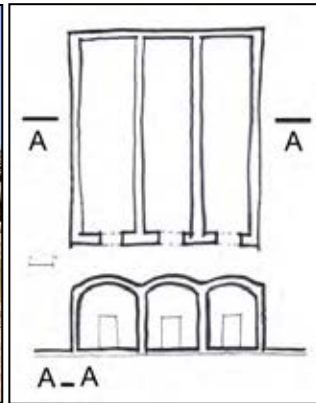


Fig. 2.51
Inside a *Sūl*

Wooden *Āghol*

Not frequently used today, this *Āghol* is made of wood and bushes. Thick wood is used for the pillars. The roof is made of the *Jāz* bushes or the *Rakhan*⁴⁰ plant covered with earth or sometimes with cattle dung. To prevent any leakage during rainy season, a plastic layer is spread on the roof. (Figs. 2.52-2.53)

40. *Rakhan*: A shrub the branches of which are used in roof coverage
Jāz: Gramineous plant with many usages in construction



Fig. 2.52
Inside a wooden *Āghol*



Fig. 2.53
The outside view of a wooden *Āghol*

In the past, *Maymandies* changed the location of *Āghol* (*Bangeh*) every 5 year within the *Sar-e-Āghol* in order to the disinfect *Āghol*'s floor. The same was done for the woods which had been laid under sun and in fresh air from early spring to early winter.

Kūz & Darkūz

Kūz is where the lambs are kept in *Sar-e-Āqols* that is a cavity dug under the ground to look after the vulnerable young lambs against the cold. Its roof is covered by tree branches and twigs and finally by mud in a conic shape. *Kūz* has a round plan with a special entrance from the ground surface. Its structure is just like the one for *Markhāneh*. *Darkūz* is a roofless *Kūz* (enclosed open space) accessed by stairway. Normally, the sheep is brought in front of the *Kūz* together with the lamb to be fed. To construct these spaces, the soil is dug 1 m deep and the internal wall is covered by stonework. Then the roof is covered by tree branches proceeded by a layer of soil lining. *Kūz*'s floor was covered with *Chemzū* in order to prevent the *Khalameh* penetrate in the soil and keep the soil dry. (Figs. 2.545-2.55)



Fig. 2.54
The inside view of *Darkūz*



Fig.2. 55
Kūz & Darkūz

Korm

It is a place to keep the newly born lambs, neighboring a *Kapar* or *Markhāneh* with a structure similar to but smaller than the *Kūz*. The lambs were transported to *Kūz* after *Korm*. (Fig. 2.56)



Fig. 2.56
Korm

Talqard

The milking space in *Sar-e-Āqol*; A round or square area of 3-4 m diameter enclosed by stonework, wood and branches to keep the cattle in. The entrance is usually a 1.5 m wide wooden door for the access of the farmer. (Fig. 2.57)

In every *Āghol* there are two forms of *Telgard*:

Major *Telgard*: Major *Telgerd* is used to keep all herds of those who share that specific *Āghol* and it is usually built by means of their teamwork and money.

Minor *Telgard*: Minor *Telgerd* was usually either a private *Telgerd* or a *Telgerd* shared by 2-3 close relatives.



Fig. 2.57
Talqard



Jirehdān (Kāhkhōr)

A space to barn the fodder (individually) in *Sar-e-Āghol*. It is made of stone, wood and sometimes brick (new types) and has a structure like *Markhāneh*. (Fig. 2.58)

Zendān-e-Gūsfand (Sheep prison)

It is a small pit half a meter deep to prison the sheep, which do not let their lambs to take milk. The locals keep the sheep together with their lambs in the jail so that the sheep cannot hinder the lamb from sucking. (Fig. 2. 59)



Fig. 2, 58
Jirehdān



Fig. 2.59
Zendān-e-Gūsfand

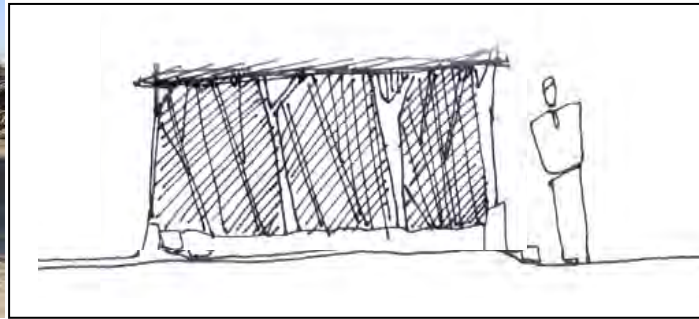
Human spaces

Kapar

The summer habitat in *Āghol* made of wooden beams, branches and wild thistles. For specific activities, the *Kapars* in *Sar-e-Āghol* are in close relationship with the *Talgards* and *Korms*. At times, *Talgards'* walls are adjacent to those of *Kapars* with an entrance in between. Due to a different size of branches available and also a different temperature, *Kapar* in *Sar-e-Āghol* is built differently from the one in *Sar-e-Bāgh*.



Being located far from the orchards, *Kapar* is made of narrower branches. Stone is also used in building *Kapar* in *Sar-e-Bāgh*. (Figs. 2. 60)



Figs. 2.60
Kapar

The leveled area before the *Kapar* is called *Pishgāh* (Fig. 2. 61).



Figs. 2.61
Pishgāh



Markhāneh

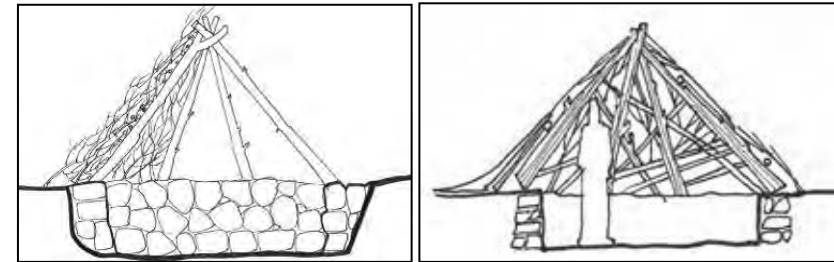
This is a human dwelling space in *Sar-e-Āghols*, made by digging a hole in the ground and covering the inner walls with stonework, covered in a conic shape formed by tree branches for the roof. Afterward, it is completely covered by twigs and soil, though recently construction materials and cloth is also used. It has variable dimensions; ranging from a diameter of only 1.5 m to 4 m. (Figs. 2.62-2.64)



Figs. 2.62
Markhāneh



Figs. 2.63
Inside *Markhāneh* before and after preparation



Figs. 2.64
Sections of *Markhāneh*

Mashkdān

Mashkdūn; Constructed in front of *Markhāneh* and in *Kapar* by stonework. It is covered by *Chemzū*⁴¹ branches to keep the *Mashks* (large leather bottles) cool. (Fig. 2. 65)



Fig. 2.65
Mashkdān

41. A provender plant: *Scariola orientalis*



Pool⁴²

Pools in *Sar-e-Āghol* are called *Howz*. Before the availability of new facilities (water tankers), *Sar-e-Āghols* were positioned on the river banks so that a brook of river water could fill up the pools made of stone and *Sārūj*⁴³. To water the cattle, water was brought up to the ground by a *Dalv* (bucket) via stairs. (Figs. 2.66-2. 70)



Fig. 2.66
Outside view of a *Howz* (pool)

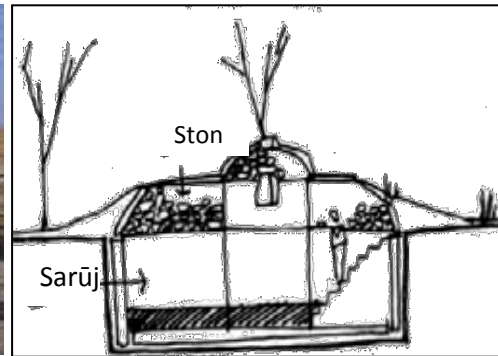
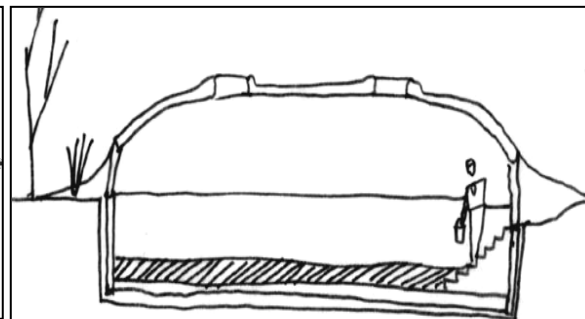
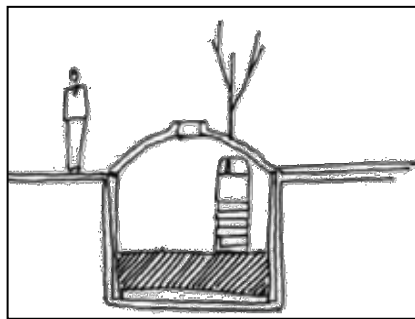


Fig. 2.67
Vertical section of a four-part *Howz* pool



Fig. 2.68
Inside view of a *Howz* (pool)



Figs. 2.70
Vertical section of *Howz* (pool)



Fig. 2.69
Outside view of a *Howz* (pool)

42. Refer to Water Resources

43. Plaster of lime and ashes like today's cement



New pools are brick-made. Pools are filled by water tankers and using a tap, water flows into the *Jāvīyeh*⁴⁴ for the sheep.⁴⁵ (Figs. 2.71-2.73)

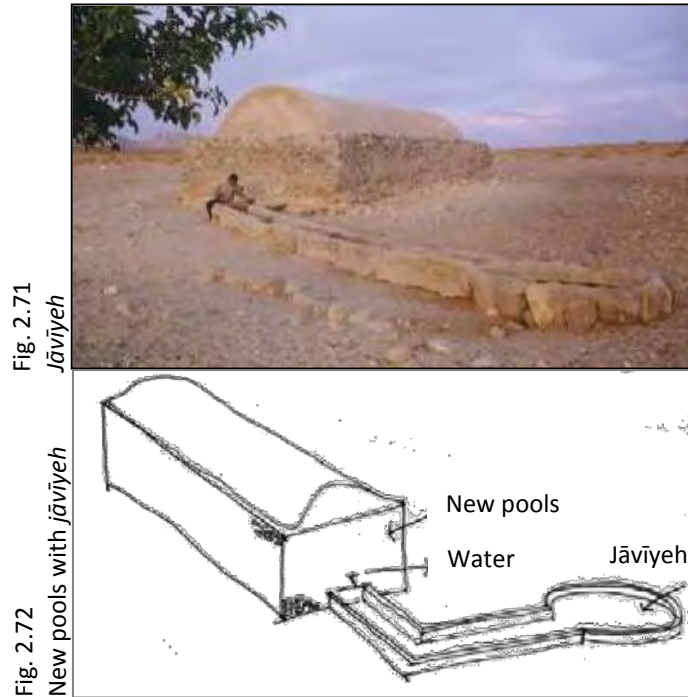


Fig. 2.71
Jāvīyeh

Fig. 2.72
New pools with jāvīyeh



Fig. 2.73
New (modern) pool

In the past, during rainfalls some shafts were dug in the highlands near *Āghol* in order to collect the rain water. These holes were called *Qadīr*



Eshām

*Ehshām, Yūrt*⁴⁶; having left the *Āghol* and before leaving for the village, the villagers stay for a time in the green high fields to collect wild almond and to produce the dairy products. *Kapar, Talgerd* and *Pelās* can be found in these highlands.

It is noteworthy that due to the climate change, decrease in the rainfall and economical concerns, less and less of the villagers have gone to *Eshām*; *Eshām*

Figs. 2. 74
Eshām in Kamar-Sefid



Fig. 2.75
Pelās





Sar-e-Bāgh⁴⁷

Ābādīes; *Sar-e-Bāgh* is the summer or second period habitat (early July to late October) of the *Maymandies*. (Figs. 2. 76-2.78)



Fig. 2.76
Migration to Sar-e-Bāgh

47. Temporary dwelling of the villagers in hamlets

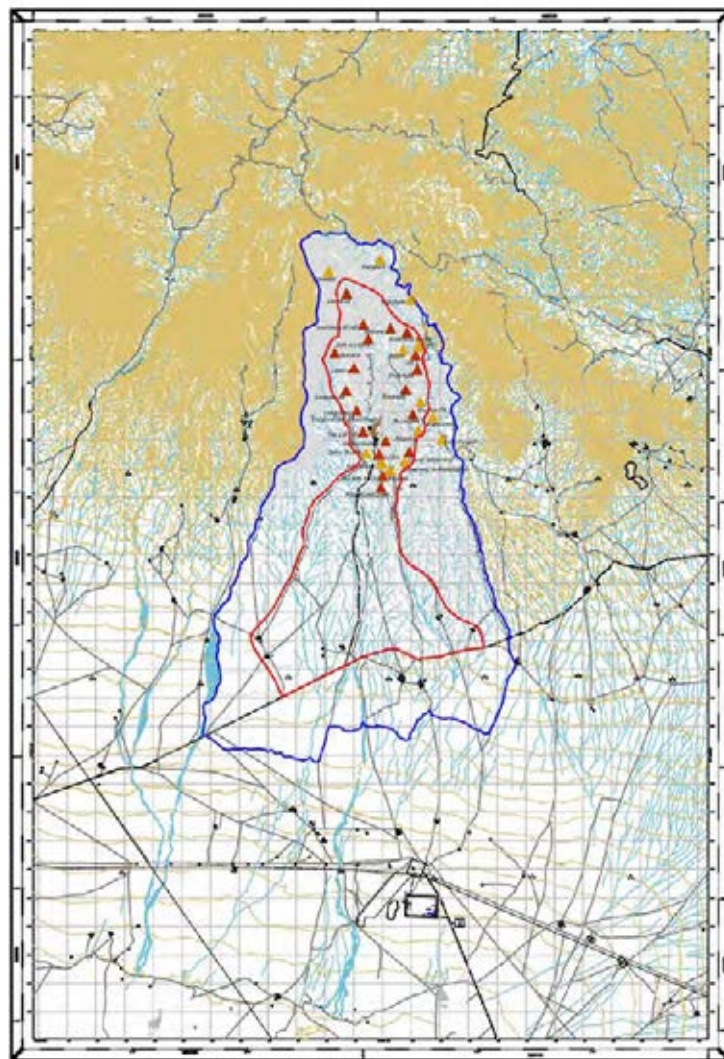
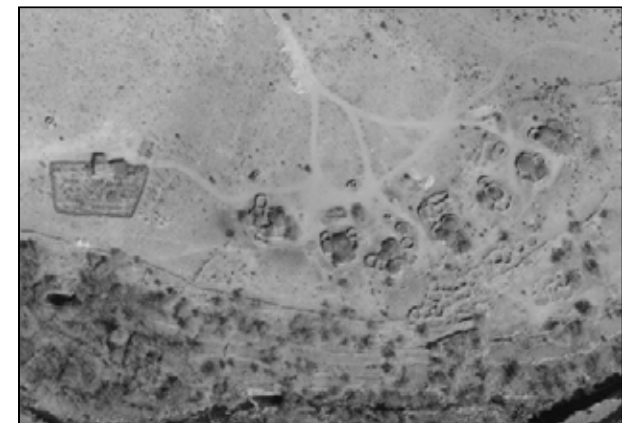


Fig. 2.77
Dispersion map of *Sar-e Bāghs*

- ▲ Abandoned Hamlets
- ▲ Alive Hamlets
- 🏠 Troglodyte Maymand
- Core Zone
- Buffer Zone



Figs. 2.78
An aerial photo of one of the hamlets in the cultural landscape of *Maymand* with its unusual and unique structure owing to its organic architecture



Climate

For rather hot weather during summer, structures are light; *Kapar*; or semi-light; *Gombeh*: with uncompressed roofs. Because of the vicinity to the seasonal rivers around the village or being under the shadow of the orchard trees, these structures moderate the heat.

Life Style⁴⁸

Sar-e-Bāghs (*Ābādies* = villages) are positioned near seasonal rivers. The villagers dwell there during spring and summer time. The major activity is gardening and the children take the herd for grazing or they sometimes look after the cattle by roaming within the villages and pastures. The villagers are busy in *Kapars* and the space in front of it. The fruit from the orchard are spread under the sun to prepare dried fruits. (Figs. 2. 79-2.80)



Fig. 2.80
Sar-e-Bāgh



Figs. 2.79
Activity in Sar-e-Bāgh



48 .The life style formation and the relationship with the nature are mentioned in Natural Features



Each tribe of the *Maymand* regional tribes are settled in their own village. The population of each village varies from one to several households. The village limits is often marked by tree branches or stone-fences. The passages (*Rāyīn*) with stone walls connect the river and the residential area. The *Sar-e-Bāghs* are located on the foothills and along the mountainous pathways. Rocky and barren lands are allocated for residential areas while the orchards are neighboring the rivers. (Figs. 2.81-2.82)



Fig. 2.81
Rayīn



Fig. 2, 82
An access to a *Ābādī*



Skeleton and Spaces

Sar-e-Bāghs residential area is located on rocky and non-cultivable area prepared by land leveling (earth filling or stonework). Stone stairs connect the human and cattle spaces to the foothill slope. (Figs.2. 83-2.84)

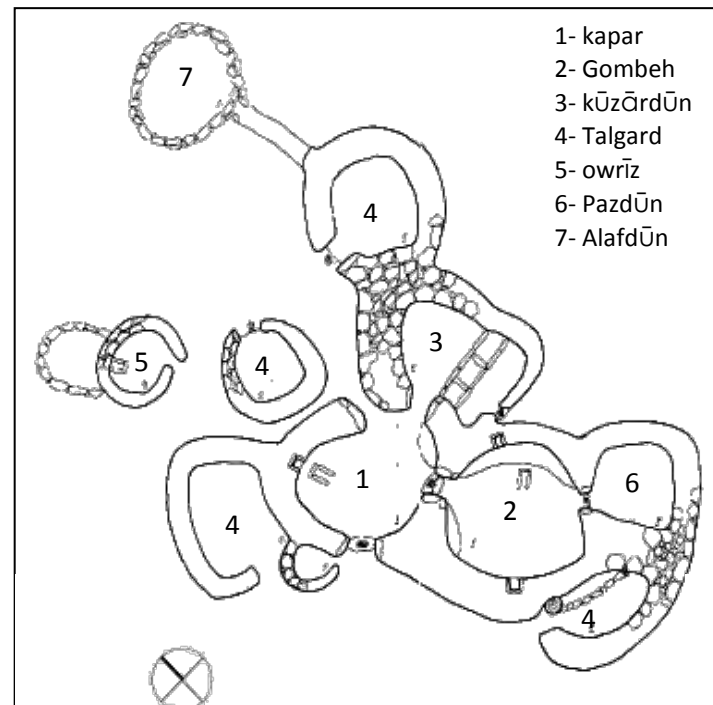


Fig. 2.83
Architectural spaces in *Sar-e-Bāgh* (*GozgestŪn*)

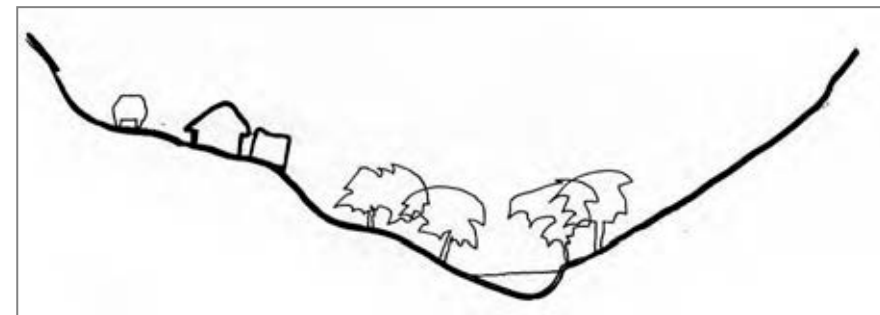


Fig. 2.84
Establishment of rural community near seasonal rivers' banks

Architectural spaces in *Sar-e-Bāgh* are in two groups of human and cattle spaces:

Human spaces include *Gombeh*, *PazdŪn*, *Kapar*, *Chāhārpāyeh*, *Mashkdān*, *DŪshāb* factory, water-mill and *Kharman-kamarī*.

Cattle spaces include *Keleh*, *Talgard*, *Parvārband* and *KŪzārdŪn*.



Human Spaces

Kapar

Kapar is a place to reside in *Sar-e-Bāghs* usually used during summer. There exists one to three *Kapars* in every residential area in *Sar-e-Bāgh* which are connected to each other by a door. In case there are several *Kapars*, the first one in the group is set as a semi-public space (to entertain the guests) and the others rest for familial private spaces. *Dīdān*⁴⁹, the place to light fire and the focus of family activities, is placed inside the *Kapar* at the opposite. In front of *Dīdān* next to the wall, there is also a stony niche, on which the households put the dishes. A short stone wall, 0.5 m tall or more, protects the fire against the wind (*Panāh bād*; Wind shelter) (Figs. 2.85-2.88)



Figs. 2. 85
View of *Kapars* in hamlets

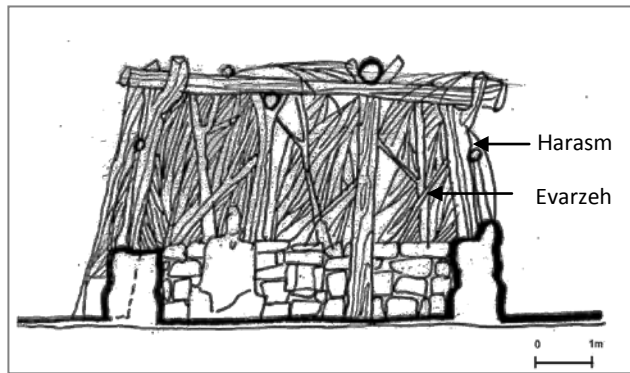


Fig. 2. 86

A section of *Kapar*

Evarzeh: A minor beam in the roof which cannot stand human's weight

Harasm: The main beam in the roof

In construction of *Kapar*, a suitable surface is first found and leveled. It is mostly constructed beside the withered trees of the village so that it can be leant against the trees and also so as to take advantage of their shade. The branches are put up against the walls made of stone (up to 1 m high) thus the skeleton of *Kapar* is constructed. Putting the branches over this skeleton, the roof and walls are covered.

Occasionally, some doorways are built by setting rather big stones upright and then installing the wooden or stone horseshoe structure over it.

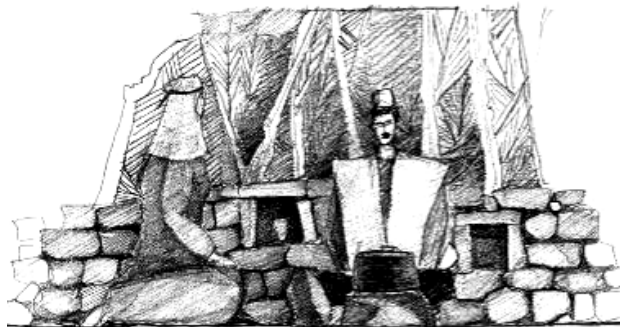


Fig. 2. 87

Internal space of *Kapar*

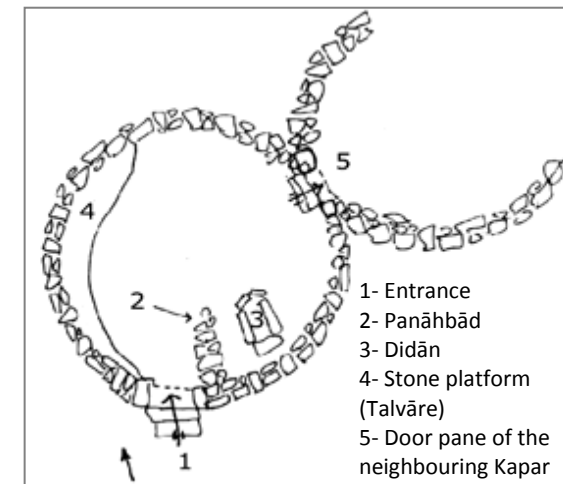


Fig. 2. 88

Plan of *Kapar*



Gombeh

This is the residential area in villages usually used during unfavorable weather. *Gombeh's* appropriate roof coverage prevents the leakage of rain drops. The wild almond branches in the roof are mounted in the right direction to lead the smoke upward and out. A single *Gombeh* is sometimes constructed which is normally connected to *Kapar* by a door. The same as *Kapar*, *Gombeh* has *Talvāreh*, *Dīdān* and niche.

A *Gombeh* is constructed of a two- meter high wall of stone on a circular plan. Then they lean the wooden beams against the stony wall to form a low conical covering as a roof. Using *Rakhan* and twigs, the roof is covered. Mostly in *Gombeh*, a firm tree trunk is used at the center of the plan as a pillar (*Chehel-Mard*) so that the roof leans both against the walls as well as the pillar. In some regions, a hollow trunk is installed at the center of the roof plan to lead the smoke out like a chimney. (Figs. 2.89-2.93)

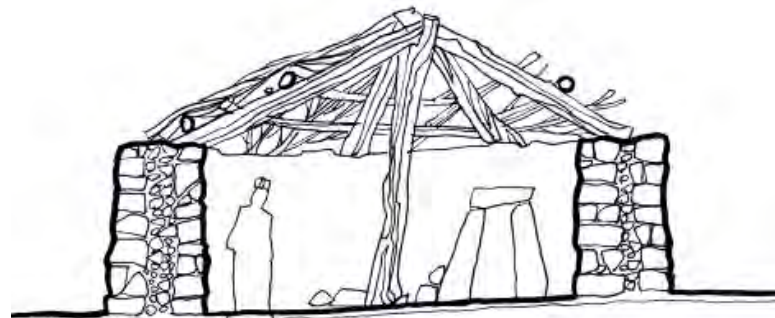
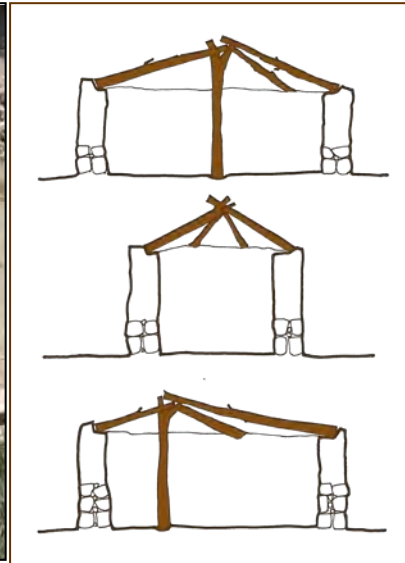


Fig. 2.90
A section of *Gombeh*



Figs. 2.89
Gombeh



Figs. 2. 91
Gombeh's roof structure with convergent beams

Fig. 2. 92
Chehel-Mard



Fig. 2. 93
Part of the internal space of a
Gombeh, *Didān* and stone niches





Pazdūn

It is a room next to the *Gambeh* with the same form used to store the products and sometimes for fattening the sheep.

Mashkdān

A stone platform on the center of which the tree trimmings are put and over which the *Mashk* is kept (Fig. 2.94)



Fig. 2. 95
Chahārpāyeh

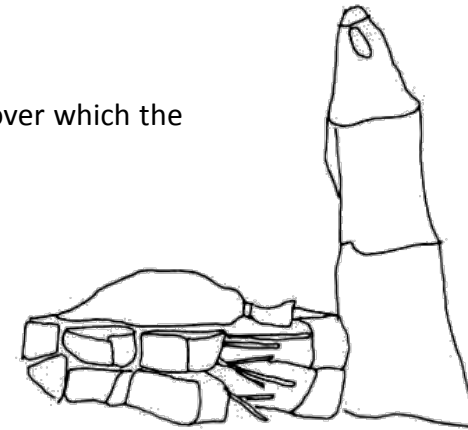


Fig. 2.94
Mashkdān

Chahārpāyeh (Chahārpādeh)

A small space made up of wooden beams, thistles. The shade and the flow of air will keep the *Mashk* contents cool. (Fig.2. 95)



Kel-e- Dūshāb

On the slope of hills, they dig two pits beside each other in different elevations, a hole connecting the two. The upper pit is about 1.2 m deep and 1 m long and wide and to some extents sloped while the lower is 1 m deep and 0.7 m long and wide. The set of two *Kel-e-Dūshābs* and a wood stove are called *Kārkhāneh* or *Kereshkhāneh* (factory), where *Dūshāb* (grapes syrup) is processed. (Fig. 2. 96-97)

A few days before beginning the job, the pit is watered so that the stones inside soak water. The upper pit is half-filled by straws. Having washed the feet, the men crush (*Pach*) the straws. This is also locally called *Palghāndan*. The job is usually done during the chill of the evenings and a syrupy liquid passing the hole gathers in the pit below. Some special white soil called the *Dūshāb* soil, brought from special spots in the mountains, is added to the juice; this makes the juice bubble and gradually its sourness is removed. Usually around the sunset the soil settles down (called *Kharpeleh*). The strained grape juice is then poured into a large copper pot (*Setal*) and is boiled over the *Dīdān* (or *Dīgdān*) to thicken completely (locally called *Tīl*) (Figs. 2. 98-2.102)

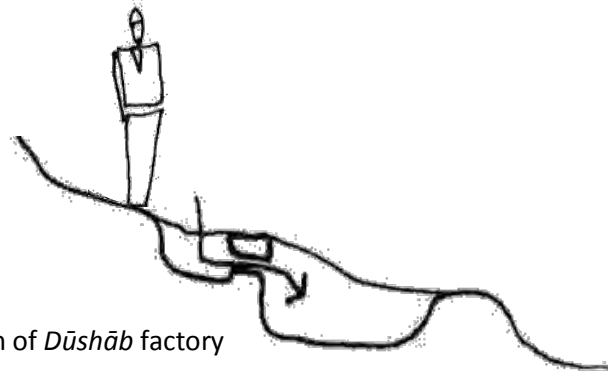


Fig. 2.96
A section of *Dūshāb* factory



Fig. 2. 97
Two *Kele-e-Dūshāb* pits, adding
Dushāb dust



Fig. 2. 98
Palghāndan (crushing grapes)



Fig. 2. 99
Stirring grapes



Fig. 2. 102
Dūshāb



Fig. 2. 100
Covering *Dūshāb*



Fig. 2. 101
Sieving *Dūshāb*



Water-mill

There are nine water-mills on the banks of the seasonal rivers of *Maymand* villages which are not thriving now, the ruins of which are left.

Their names are as follows: *Rezmalek*, *Kamarī*, *Gedā*, *Režā*, *Yūsef*, *Ali-Mehdī*, *Chīl-Ahmadī*, *Bādī* (wind) and little remains of another water-mill. (Figs. 2.103-2.107)



Fig. 2. 103
Chil-Ahmadi Water-mill



Fig. 2. 104
Režā Water-mill



Fig. 2. 105
Rezmalek Water-mill being repaired

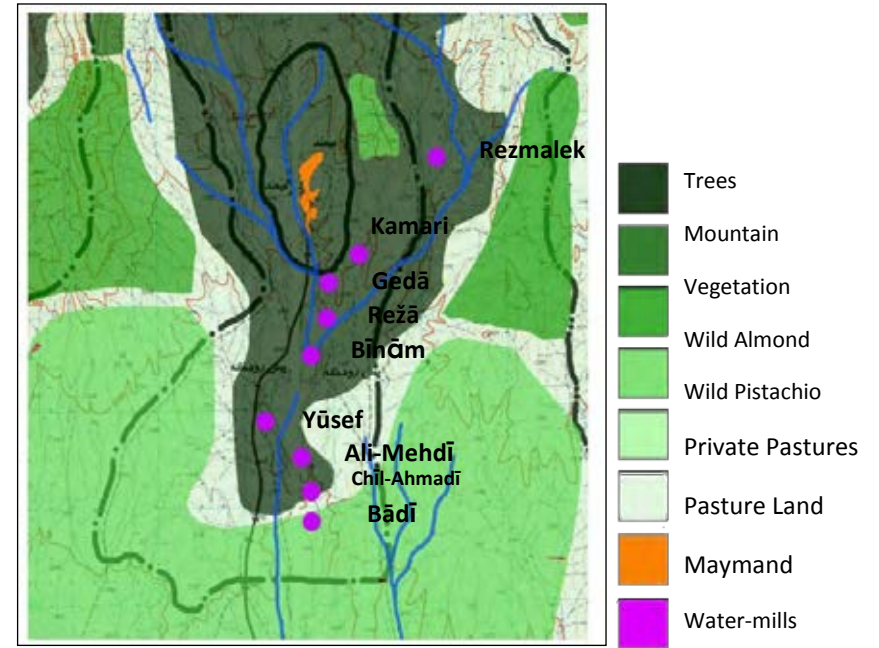
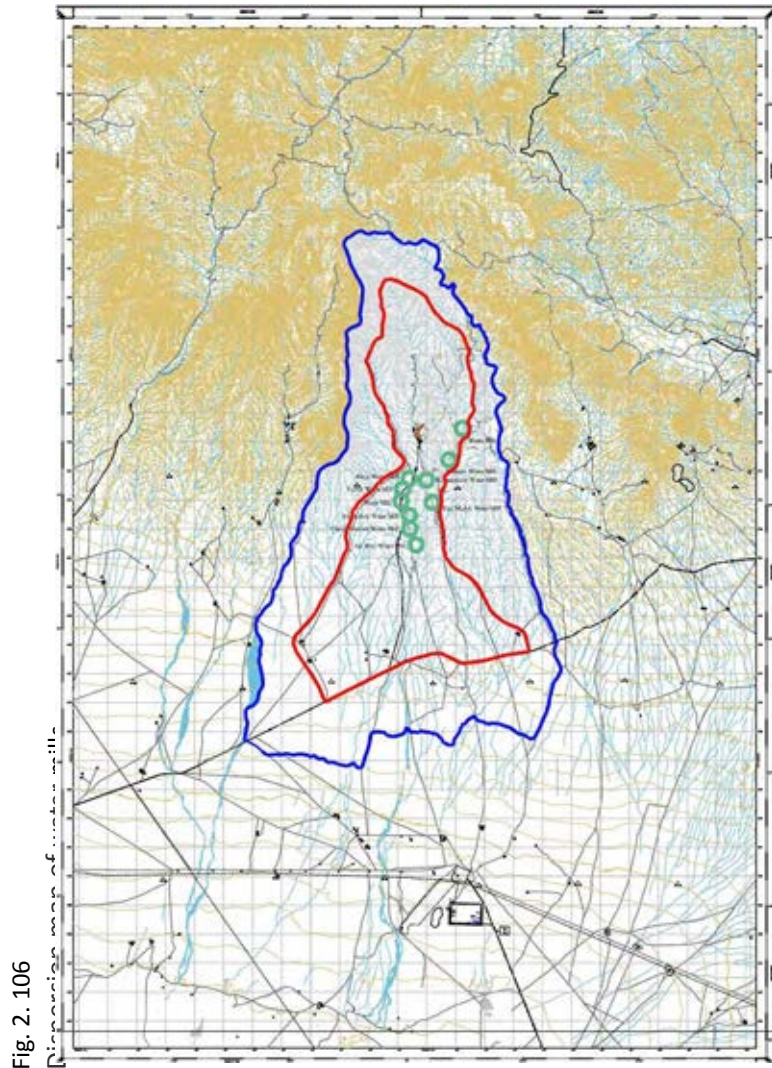


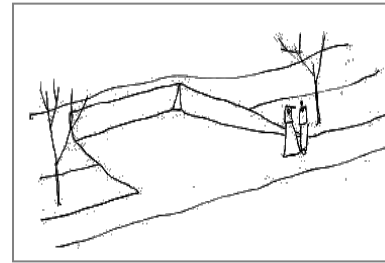
Fig. 2. 107
The water-mills in Rezmalek valley



Kharman Kamari

It is a place on the village highlands in *Kamar* (in the middle of mountains) excavated and leveled for harvest sifting (winnowing) and crushing. (Fig. 2.108)

Figs.2.108
Kharman Kamari



Cattle Spaces

Keleh

It is a usually roofless place to keep the cattle and/or stack the plants trimmings.



Fig. 2.109
Parvārband, animal entrance

Parvārband

Parvārband or *Kūzārdūn* is a space for fattening the sheep and selling and/or making use of their meat during winter. It is built of stone or wood beside the *Kapar* or *Gombeh* and may have its *Ākhor* (manger) facing the *Kapar*. There, cattle cannot move very freely. (Figs. 2. 109-2.110)



Figs. 2.110
Parvārband next to *Kapar*

Talgard

It is a place for foddering the cattle, milking or passing the night when the weather is unfavorable. On a round or square plan with a 3 to 4 m diameter, it is built of *Mar* (wild almond) and *Rakhan* bushes to prevent the passage of the cattle or the beasts. It has an entrance door of 1.5 m width for the farmer. (Figs. 2.111)



Figs. 2.111
Talgard



Troglodyte *Maymand*

Autumn and winter residences in *Maymand* are the innovative troglodytes excavated in the middle of rocks. This rare collection of stone architecture -troglodyte- with an exceptional form as a consequence of harmonization with the nature and with all the features which make them exceptionally distinctive from the rest of such formations in the world, has an organic and marvelous structure as the beating heart of the cultural landscape of the *Maymand* Village. (Figs. 2.112)



Figs. 2. 112
An aerial photo of Troglodyte *Maymand*



The village is hidden among the hills and is not visible along the access road prior to the entrance of the village. A few circle-plan watchtowers are located on top of the village's surrounding hills, from which *Maymand Dezh*⁵⁰ is perfectly visible. Village settlers were probably informed about the invasion of enemies by the means of these towers. (Figs. 2. 113-2.115)

Fig.2. 113
Watchtower in *Maymand*'s
aerial photograph



Fig.2. 114
Maymand Dezh



Fig.2. 115
Watchtowers

50. Look at The Non-residential Sites Scattered in *Maymand*



Climate

The people of *Maymand* reside in troglodytes from late October until late March. The troglodytes are the best shelters against the cold weather of the mountainous area since the rooms are easily warmed up, being inside the rocks and having thick roofs. (Fig. 2.116)



Figs. 2.117
Women's activities



Figs. 2. 116
A view of Troglodyte
Maymand's entrance

Life Style

The life style is affected by specific activities of this season; handicrafts such as *Kilim* weaving, cloth-weaving (*Kārbāfī*) etc. is done by women while men get busy with felt making and blacksmithing etc. (Figs. 2.117-2.118)



Figs. 2. 118
Men's activities, Felt-making



Introduction to Troglodyte Fabric

Existence of the residential units inside the mountains has fortified the defensive and security issues for these units; they have no entry inside except for the firm entrance door and cannot be easily burnt or ravaged. They are also secured shelters against the heat and cold, considering the long experience of animal husbandry in the region and the special method of preserving the cattle against enemies, rainfall & snowfall and the wild animals. Being situated inside the mountains, these homes are to some extents away from the wind or water erosion. Air conditioning can also be very easily done for a minimal heat exchange with the surroundings.

The hand-carved fabric of the village (troglodyte), like any other urban or rural texture, has some distinctive elements creating the fabric in which life has been going on throughout years. When first entered into the *Maymand* village, the very attraction is the special and eccentric form different from all other villages of the country which is pinpointing to the antiquity and ancientness of the village.

The main theme of *Maymand's* architecture is the use of a minimalist process to create the living spaces; that is, hardly anything is used to the original forms. This makes the first-time viewer to see nothing but the untouched nature. After a while of scrutiny, some man-made change is visible on the slope of the valleys called *Kicheh*. These *Kiches* show that the village has been once populous. (Fig. 2.120)

The arrangement of the *Kiches* is in one row and one column alternately; such an arrangement has some advantages including:

- The thickness of the roof and floor will not be too narrow resulting in more firmness.
- The existence of enough space around each *Kicheh* means more digging is possible without intrusion to the neighboring *Kicheh*.

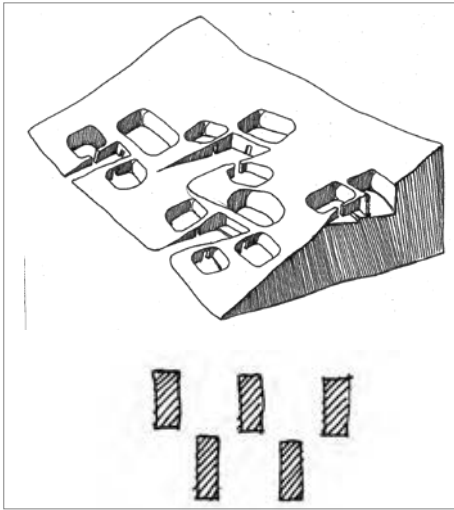


Figs. 2. 119

A view of the situation of *kiches* and rooms in relation to each other



Fig. 2.120
The situation of *Kicheh* and rooms in relation to each other



Stepping out of the *Kicheh*, there are no crags downwards (in the opposite *Kicheh*) which makes the *Kicheh* space much safer. (Fig.2.121)

The shape and natural bed of the valley are among the other features of the village. Both sides of the valley meet at the bottom of the village making a dead end so that the village has a V shape plan. The troglodytes are almost facing each other on the two slopes. The wise people of the past have made use of the distinctive and naturally rare shapes of the ground to create their own spaces; another unique features of the cultural landscape and another evidence of profound perception and interaction of the people with the nature and the mother Earth. (Figs. 2.121)



Fig. 2. 121
Maymand Valley



Each village is composed of different quarters and *Kiches*. Up to now, 11 quarters and about 400 *Kiches* have been recognized. There are one to seven rooms in each *Kicheh*. The base core of the formation of the *Maymand* village is the *Bon-e-Maymand* Quarter which has the most ancient troglodytes. The names of the quarters rely on the position of them (*Bon-e-Maymand*), historical occasions (*Kalāghūn*)⁵¹, important characters (*Gedā*)⁵² or the residing families (The *Zeineddinīhā*, the *Ebrāhim Mahmudīhā*, etc.) (Figs. 2. 122)



Figs. 2.122
A general view of Troglodyte *Maymand*

51. The first quarter of *Maymand* evacuated and so empty of people where only crows (*Kalāgh*) gathered and was thus called *Kalāghūn*.

52. *Gedā* means beggar; A Gnostic person named *Gedā-ye-Ali* (one fable) Apparently, *Gedā* Ali was the name of someone who could not have a baby. He is named *Gedā* Ali once God gives him a baby (another fable).



Access Routes to the Village's Fabric (Fig.2.123)

Tarmac routes

The village has a main access road a part of which has been recently tarmacked. (Fig. 2.124)

Dust routes

There is a dust route alongside the main road of the village that joins the village's main body to *Kalāghūn* and *Gedā* quarters. (Fig. 2.125)

The dry river (Masīl) in the middle of the village

The natural rout of the dry river, topographically shaped from the end of the village to the village centre (*Hosseiniyeh*), is also another access route. (Fig. 2.126)

Kāshkor

Commuting in the foot of mountains occurs via special routes called *Kāshkor*. Formed topographically, *Kāshkors* are grooves that direct the rain water towards both sides of *Kīchehs*. *Kashkors* are narrow paths, with the space for only one person to pass. (Fig. 2.127)



Fig. 2.124
Tarmac Road



Fig. 2.125
Masīl (Dry River)



Fig. 2.126
Dust Road



Fig. 2.127
Kāshkor



Rekhneh

Getting to the top of *Maymand* heights is possible via routes called *Rekhnehs* such as *Bon-e-Maymand Rekhneh*, *Shahsavār Rekhneh* and *Kalāghun Rekhneh*. (Figs. 2.128-130)



Fig. 2. 129
Shahsavār Rekhneh



Fig. 2. 130
Shahsavār Rekhneh after restoration



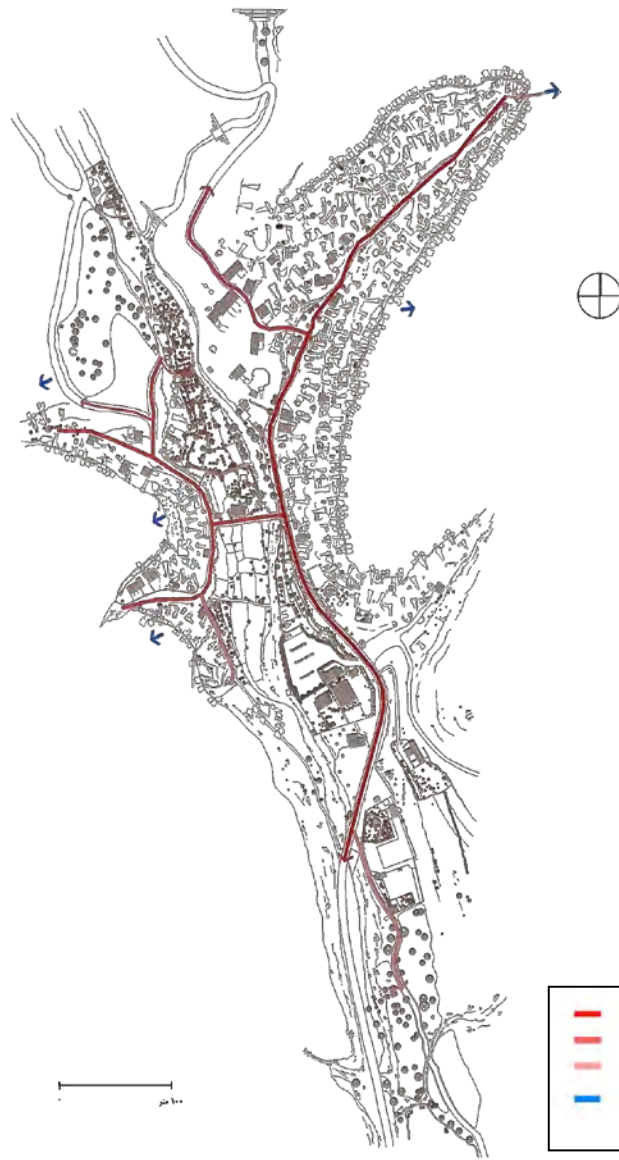
Fig. 2.128
Rekhneh



Fig. 2. 131
Stone stairs (*Pellehchīn*)

Stone steps (*Pellehchīn*)

To get to some houses stone stairs are used. The construction method is to use large stones with flat surfaces so that the same stone piece serves both as the surface and the front of the step. (Fig. 2.131)



Kicheh Bāgh

Kucheh Bāgh: *Kicheh Bāgh* is a narrow pathway hammed by heaped-stone walls and located among the trees connecting the cemetery and the mosque. After *Rowzeh* (A funeral speech in the Muharram celebration) ceremonies, people walk through *Kicheh Bāgh* together towards the cemetery to pray for their deceased persons. (Fig. 2.132)



Fig. 2.132
Kicheh-Bāgh

Fig. 2. 123
Maymand's access root and breaches



The Village (Quarter's) Centre

The open space in front of *Hosseiniyeh* being located on the centre of the village and its main road serves as the quarter centre. All commuting, shop and sales, meetings, religious rituals and so forth takes place in this area. It is, in fact, the most vibrant spaces within the Myamand's architectural fabric. The most important event of the whole year, however, is the *Tāsu'ā* and *Ashurā* mourning ceremony (*Shia's* mourning ritual for Imam *Hossein's* Martyrdom) which is magnificently performed every year⁵³ and attracts huge number of people from the neighbouring villages to *Maymand*. (Figs. 2.133-2.134)



Fig. 2. 133
Quarter Centre
(the space in front of Hosseiniyeh)



Fig. 2.134
Tāsu'ā and *Ashurā* mourning ceremony

Residential Units

The village's residential units are laid over the slopping surface of the stone hills some with up to 5 storeys, scattered randomly with in hidden order. The alleys divides into spaces that play the role of veranda's in rural houses. The style of these residential units in terms of their function resembles closely to those in a nomadic villages.

Most activities take place in *Eyvān*, expanded to *Otāqs* (rooms) only in the coldest time of the year as *Otāqs* are rooms with no openings to the outdoors except for their entrances. Each residential unit in *Maymand* consists of *Kīcheh*, *Otāq* (room), *Eyvān*, *Dargāh*, *Anbār* (storage place), *Tavīleh* (animal shed). (Figs. 2.135)

53 This ceremony is called Jūsh



Fig. 2.135
Children playing in troglodytes



Kicheh

A narrow corridor or passageway with a roughly flat and horizontal surface formed on the slope of the hill with the right depth which facilitates the carving of rooms inside the rock with a vertical entrance. The more the mountain's gradient, the shorter the *Kicheh*'s length becomes, so much so that in *Pātāq* locations there are hardly any *Kicheh*'s found.

In terms of ownership and house's limits, about 2 meters from each side in each *Kicheh* belongs to the residents of that house. There may exist from one to seven rooms in each *Kicheh*. (Figs. 2.136-2.137)

Fig. 2.136
Pātāq homes without *Kicheh*



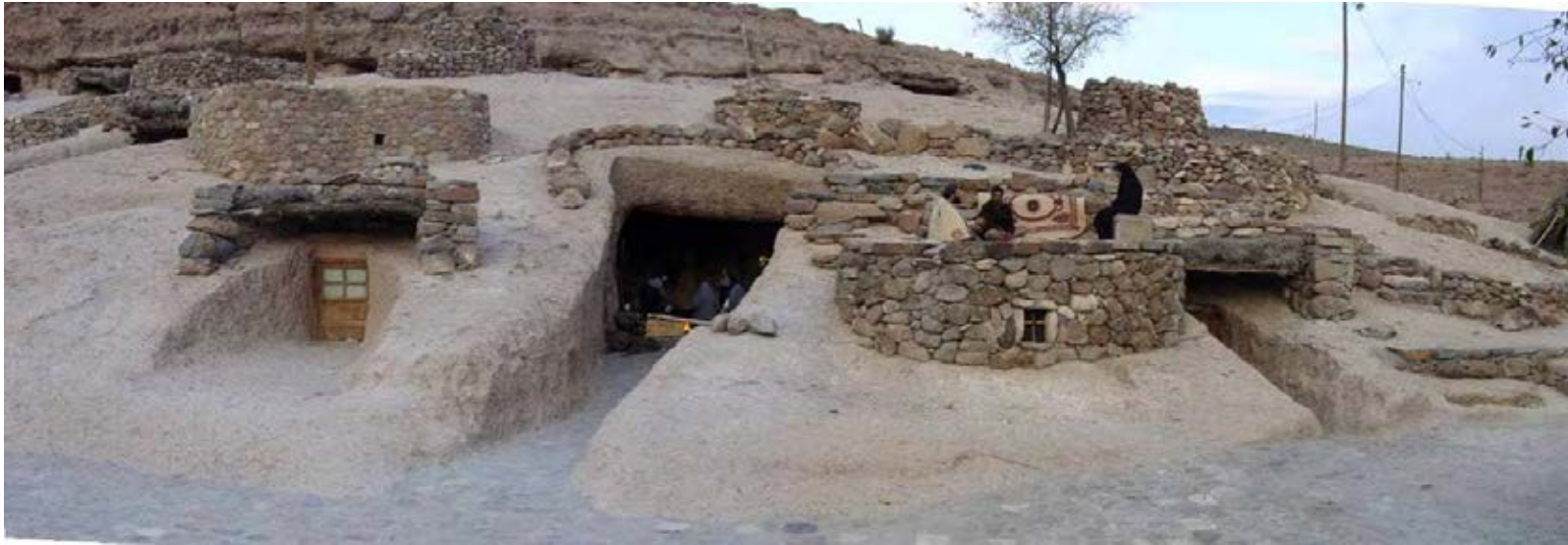
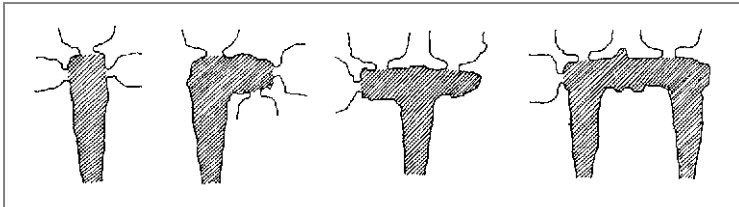


Fig. 2.137
A view of *Kichehs* in MCHB

Fig 2.138
The common forms
of *Kichehs*



Maymand Kichehs have a few prominent forms and different combinations of *Kichehs* with *Eyvāns* and rooms exist in a variety of ways. (Figs. 2.138-2.141)

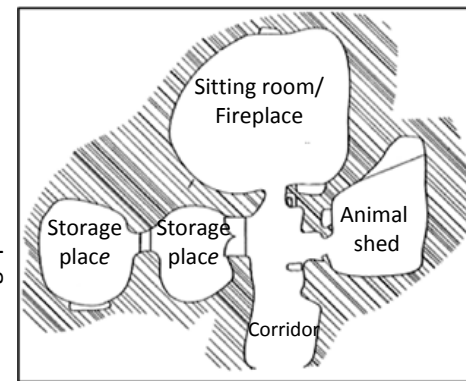


Fig. 2. 139
L-shaped *Kicheh*



Fig. 2. 140
T-shaped *Kicheh*

Fig 2.141
Consisting spaces of *Kichehs*





Eyvān

Eyvān in *Maymand*, similar to most Iranian rural homes, has an essential function. In *Maymand*, *Dīdāns* (fireplaces) exist in all *Eyvāns* where all family members gather round the fire. Baking bread, grinding wheat, spinning wool and many other daily activities takes place in *Eyvāns*. Also, *Eyvān* have niches in their walls for the household to put the everyday things on them. (Figs. 2.142-2.143)



Fig. 2. 143
Kicheh and Eyvān



Fig. 2. 142
MCHB- Eyvān

The different forms of this special architectural space can be seen in figures and plans below. (Figs. 2.144-147)

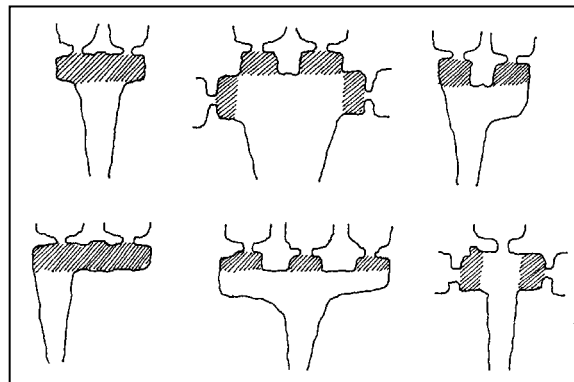


Fig.2.144
Different types of connection between Eyvāns and Kicheh



Figs. 2.145
Different *Eyvān* types in terms of form: 1- naturally formed *Eyvāns* in *Pātāq* 2- Carved *Eyvān* in *Kamar* 3- *Eyvān* with a break-made roof

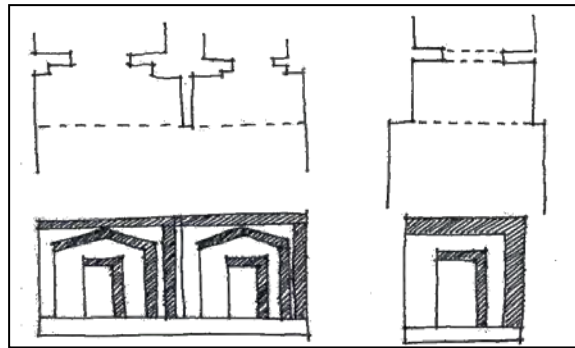
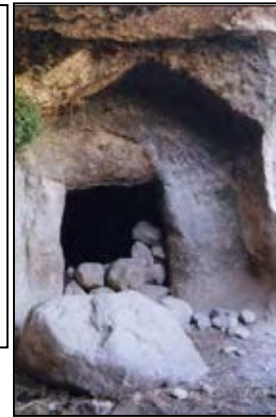


Fig 2. 146
Types of Eyvāns in terms of form



Figs. 2. 147
Eyvān type 1 and Eyvān type 2

Sarsoffeh

Pish-Soffeh; if there is no roof (made of *Kamar*) over *Eyvān*; the villagers cover it with wood and dust and call it *Sarsoffeh*. *Sarsoffeh* helps to prevent direct sunshine inside *Eyvān* in the summers as well as blocks the way of diagonally falling rain in the winters. (Figs. 2.148-2.149)



Fig. 2. 148
Sarsoffeh



Fig. 2.149
Making Sarsoffeh



Room (*Otāq*)

Otāq is another of functional spaces in *Maymand* homes which accommodates most of the activities at nights as well as in cold-days. Each home may have one or more rooms. There is a hierarchy from the entrance to the end of the room in terms of where things are put; Normally the cooking utensil are located near the room's entrance and the sides of the room is the decent place to seat respected guests. At the bottom of the room are the beddings and the spare spreads and throws put on top of each other. There may be a *Dīdān* (fireplace) inside a room, too. Rooms have no opening to the outside.

Most of these spaces have no opening except for their main door. In some of them, however, there are some skylights in the ceiling or walls for air conditioning. (Fig. 2.150-2.151)



Fig. 2.150
A room in the guesthouse with
Dīdān in the middle

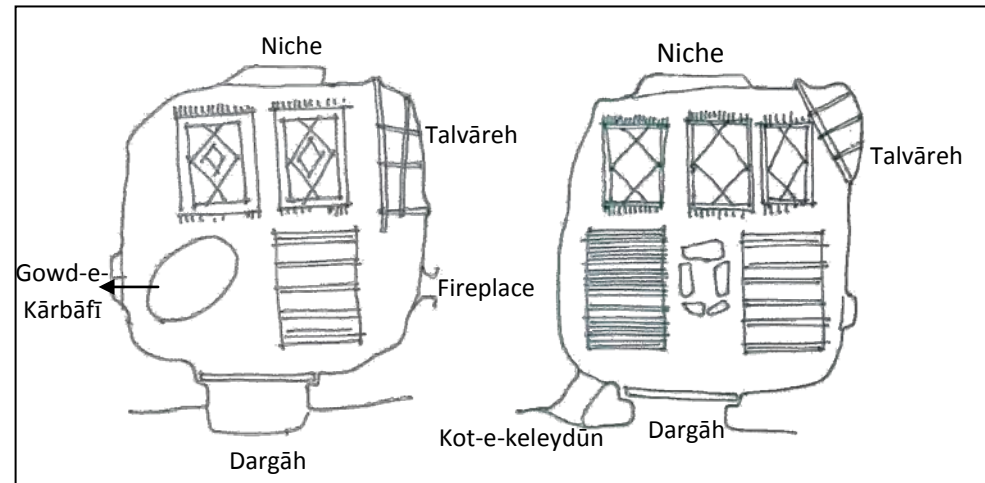


Fig. 2. 151
Different parts of *Otāq* in *Maymand*



There is a variety of room-types (*Otāq*) with special names including:

Bonī room⁵⁴

A room located behind another room or at the end of *Kīcheh*. In some houses, it is used for storing beddings and other living gadgets. (Fig. 2.152-2.153)

Otāq-e-Bālāyī (*Bālākhāneh*=Upper room)

These are small storage places made on top of the rooms inside the rocks to put spare things and are hard to access without a ladder. They are seen mostly on top the houses situated on the highest rows on the hill, carved inside the vertical walls or *Pātāqs*. They are normally under the projected edge of the rocks (*Tāq*). (Fig. 2. 154)



Fig. 2. 154

Otāq-e-Bālāyī (Upper room)

54. Bon means 'end'



Fig. 2.153

Otāq-e-Bonī



Fig. 2. 152

Otāq-e-Bonī, the room next to the kitchen in MCHB

Otāq-e-Zīrī (the room underneath)

This room which could be found in a limited number of houses is used to hide things and sometimes when the intruders attacked, to hide girls and women. (Fig. 2.1556)

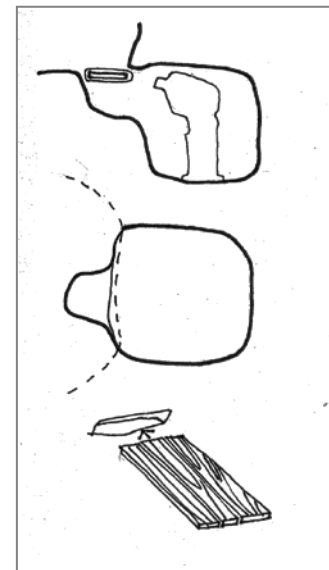


Fig. 2.155

Otāq-e-Zīrī (Lower room)



Dargāhs (entrance door frame)

In *Maymand* rooms exist in different types and forms carved inside the rocky mountain with a mallet, most of which have outstanding and classical forms (see the figures). The door in the majority of these entrances provides the minimum space to enter, narrowing down towards the top and bottom in keeping with human body form. Such a form also blocks dust and bugs and other animals from entering the room; in terms of security it does not allow the door to be opened by a crowbar. (Figs. 2.156-2.158)



Fig. 2.156
The human-body shaped of room entrances

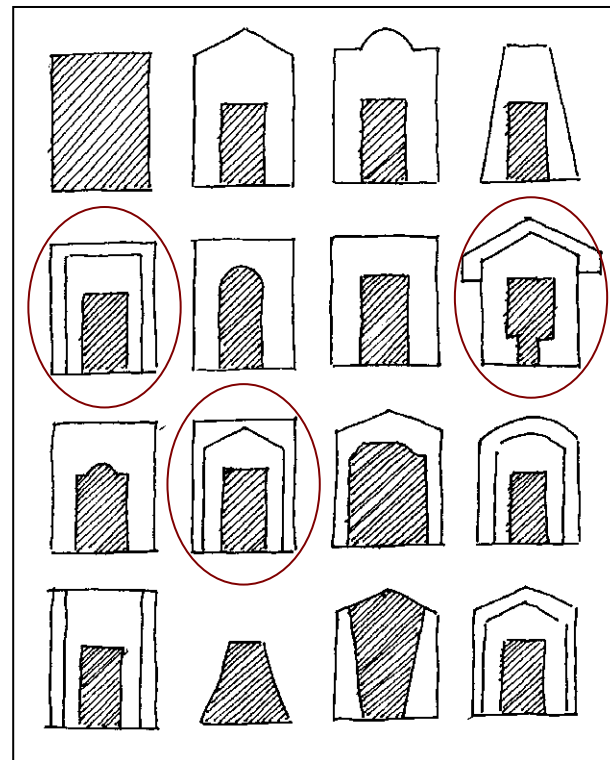


Fig. 2.157
The design of all different types of Entrances (*Dargāhs*) in *Maymand*



Figs. 2. 158
Some samples of *Dargāh*





Anbār (storage places) are smaller rooms with irregular forms, and at times the dimensions are so uneven that no one can live inside.

Tavīleh (animal shed)

Tavīleh is a space in which the local people keep their sheep, horses or donkeys during winter. It has an irregular shape and its entrance (*Dargāh*) has no specific form. Instead of a door, sometimes they only place a wooden piece horizontally in the frame. By and large, the rooms at the end of *Kīcheh* which have a lower ceiling are allocated to serve as animal shed (*Tavīleh*). Inside *Tavīleh* walls they have carved special holes as mangers to put fodder for animals.

Architectural Elements

Tāq

The projected rocks which are seen above the manes of *Maymand Kīchehs* on top the horizontal walls (*Pātāqs*). This projection occurs due to the resistance of one layer of earth (*Tāveh*: an igneous layer) consisting the projected part while the faster erosion of the *Kamar*, made of sedimentary layers creates a recessed wall underneath.

Pātāq

The horizontal wall underneath the projected rocks (*Tāq*) on the highest row of *Maymand Houses* (Figs. 2.159)

Figs. 2. 159
Tāq and *Pātāq*





Fig. 2.161
Horizontal section of Owriz

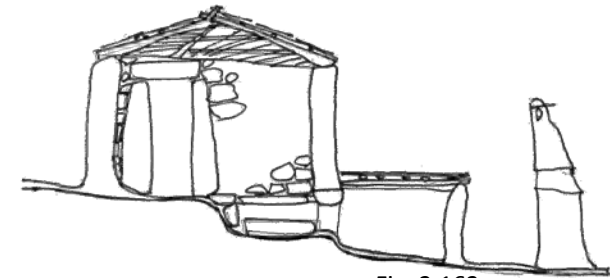
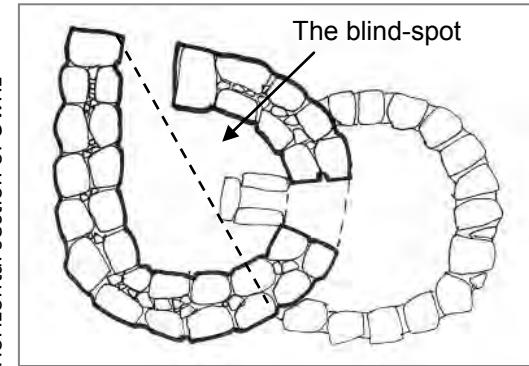


Fig. 2.162
Owriz and Bärzengeh

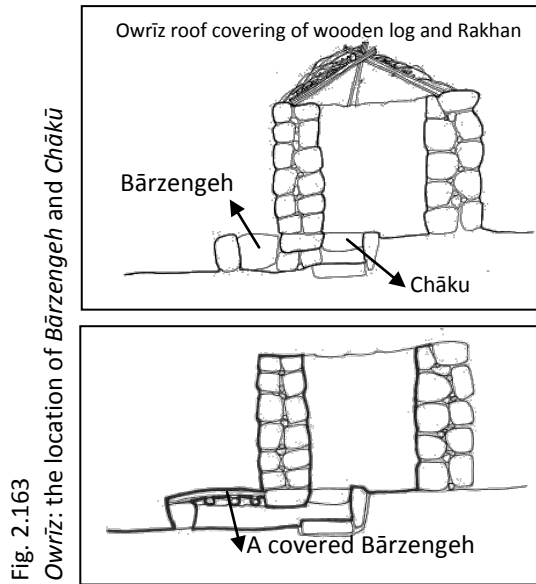


Fig. 2.163
Owriz: the location of Bārzengeh and Chākū

The importance of the 'dry' sewage system:

Unlike the wet sewage system, in this method the waste matter cannot move or pollute the soil, water or air because of the presence of wind and sunshine as well as the soil that is thrown on it manually. It should also be noted that people living in the mountains and close to nature have not a great deal of unease about being seen while relieving themselves.

Toqol

A terrace or veranda; *Toqol* is a flat space in front of or beside *Kīchehs* which is stone-made and flattened and used for sitting or spreading the fruits to be dried. Such flat *Toqols* may appear also as a result of making *Sarsoffeh* as well as re-constructing collapsed roofs or *Kornū*⁵⁶ ovens. (Figs. 2. 164-2.168)



Fig. 2.164
Guests having breakfast on
Toqol, *Maymand* guesthouse

56. *Kornū* is a kind of bread baked locally. *Kornū Tanūr* is also the oven in which such kind of bread is baked. It is a pit carved inside the earth on the *Toqol* or in front of *Kīcheh* covered with pebbles and mud.

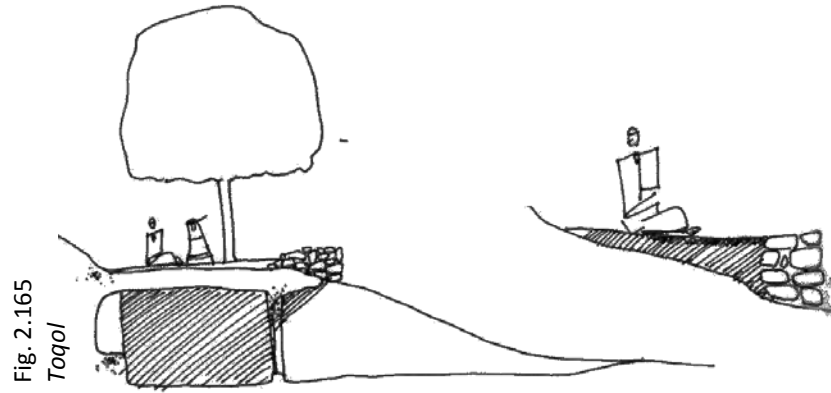


Fig. 2.165
Toqol



Fig. 2.166
Drying wild-almond on Toqol



Figs. 2.167
Kornū oven

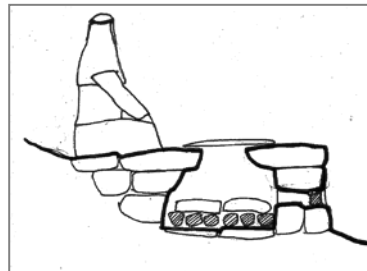
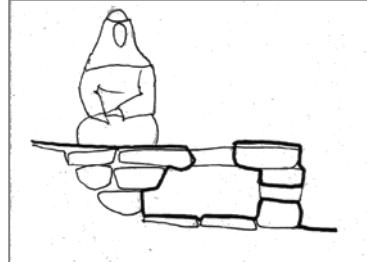
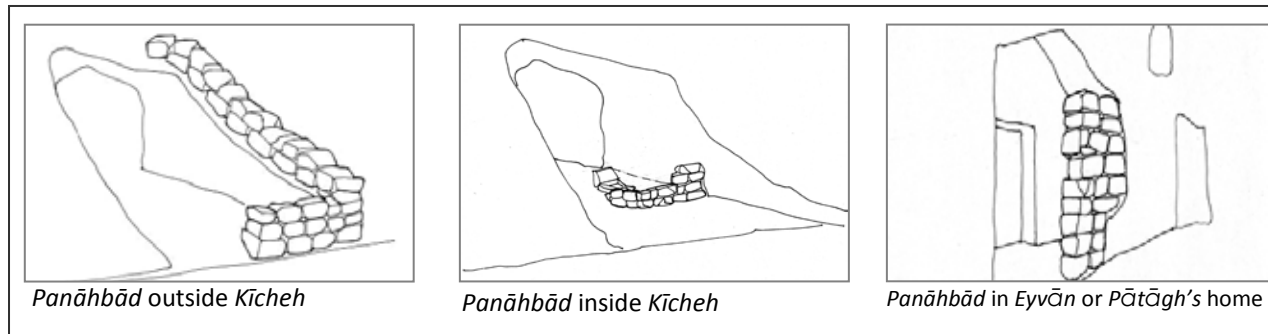


Fig. 2.168
Kornū bread



Panābād (Panāhbād)

Panābād is an open space a meter high in front of *Kīcheh* made with stonework used as a secure place safe from the wind and draughts. Most of everyday activities including sitting, baking bread, boiling milk and ...takes place here. *Panābād* has different shapes and types and is created in *Kīchehs* or the space in front of them or even in *Kapars*. (Figs. 2.169-1.170)



Figs. 2.169
Different types of *Panāhbād*



Fig. 2.170
Panābād



Talvāreh

Tah-tūk; a surface about 0.5 m high at the corner of a room, *Kapar* or *Gambeh* to put the clothes and appliances on. It can be made of stone (mostly in *Gambeh*) or of a set of wooden bars at a corner to add a storey to increase the space. The bushes of *Jāz* are sometimes used to level the surface.

The wooden bars are set in a triangular arrangement on the opposite shelves or on the wall niches. They may be leant against the *Pādeh* (small wooden pillar). Then these bars are joined to each other by *Mūdī* thread (woven form the goat's wool) (Figs. 2.171-2.174)



Fig.2.172
Talvāreh leaning inside *Kamar*'s cavities



Fig.2.173
A newly built Talvāreh in MCHB by mounting Pādeh-Dūfāq (Two branches)



Figs.2.171
Talvāreh

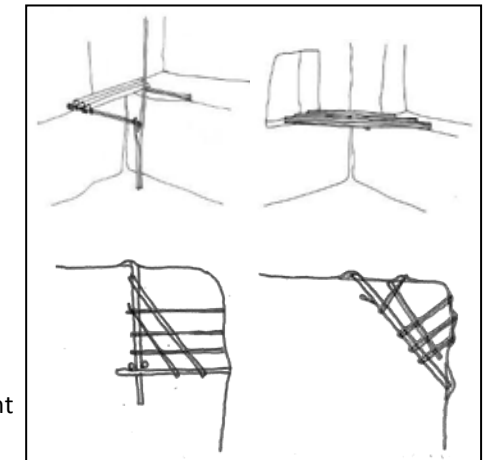


Fig. 2.174
Constructing Talvāreh *Lachakī* (corner), right
Talvāreh with *Pādeh*, left



Dīdān

Dīgdān; the fireplaces inside the *Kapar*, *Gambeh* room, balcony, *Kīcheh* or wherever there is life. *Dīdān* is built by putting the stones in a special order called “*Kowch*”. *Kowch-e-Dar-e-Dīdān* is consist of two stones put in a Λ -shape which is mostly found in closed spaces where the ashes can be collected. The two *Kowchs* are set against each other with enough space for a pan to put on top for baking bread. Medium baked bread is spread on *Demūz* or *Kowch-e-Kalleh* to get fully baked and crisp. (Figs. 2.175-2.180)



Fig.2.175
Dīdān in Eyvān



Fig.2.176
Dīdān in Gombeh (Sar-e-Bāghh)



Fig.2.177
Dīdān in a room in guesthouse



Fig.2, 178
Dīdān in Markhāneh (Sar-e-Āqol)

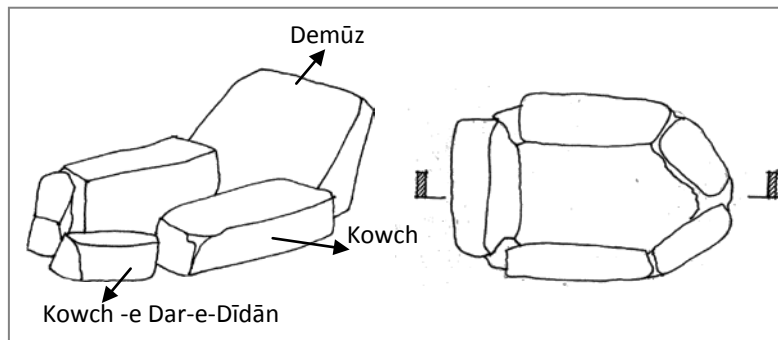


Fig. 2.179
Dīdān

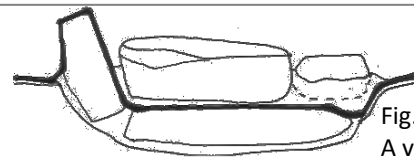


Fig. 2.180
A vertical section of *Dīdān*

To make *Dīdān* a hollow is made in the ground in which the stones are laid using clay. Sometimes a tripod is put on top to have a milder heat from the fire. (Figs. 2.181-2.182)



Fig.2.181
Securing stones with mud mortar



Fig.2.2.182
Seh-pāyeh (tripod)



Fig.2, 183
Akhīyeh

Akhīyeh

Jowbat; A stony arm cut into *Kamar* where the objects or the cattle are roped to. It is carved at different heights. The low one is used for fastening the cattle while the high-one on the ceiling is used to hang things which have to be kept out of reach such as a lantern or food bags or *Kharebār*⁵⁷. (Figs. 2.183-2.186)

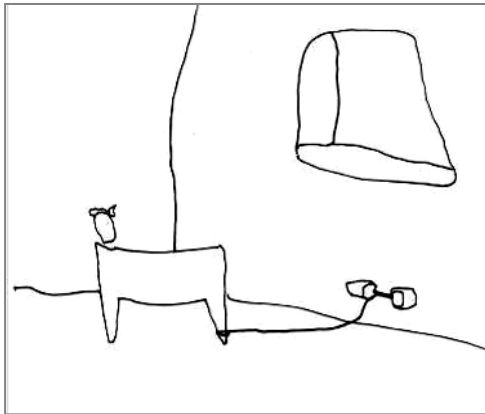


Fig. 2,184
Akhīyeh to tie the animals



Fig.2.185
Using *Akhīyeh* for *Kharebār*



Fig.2.186
Using *Akhīyeh* to hang lanterns from the ceiling

57. *Kharak bār*; It is a horizontal bar fastened to the *Akhīyeh* on the ceiling. In migration time, some furniture and equipment which are hard to carry are clung to *Kharak bār* to be protected against the mice and moths.



Door

All the houses of *Maymand* used to have wooden doors. But, with the passage of time and the gradual evacuation of the village, some doors are worn out and replaced with metal ones. (Fig. 2.186)

The doors usually have one or two leaves. Sometimes, a piece of wood is put for door over which a patch of *Makhshif* (a worn-out piece of *Kilim*) is spread to prevent the cold, heat and dust. Tin-plated doors with wooden frames are usually used in *Sar-e-Āqol* and *Sar-e-Bāq*. (Figs. 2.187-2.192)



Fig.2. 187
Tin-plated doors in *Sar-e-Bāgh*



Fig.2. 188
Putting *Makhshif* on the wooden edge of the entrance door

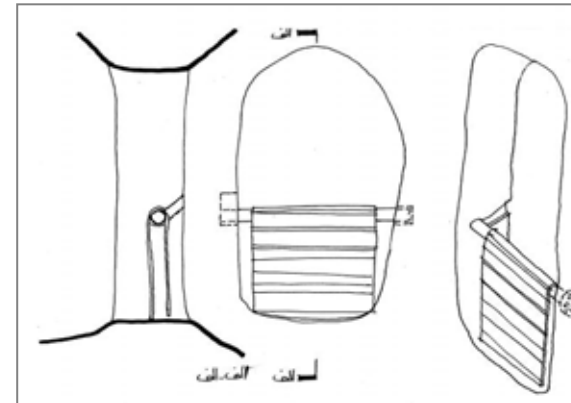


Fig. 2.189
Using a piece of wood instead of door



Fig. 2.191
Single-leaf door

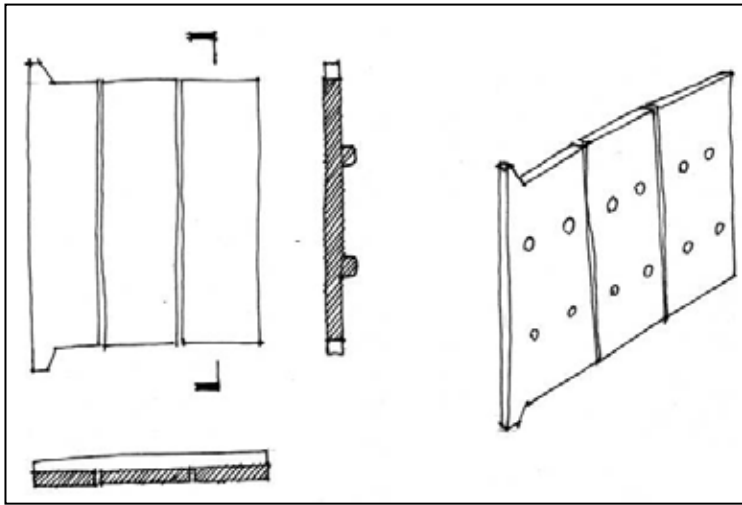


Fig. 2.193
Double-leaf door

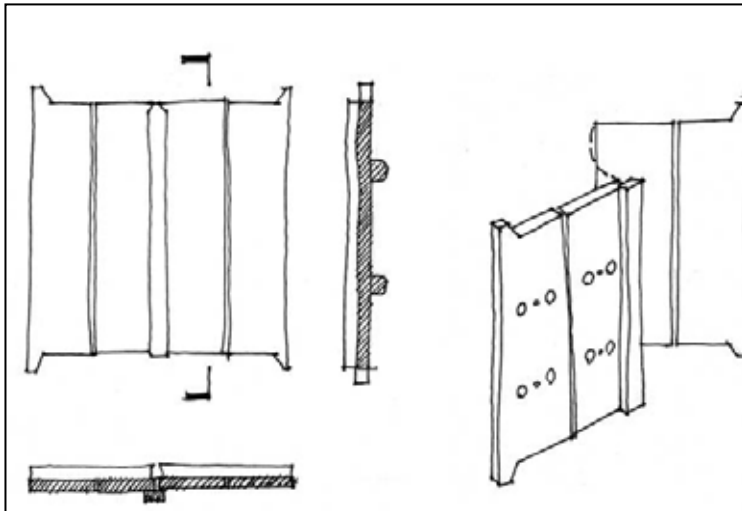


Fig.2.190
A single-leaf door (newly built)



Fig.2.192
A double-leaf door (made by master carpenter
Habibollāh Ebrāhīmī)

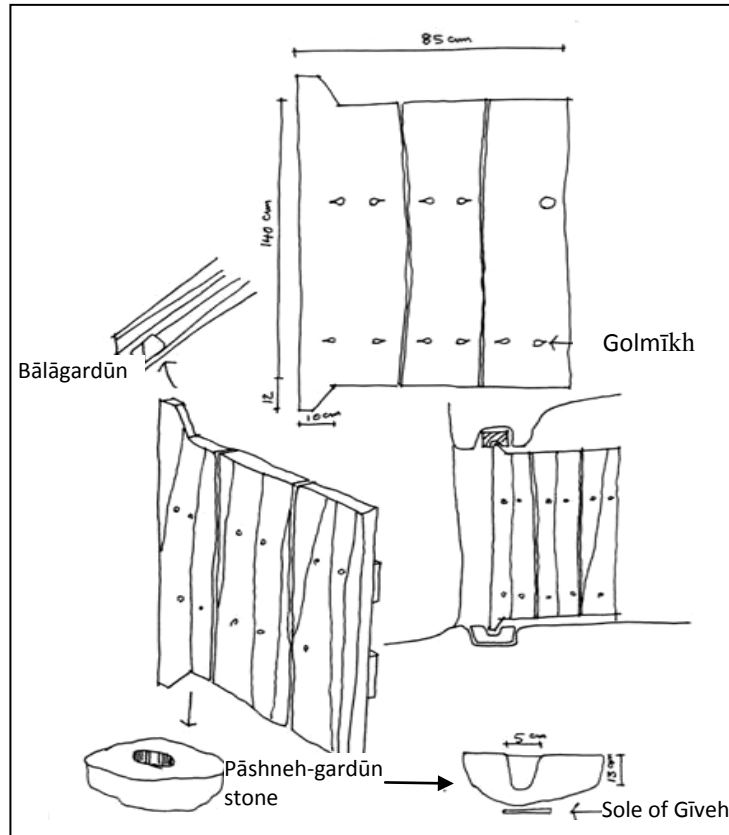


Fig. 2.194
The details of door

The doors are normally composed of two horizontal wooden bars (as buttress) and a number of vertical wooden bars joint by doornails. The main components of the doors in *Maymand* are: *Damāgheh* (parting bead), *Posht-band* (buttress), *Pāshneh-gardūn* (pivot heel), *Golmīkh* (doornail), *Gangū* and wooden pegs. (Fig.2.194)

Damāgheh (parting beads)

In double-leaf doors, *Damāgheh* is fixed on the rim of door leaf to latch. (Fig. 2.195)



Fig.2.195
Damāgheh

Poshtband (buttress)

A wooden bar to fasten the double-leaf doors from inside (Fig. 2.196)



Fig.2, 196
Poshtband

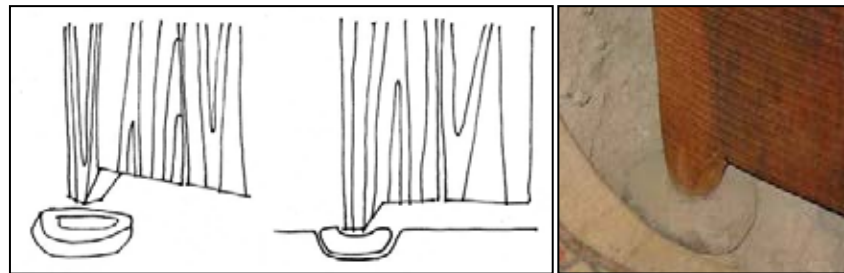
Tanāb-e-poshtband (buttress rope)

A piece of rope for pulling and fastening the door usually made from the goat's wool (*Mudī*)



Pāshneh-gardūn (pivot heel)

The lower extension of the door which rests upright upon a hole; *Pāshneh-gardun* is made out of stone, wood, the sole of *Gīveh* (summer cotton shoes), metal bowls or plastic (the sole of plastic slippers). (Fig. 2. 197-2.199)



Figs.2. 197
Pāshneh-gardūn stone

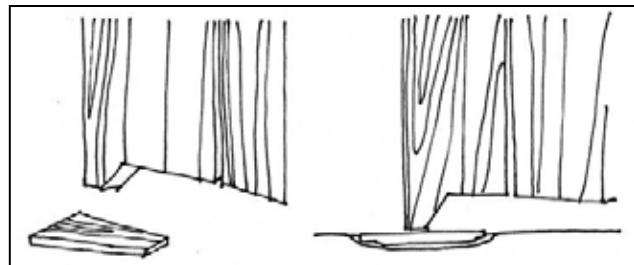


Fig. 2.198
Wooden *Pāshneh-gardūn*

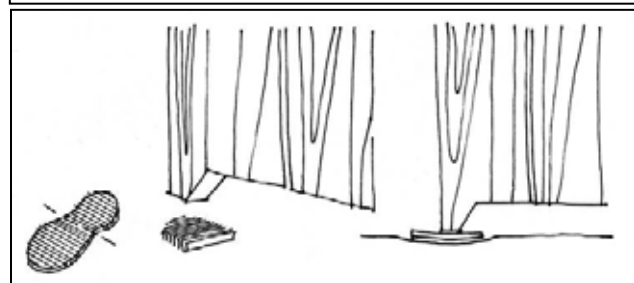
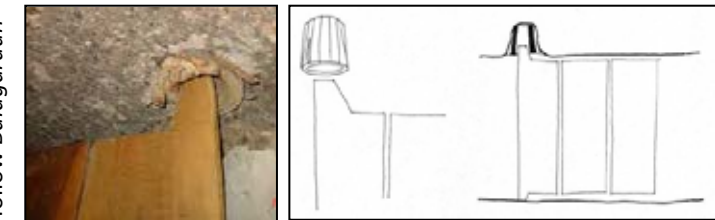


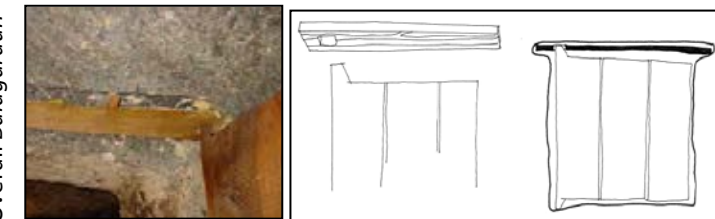
Fig. 2.199
Bottom of *Gīveh* used as
Pāshneh-gardūn

Bālā-gardūn

Installed on top the doorway to hold the upper extension of the door and to let it spin. It has different types including hollow shafts, overall and one-way *Bālā-gardūn*. (Figs. 2. 2.200-2.2021)



Figs.2.200
Hollow *Bālāgardūn*



Figs.2.201
Overall *Bālāgardūn*



Figs.2.202
One-sided *Bālāgardūn*



Golmīkh (doornail)

It is used for making new doors and restoring the old ones. It has several types: flat, embossed, almond-leaf-shaped and cone-shaped. (Figs. 2.203-2.204)



Figs.2. 203
Golmīkh (embossed, left
Almond-leaf shape, right

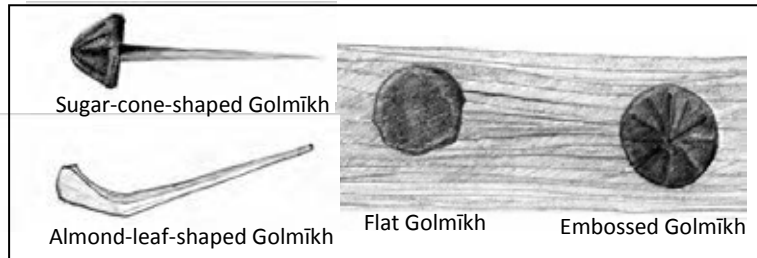


Fig. 2.204
Types of Golmīkhs

Ganqū

A metal piece similar to a staple-needle to stitch two wooden panels together (Figs. 2. 205)



Figs.2.205
Ganqū



Fig.2, 207
Kāseh Kleydūn (Socket)



Fig.2.206
Kleydūn inside Kot-e-Kleydūn



Fig.2.208
Mortise and Tenon



Fig.2.209
A kind of wooden key

Kleydūn

A relatively large wooden lock and key hold inside a hole in the wall (*Kot-e-Kleydūn*)
It has several segments like: key, socket, mortise and tenon. (Figs. 2. 206-209)



Samples of Native Construction Methods

Wall-making

Single and double foundation walls: If the wall is not to be load-bearing, it will be made as a single foundation (one tier of stone-work with variable thickness depending on the stones dimensions). For its low resistance, one dimension walls are ordinarily built next to and leaning to another wall (*Kamar*, stone-work, etc.). If the wall is to be load-bearing walls (such as those under a roof) or self-sustaining, a double foundation wall is built (with two parallel tiers of stone-work)⁵⁸. The space between the two tiers is filled with crushed stones (*Chīl*), soil, etc. as the filler material. (Fig. 2. 210)

Details of Wall-making:

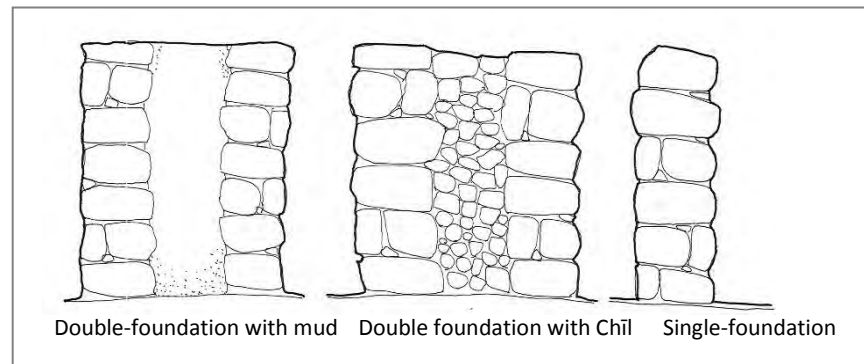


Fig. 2.210
Different types of wall-making

Chīl; in some of two foundation walls (the walls of *Owrīz*), the wall is widened to achieve higher load-bearing capacity and stability; the space between the two tiers is filled with crushed stones (*Chīl*). (Fig. 2.211)

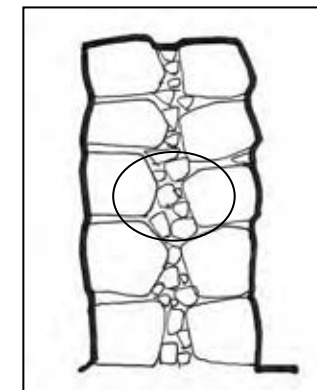


Fig. 2.211
Chīl inside a double-foundation wall

58. In the village, the thickness of *Gombeh*'s double foundation walls may be up to 2 m.



Gāz; due to the use of irregular-shaped and un-carved stones, some gaps are made in between. *Gāz* (small pieces of stone) is used to fill the gaps, pressed and crammed into the wall by a mallet. In addition to a better view, gap-filling by *Gāz* makes the walls more stable and rigid. (Fig. 2. 212)

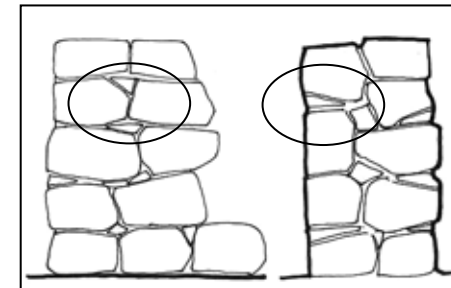


Fig. 2.212
Gāz in the facing and vertical section of a wall

Relocation and use of bulky stones: Usually in the making of first tiers, whole pieces of bulky stones are used to enhance the beauty as well as rigidity of the walls. (Fig. 2.213)

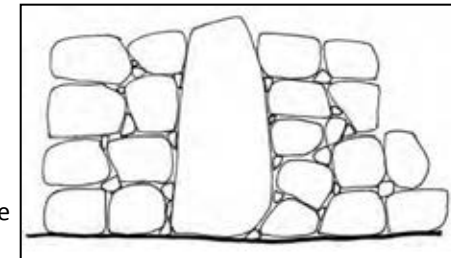


Fig. 2.213
Use of bulky and whole-piece stones in wall making

Stone relocation methods:

There are five methods for stone relocation: rolling, moving on the rolling logs, pivoting, lifting and dragging.

Rolling:

In case a stone cannot be manually rolled, a crowbar is used as a lever and a piece of stone as a fulcrum. Each movement of the crowbar is called “*Chāq-Kardan*”. Based on the stone weight, a number of crowbars and some direct man-power – using their feet and hands – may be used. After a slight relocation, they may put some small stones under the big stone to avoid any roll-backing, then have another “*Chāq-Kardan*” of the crowbar. Upward and downward force is applied by the crowbar to the stone depending on the stone position. (Fig. 2. 214-215)

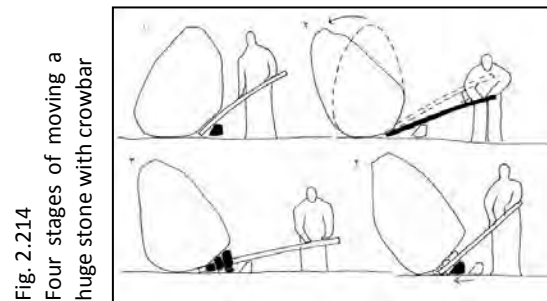


Fig. 2.214
Four stages of moving a huge stone with crowbar



Fig.2. 215
Holding on to the stone in an unstable position using hands and feet



Crowbar can be replaced with the hydraulic jacks (those of heavy duty vehicles). (Fig. 2.216)

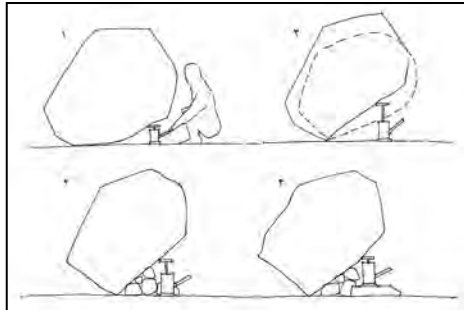


Fig. 2.216
Use of hydraulic jacks instead of crowbars

While rolling, the stone rests in a stable position (*Kop*) which makes it very difficult to be lifted again. To prevent this, when the stone is still in its unstable position, a smaller stone is placed at one third of the stone length⁵⁹. This makes the end of the stone elevate using the stone's own weight and facilitates the next rolling. (Fig. 2.217)

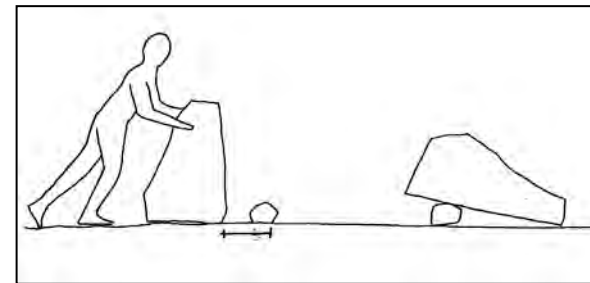


Fig. 2.217
Putting a helper stone at one-third of the big stone's bottom

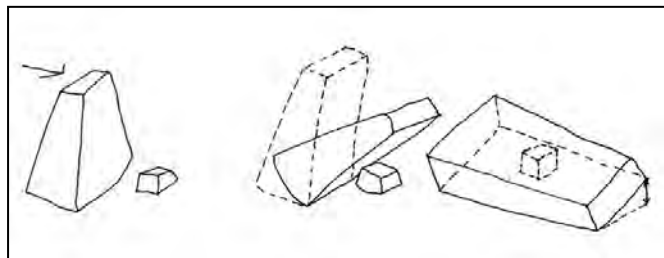


Fig. 2.218
Assisting stone to diverge the big stone's direction

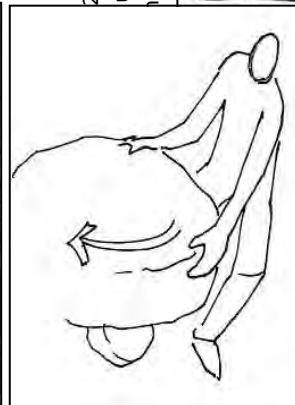
While rolling, it may sometimes be felt that the stone will fall on an unfavorable spot -for instance it may hit a tree or wall or may be deviated. In this case, a small stone, as above, is put on the opposite side to have the big stone aligned. (Fig. 2.218)

59. The smaller stone serves as a fulcrum for the lever the big stone is its arms.



Moving on the rolling logs:

This is the very ancient procedure which uses the logs in the same way as the wheels; as the stone moves forward, the rear logs are carried forward. Pre-requisite to this method is the relative smoothness of the ground and the stone's bottom side. (Figs.2.219-220)



2.219
use of rolling logs underneath
move the stone-slab

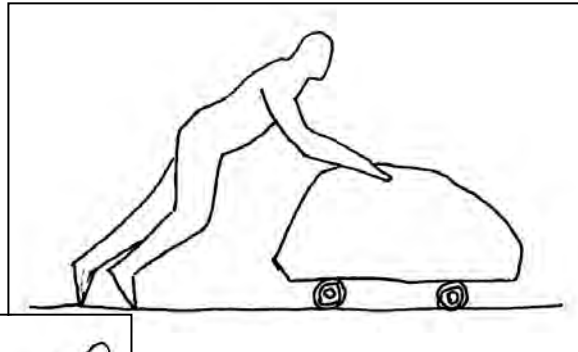


Fig. 2.220
Moving on the rolling-logs

In order to rotate and adjust the big stone in the right direction (angle), another stone⁶⁰ is inserted underneath, using a crowbar to easily pivot the big stone. (Figs. 2.221)

Figs. 2.221
Rotating large stone pieces round
the vertical axis

60. A very strong Green Stone is usually used in this case.



Lifting the stone:

The stone may sometimes be lifted if there are proportionately enough hands to lift it and the stone has enough handles for people to hold on to, especially when other methods of moving is not viable. Supporting wooden bars can be used under the stone, if possible, to handle the task more easily⁶¹. (Fig. 2.222)



Fig. 2.223
Dragging large stones

Stone Face:

There are two types of stone (plain-faced and display-faced) for laying stone-work. In ordinary stone-work for the orchards, terracing etc. natural rubble-stones are used. For display purposes, the more even face of the stone is exposed, or its surface maybe given a nicer look, using a mallet. (Fig.2.224)



Fig. 2.222
Using supporting wooden-beams to carry large stones moving on the rolling-logs

Dragging:

This implies moving of one side of the stone round its axis to the other side. (Fig.2.223)



Fig. 2, 224
Using display stones in wall-making

61. Normally this method is used also to lift great tree trunks that have no place to grasp.



Restoration of Frail Ceilings

The *Kamar* layers slenderized by the erosion may collapse. A lining is executed on *Kamar* for more consolidation so that the wooden poles have firmer props. (Fig. 2.225)

Collapsed Ceilings:

Ceilings with cavities smaller than 60 cm

Coverage with *Barg-Sang*⁶² (stone-flakes): In this method, the cavity in the ceiling is covered with one or two *Barg-Sangs* (from the top) and the joints are rendered. Then the fillets are made to direct runoff water. The mortar is earth covered after each stage. (Fig. 2.226)

Coverage with (small) wooden beams: If the layers adjacent to the cavity cannot bear the live load and that of the *Barg-Sang*, wooden beams are used to conduct the applied load to firm sides. Executive details are just like the above case but without any main pole and the *Evarzeh* logs are tightly fixed beside each other. (Fig. 2.227)

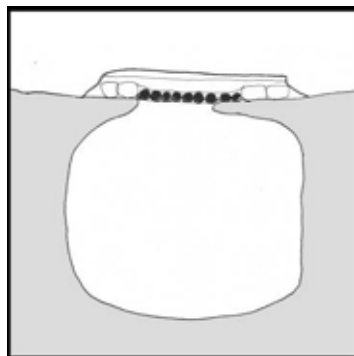


Fig. 2.227
Covering small cavities in the ceiling
with wooden beams (*Evarzeh*)

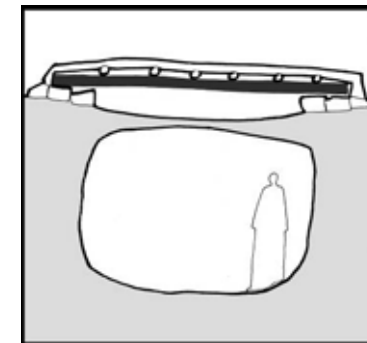


Fig. 2.225
Restoring the frail layers of the
roof

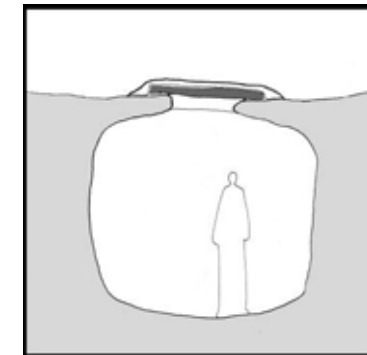


Fig. 2.226
Covering small cavities in the
ceiling with *Barg-Sang*

62. Naturally thin layered stone (sometimes up to one cm thick) found in surrounding mines



Ceilings with cavities larger than 60 cm

Coverage of large cavities needs some walling. The finished wall top shall be level with the top of the cavity (on the slope of the *Kamar*). Because of dim rooms and the need for lighting, some openings are made while building the wall, finished with wooden trap doors to have ample light inside. The idea of using these trap doors is new nevertheless they are made with regional materials and methods. (Fig. 2.228)

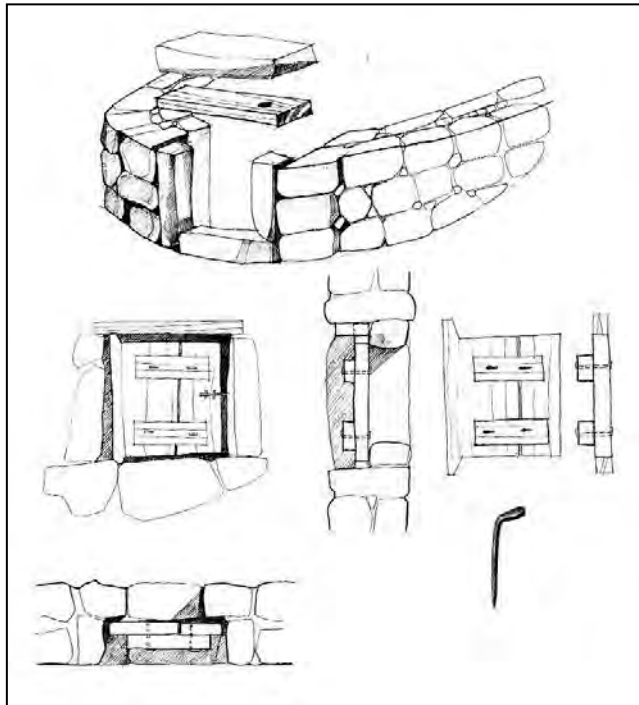


Fig. 2.228
The execution details of windows in the ceilings' covering walls

Executive details of the ceilings with cavities larger than 60 cm include:

stone masonry, *Harasm* (main beam), *Evarzeh* (lateral beam), mat⁶³ (if necessary; to avoid sliding of the soil, chipped wood and insects), *Borsh* (twig), *Rakhan* or *Makkī*⁶⁴ (Liquorice), *Qureh-gel* (a liquefied clay), plastic sheets and thatch (in some parts, because of the rain and traffic, finished surface of the roof is paved with *Barg-Sang* to prevent thatch weathering and also to make a suitable surface for the *Toqol*). (Fig. 2.229)

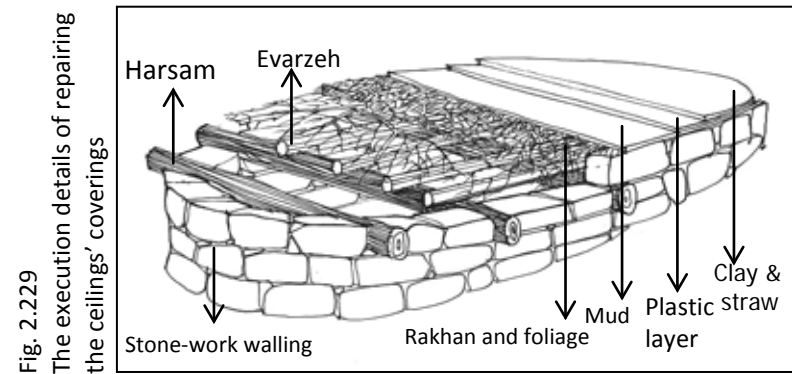


Fig. 2.229
The execution details of repairing the ceilings' coverings

63. Using straw-mat is a new practice which did not used to be employed previously.

64. For environmental protection, these original elements (*Rakhan* and *Makkī*) are replaced with twigs in the restoration workshop.



Door making

While putting the boards together, they try to match the curves of the two adjacent boards to ease and optimize the work which also gives a natural and attractive look to the doors (use of overlapping curves) (Figs. 2. 230-2.231)

Fig. 2.231
The overlapping end of wooden-boards

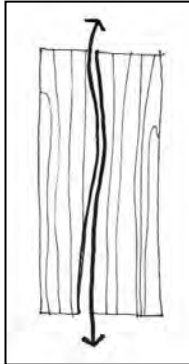
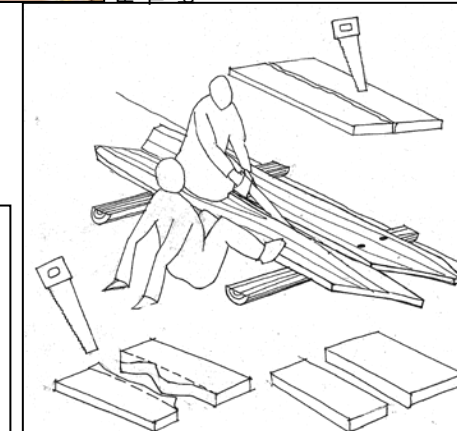
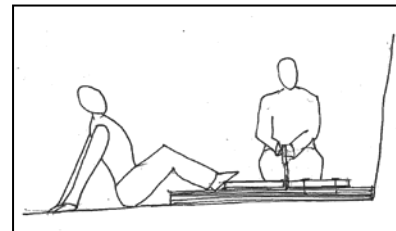


Fig. 2.230
The method of assembling wooden-boards

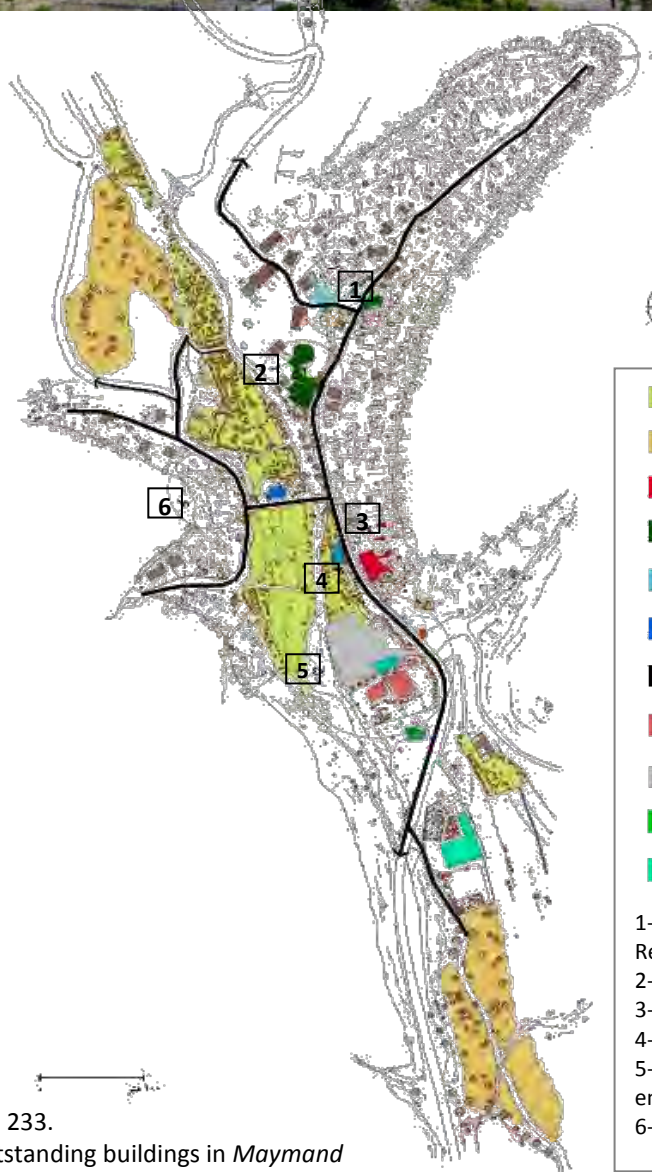
Boards are matched by an axe or bucksaw. Working with axe, the wood must be hit in such a direction and manner that will not be split suddenly.

Filling up the joints and final sealing is done by sawing along joint between the two boards firmly pressed and hold by carpenter's assistant. In this method, one of the boards has been already fixed to the *Poshtibān* (boards' keeper behind the door).

(Figs. 2.232)



Figs. 2.232
Locking the wooden-boards



Outstanding buildings

Major monuments of the village include: mosque, *Hosseiniyh*, bath, school and fire temple. (Fig.2.233)

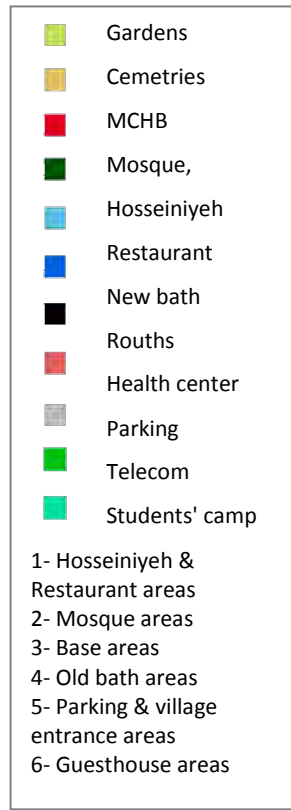


Fig. 233.
Outstanding buildings in *Maymand*



The mosque

There is a mosque located at the beginning of the central valley, adjacent to *Lākhīs* River. The mosque has three round stone columns made of *Kamar* with an approximate height of 2 meters and an area of about 120 square meters. Materials other than *Kamar* (such as rubble-stones, breaks and chalk mortar) are used only in the construction the roof of the mosque's *Eyvān*.

Regarding to some verses rehearsed by *Maymand's* clergyman, the establishment of the mosque is estimated around 1240 lunar Hejria. Its altar is located on the western-side wall, consisting a space of about 190 X 90 cm and 20cm. *Manbar* (sermon-pulpit) is a stone platform on the right hand side of the altar. The interior space of the mosque is divided into male and female sections by a felt curtain. There is also a *Dīdān* in the mosque's *Kīcheh* in which they used to make a fire and then take fire (torches) inside the mosque for lighting.

There is an open space in front of the mosque within the village's fabric along the main route. This space, which was used as the summer *Shabestān*, is where the old mosque used to be; It used to have an altar and a *Kapar* and the large was also used by the locals on special occasions to perform their religious ceremonies or cook the free food to give away on *Ashūrā* day. (Figs.2.234-2.243)



Fig. 2.237
Shabestān in front of the mosque,
recently restored



Fig. 2.234
The entrance stone of the mosque



Fig. 2.235
Mehrahb (altar) and *Manbar*
(sermon pulpit)



Fig. 2.236
Dīdān



Fig. 2.238
Maymand's mosque, with segregating male/female sections

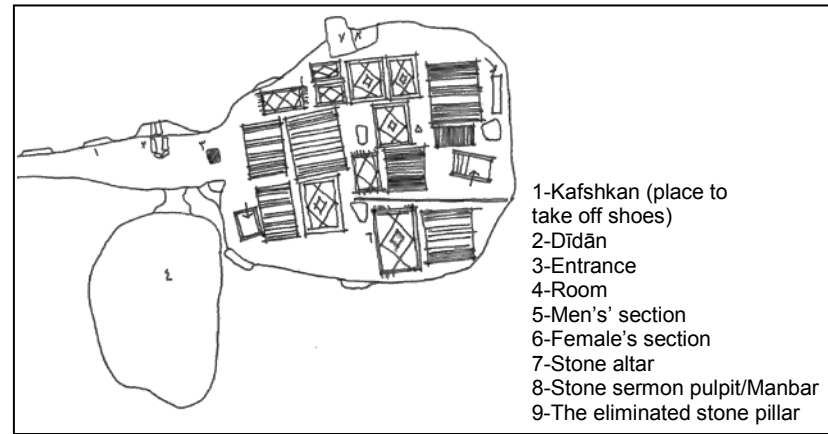


Fig 2.239
The plan of the internal space-orders of the mosque before restoration



Fig. 2, 240
Sheikh Mahmud in front of the mosque's entrance



Fig. 2, 241
Locals praying at the mosque

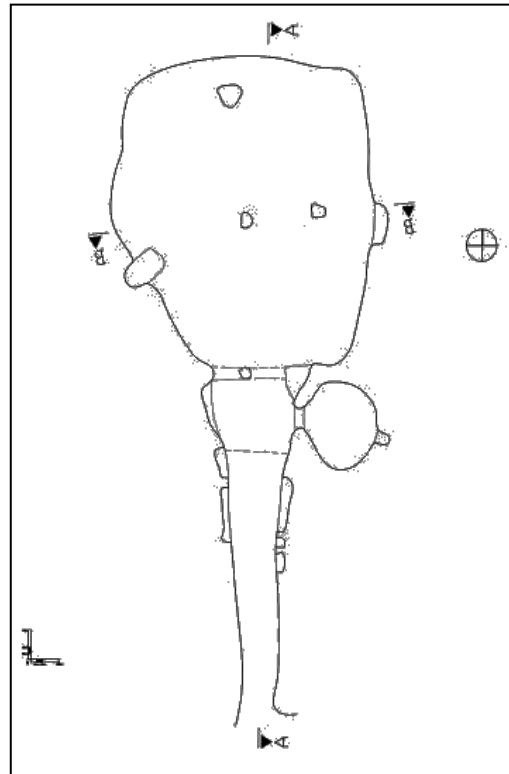


Fig. 2.242
The plan of mosque

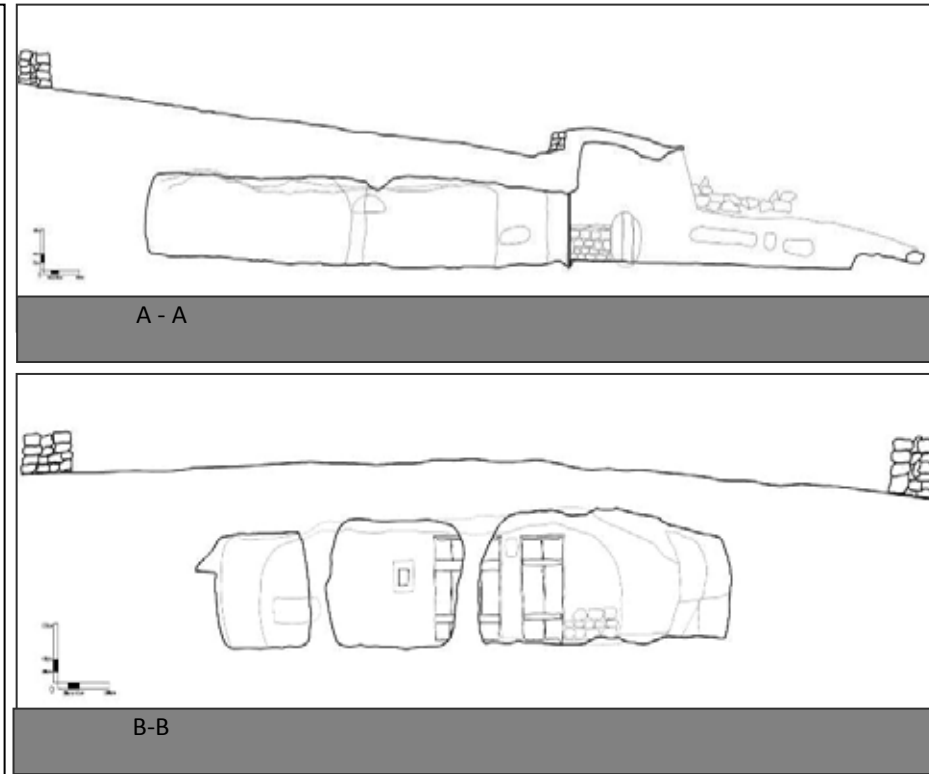


Fig. 2.243
AA section and BB section of the mosque



Hosseinīyeh

Hosseinīyeh is located on the eastern part of a large and open space. This building has been formed from three separated *Kichehs* which were previously used as residential units. About 300 years ago these three *Kichehs* were bought from their owners by Mohammad the son of Mullah Ali Mohammad; the adjoining wall was removed and was dedicated to be a *Hosseinīyeh* as a spacious building. This is, in fact, about 100 years before the building of the village's mosque. According to Sheikh Mahmoud Madih al-Maktabi, the village's clergy, it has been called *Hossein-ebn-e-Ali Hosseinīyeh* by the benefactor and was prepared to be used by the villagers.

Hosseinīyeh has three *Eyvānchehs* (arched verandas). These break-made arched roofs are joined to the *Kamar*-made main building, serving as its entrances. The entry on the left hand is women's, the middle one is men's while the one on the right leads to the store room. The *Hosseinīyeh* has an area of 200 square meters and is about 2 meters high. Inside the building there are four pillars with different dimensions and heights, all made naturally from *Kamar* remained from the walls which were initially removed to convert the three houses to one full-size space.

On the southern side, attached to one of the pillars there used to exist a *Manbar* (sermon pulpit) with three steps made out of *Kamar*, which unfortunately has been separated from the pillar and removed 30 years ago to create more space. Within the walls of *Hosseinīyeh* and those of the pillars, there are numerous niches and places for smoking hobble-bobble cut into the *Kamar* rock. (Figs. 2.244-2.249)

Fig. 2.244
Maymand's Hosseinīyeh





Fig. 2.245
An interior view of the *Hosseiniyeh*



Fig. 2.246
An exterior view of the *Hosseiniyeh*

Fig. 2.247
Plan of the internal space-orders of the *Hosseiniyeh* before restoration

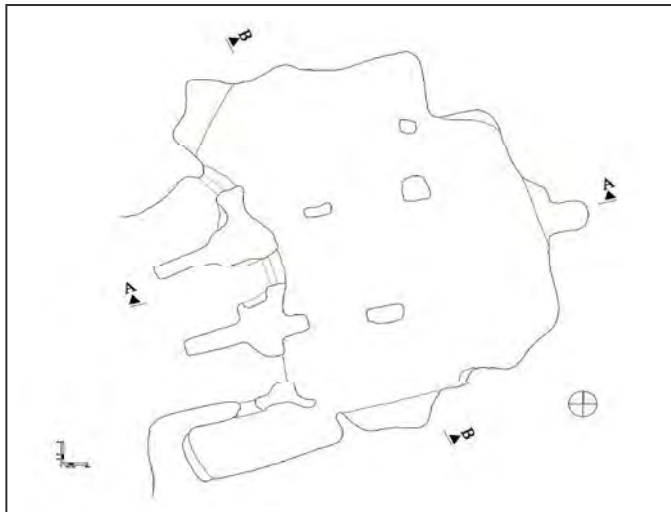
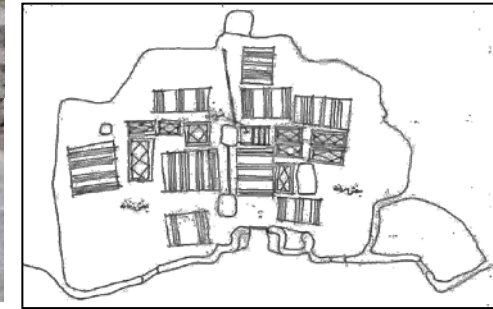


Fig. 2.248
Hosseiniyeh's plan

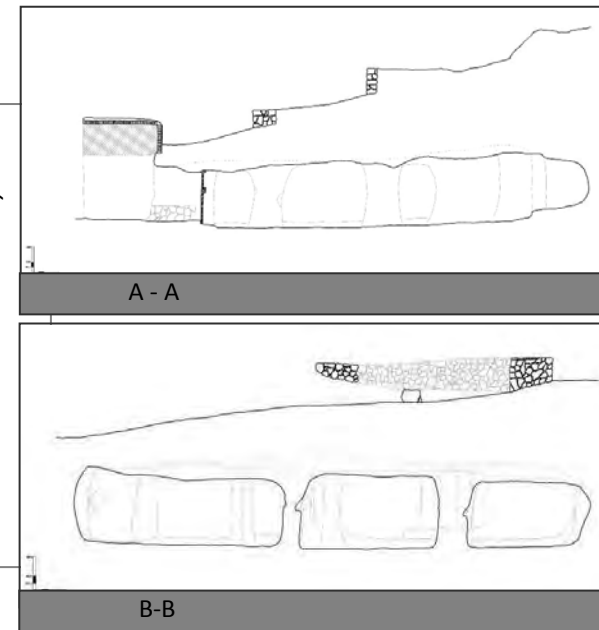


Fig. 2.249
An AA and BB section of *Hosseiniyeh*



Fig. 2.250
The entrance stone of the village's bath-house stairs



Fig. 2.251
The bath-house entrance



The Bath-House

The old bath-house is located in the village's entrance, under the main road, and along the river's route. As the river used to provide *the main water supply for the bath, the bath building is located at the lowest point of the village in terms of height, being 3 meters lower than the main road.* With a total area of 120 cubic meters, the bath-house is consisted of three main spaces: 1- the entrance 2- the middle space (*Sarbīneh*) which includes dressing area and the hot-water pool (*Howz*) 3- The main space including *Garm-khāneh* (*the hot chamber*), *Khazīneh* (hot water reservoir of a bath-house), cold-water pool, depilating room (*Nezāfat -Khāneh*) and *Tun* (furnace). To enter the bath-house one should take the stairs from the bath top down to the river and reach oneself to the bath entrance facing the west. The materials used in the building in addition to *Kamar*, include stone and the wall coverings are from lime-and-ashes mortar. Analysing the walls' lining combination reveals that it is composed of several minerals including: 47.89 % Gypsum (chalk), 9.51% Quartz, 4.29% Calcite (lime), 23.78% Feldspar and Russian mineral. A number of marble stones set into the cavities on the ceiling provide skylight for the bath which is totally carved inside the mountain and thus is naturally dark inside.

Maymand's bath-house has no evidential document or any inscription to indicate its date of construction. In terms of its architectural plan and space combination, it resembles *Safavid* era bath-houses. The locals quoting from their ancestors, though, state that the bath has been built somewhere around 200-250 years ago. It is worth mentioning that the bath-house has been in use till 1971. (Fig.2.250-2.260)



Fig. 2.252
Sarbīneh (dressing room); the found pool and the new pool



Fig. 2.253
The old village bath-house



Fig. 2.254
Garmkhāneh (the hot chamber)



Fig. 2.255
The *Khazīneh's* (water reservoir of a bath-house)



Fig. 2.256
Inside the *Khazīneh*



Fig. 2.257
The cold-water pool



Fig. 2.258
Bath-house's skylight

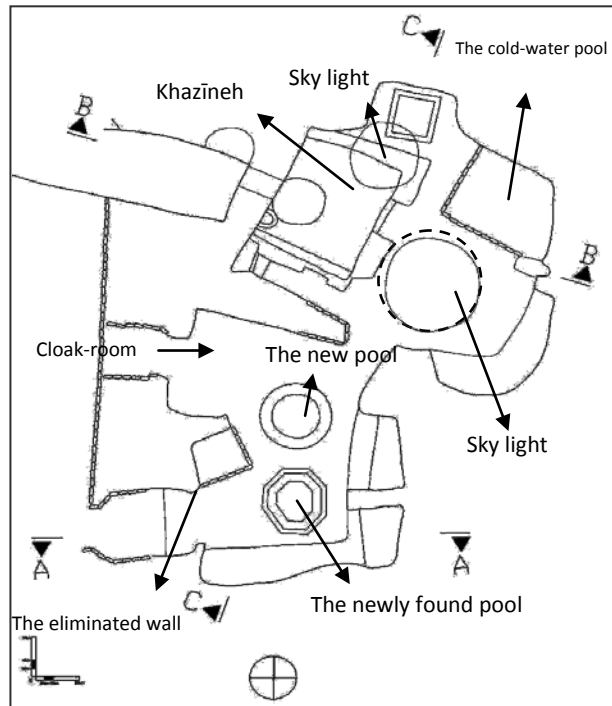


Fig. 2.259
The bath-house's plan

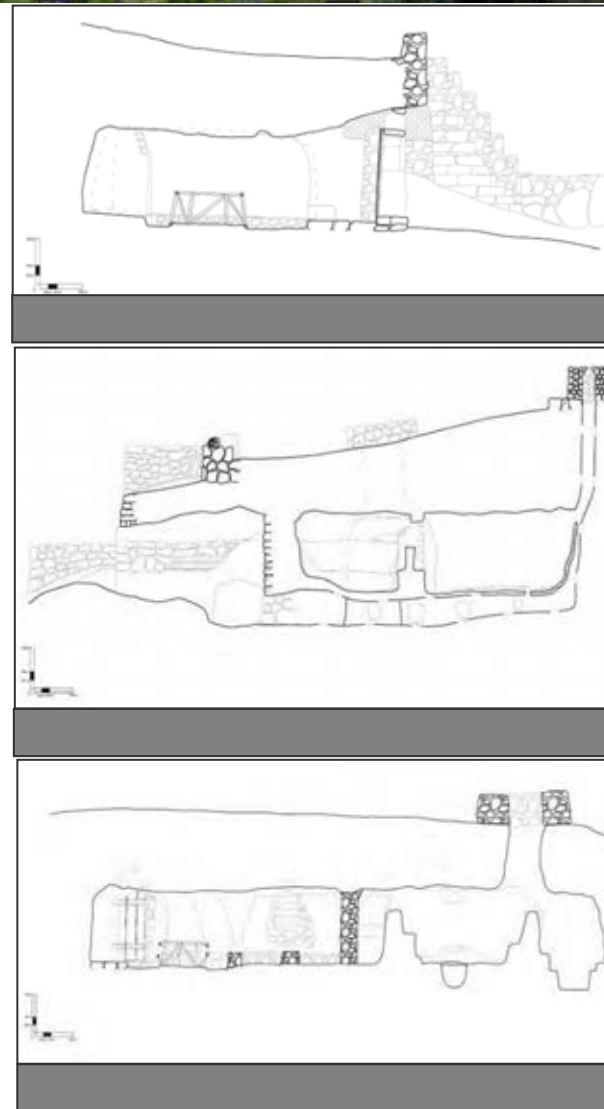


Fig. 2.260
Sections of *Maymand's* Bath-house



School

The *Kīcheh-e-Mahdīhā* or the old village school is situated at the lower part neighbouring *Kīcheh Dobandī* or the fire temple and at the upper part of the old village bath-house; the current tarmac road that is the main entrance into the village passes by the lower part of this *Kīcheh*.

Fig. 2



Fig. 2.263

The main *Kīcheh*, the office room of MCHB



Fig. 2.261
Maymand's school, around 50 years ago



Similar to other buildings in the village, no one knows when and how the *Kīcheh-e-Mahdīhā* was built; it is only known that in the past it has been a privately-owned house of a wealthy man (*Arbab's* home). All the same, the local people know this *Kīcheh* as *Kīcheh-e-Mahdīhā* which refers to its owner's name. It seems that the owners have dedicated the house for the education of the village children to be used by *Sheikh-Mahmud* (the village's clergy) to use it as *Maktabkhāneh* (the old name for Iranian traditional schools). Later, however, it has been used by the Ministry of Education as a school till 1979-80 when they feel the building is too small to accommodate the growing number of pupils thus the building is abandoned and a new modern building is built by the Ministry. The old building remains empty for a while and later is used to keep animals and cattle. Nowadays, after cleaning, clearing and restoration, the *Kīcheh-e-Mahdīhā* or the old village school is used as the *Maymand's* Cultural Heritage, Base (MCHB). (Figs. 2. 261-2.263)

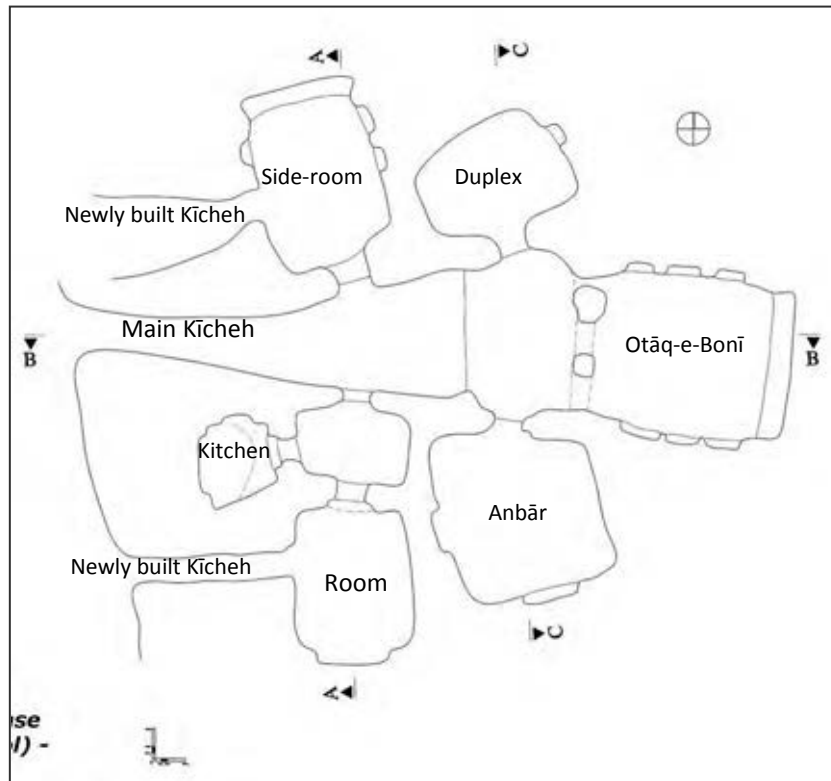
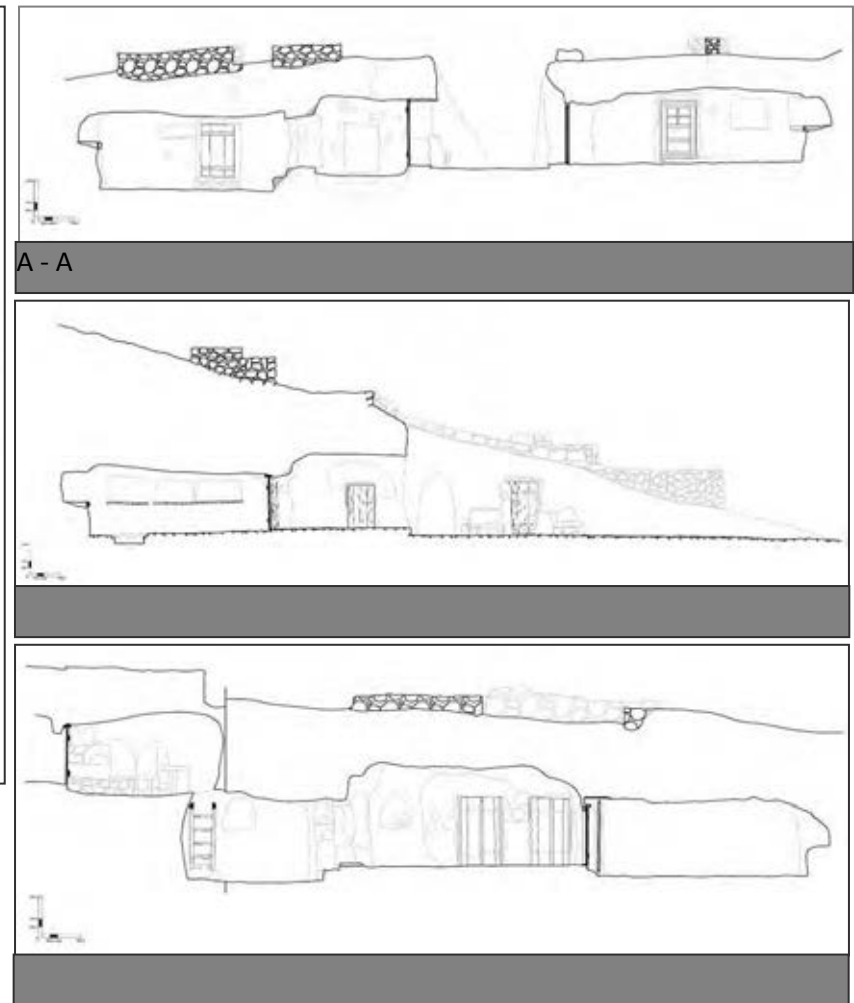


Fig. 2.264
Plan of MCHB after restoration



Figs. 2.265
Section of *Maymand's* school



Fig. 2.266
School's Kicheh after restoration (MCHB)



School's *Kicheh*, just like most buildings in the village, is carved inside the mountains and no specific construction material has been used in it. It is however, one of the biggest and major *Kichehs* of the village consisted of many different functional spaces. One of its specific features is that it is composed of three *Kichehs*: a central large *Kicheh* and two smaller ones on its sides each leading to a room. It should be mentioned that the two smaller *Kichehs* are not as old as the main one; they have been added to the building when this *Kicheh* was going to be converted to the village school to provide a proper entrance and enough lighting for the classrooms inside. (Figs. 2.266-267)



Fig. 2.267
The main *Kicheh*, two room entrances on both sides



Fig. 2.268
Deep niches in rooms

Other remarkable features of the old school building which are made after it was converted to a school can be named as: the numerous large and deep niches in all rooms, the double-leaf door of the main room and finally the provision of a number of holes on the ceiling to direct the smoke of the fireplace out, . (Figs. 2.268)



The *Kicheh* is 25 meters long from where it begins to the end of its opposite room (the main *Bonī* room). (Figs. 2.269-2.270)

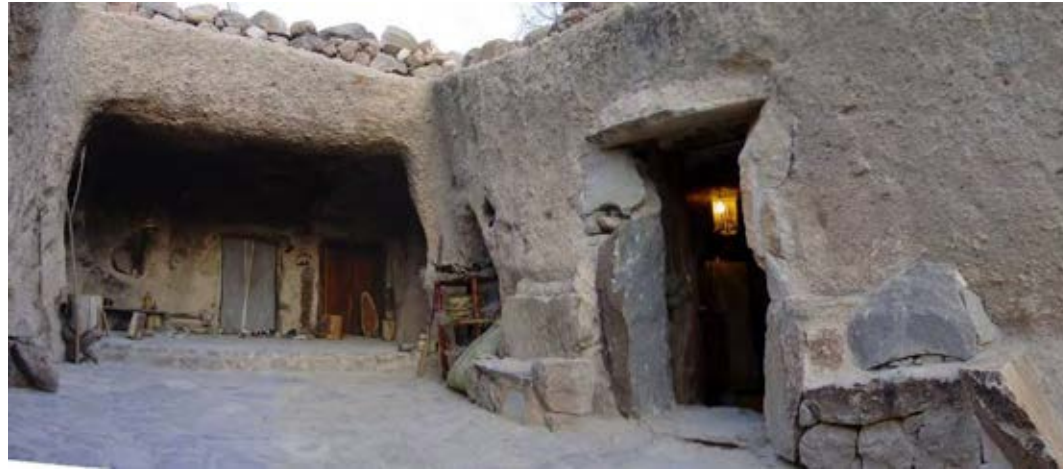


Fig. 2.269

The main *Kicheh*, *Otāq-e-Bonī* (the room at the end of *Kicheh*)

The right-hand entrance leads to two other rooms (kitchen and side-room)



Fig. 2



Fig. 2.271
The interior of the left-hand side room

10 meters away from the beginning of the main *Kicheh* where its walls start to slant down we come across two entrances on the left and right hand side. The western entrance with a smaller *Kicheh* higher than the surface leads outward has not been originally part of the building according to the locals and has been made in the place of one the niches to provide more lighting and easier access to the classroom. Currently this room has stone-work flooring with a *Dīdān* as well as a *Ghāyemdān*. (Fig. 2.271)

In front of this room one comes across another entrance and small *Dargāh* (door frame) leading to a small room which is the school's office; here there are again two *Dargāhs* (on the right-hand side and in front) each leading to two different rooms. The room in front is also a classroom which has an entrance door and a small *Kicheh*; similar to the previous classroom the entrance and *Kicheh* as well as the holes on the ceiling have been added for easier access, more lighting and ventilation inside the classroom. (Figs. 2.272-273)



Fig. 2.272
Duplex room



Fig. 2



Fig. 2



Fig. 2.275
The room next to the kitchen



It is worth mentioning that in September 2009 and after a three year of closure, the village school was re-opened with the help and support of the local *Maymandies*, the Ministry of Education as well contributions from some charitable lovers of Iranian cultural heritage. This primary school has currently four pupils and has a newly-built building located on the village entrance. (Figs. 2.276-278)



Fig. 2. 276
Children's education before school closed in 2006



Fig. 2.277
The village's school pupils in their uniform



Fig. 2.278
The school's inauguration ceremony (Handicrafts gifted to the school teacher and the pupils' parents)



Ātashkadeh (Fire Temple)

The structure of *Kīcheh-e-Dobandī* known as *Ātashkadeh* has been the subject of research and scrutiny due to its different architecture and its specific spaces compared to other buildings in the village. The existence of two fireplaces in the building caused some speculations that it must have been a fire temple which surely entails more research and investigation. Except for the speculations mentioned earlier and the belief of many locals, there is absolutely no document, evidence or epigraph to prove that the building was ever a fire temple. Before being introduced as a fire temple and used as the museum and the document centre of MCHTT Base, this *Kīcheh* was a residential place just like many others in the village; it belonged to *Morādīhā* family. It is likely that *Ātashkadeh* has been built roughly around the same time as the other buildings in the village as it has been carved inside the mountain like many other troglodytic houses in *Maymand*. (Fig. 2.279)



Fig. 2.279

The Fire Temple's entrance

Kīcheh -Dobandī has a surface around 120 cubic meters and consists of three rooms and two *Eyvāns*; the first room has a double-leaf door, the second leads to another *Kīcheh* adjacent to *Dobandī* and the third room is linked to the *Eyvān* which accommodates the fireplaces. *Kīcheh -Dobandī* is 7 meters long with a maximum width of 2.5 meters. (Fig. 2

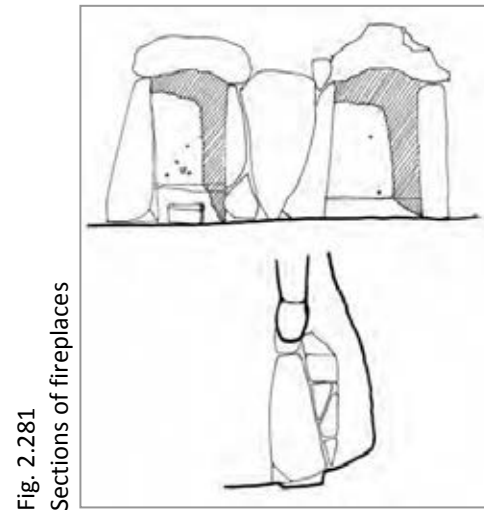


Fig. 2.280

Stone partition wall



In the first open space there are two fireplaces; they are carved on the north side of the wall and have an outlet to the roof as well as the space outside the *Kicheh*; these are the only wall-fireplaces in the entire buildings within the village. (Figs. 2. 281-282)



The abovementioned space leads to a room at the end of the fire temple inside which there can be found two long and deep niches located on the western and northern walls, with two fireplaces or stoves seen on the floor. It is also worth mentioning that the thickness of the roof covering is about 80 cm and another room from another *Kicheh* exists on top of it as a higher storey. (Fig. 2.283)



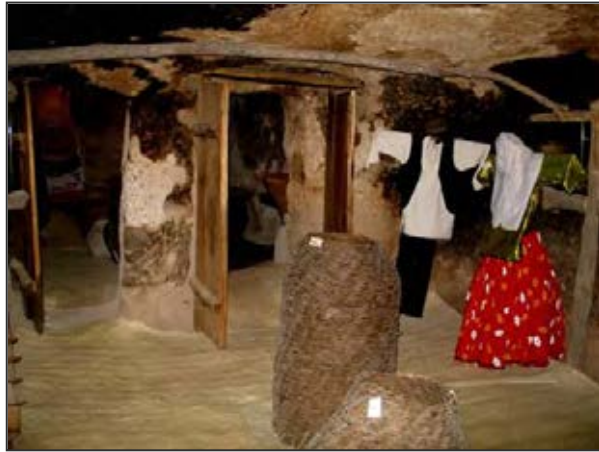


Fig. 2.284
The eastern room on the right-hand side with two entrances

The second open space, on the right-hand side of *Kicheh -Dobandi's* entrance has an *Eyvān* overlooking two room on the east and west side. The eastern room has two *Dargāhs* next to each other which is a rare case within the architectural spaces of *Maymand* buildings. (Figs. 2.284-2.285)



Fig. 2.285
The eastern room, the museum of MCHB

Finally the last room of the building (the western room adjacent to the second *Eyvān*) is located on the southern side of the temple and has a *Dargāh* leading to another *Kicheh*, though apparently this *Dargāh* has been previously closed. It is likely that because of the position of this room within the whole building and its adjacent *Kicheh*, this *Kicheh* is called *Dobandi*, which means double-*Kicheh*; this is also another significant difference between this *Kicheh* to the rest of the homes in the village.

The *Kicheh's* entrance and the open space overlooking both *Eyvāns* create an L-shaped path similar to many other instances in the village. However, the specific feature of the *Kicheh* is a separating piece made of *Kamar* material which has divided the *Kicheh* into two parts; another reason why it has been called *Dobandi*. (Figs. 2.286-2.289)



Fig. 2.286
The western room's entrance



Fig. 2.287
The western room, the document centre of MCHB

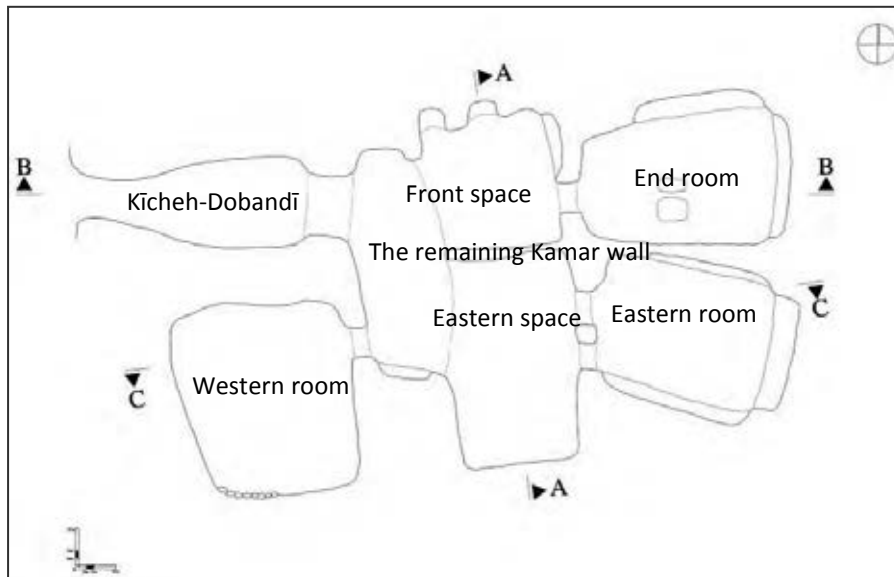


Fig. 2.288
Plan of fire temple (Ātashkadeh)

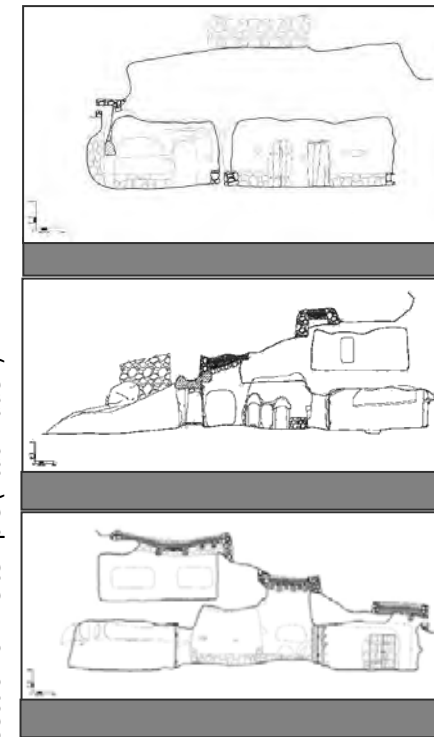


Fig. 2.289
Section of fire temple (Ātashkadeh)



The Non-residential Sites Scattered in *Maymand* *Dezh* (Forts)

In the district of *Maymand*, 8 historical forts have been identified which have been used as the control- tower to watch and guard the village, the most well-known of which is *Ghal'eh Dezhj*. (Figs. 2.290-2.291)



Fig. 2.290
Qal'eh Dezh

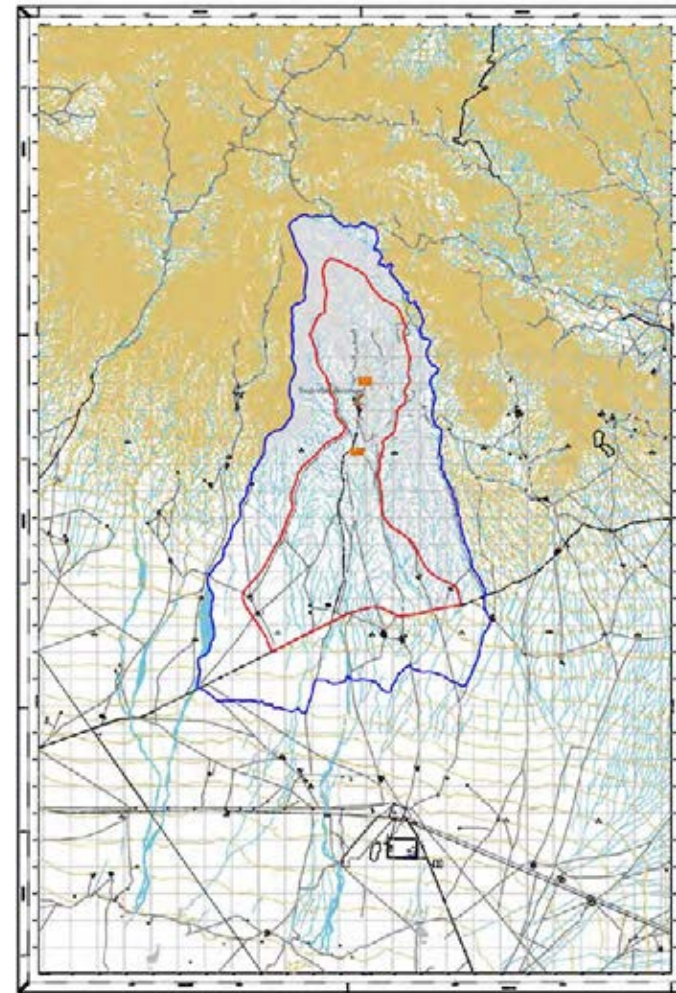


Fig. 2. 291
Distribution of forts in *Maymand*



The graveyards

These include the graves belonging both to the Pre-Islamic graves as well as the Islamic-era. There have been identified 24 historical graveyards in *Maymand* district in total, 12 of which belong to the *Maymand* village. Each village or few couple of villages used to share one graveyard⁶⁵. These include *Tidūiyeh*, *Mazār-e- Pāyīn*, *Makrūd*, *Qolihā* and *Mūrkerpon* graveyard. (Figs. 2.2.292-2,293)



Figs. 2.293
A marble tombstone (right)
A tombstone made of thin stone-chips of the region (left)

The Pre-Islamic Graveyards

It is a grave consisted of circularly-laid stones with a diameter of 2-3 meters belonging to the pre-Islamic eras and mostly found on the ridge or span of the hills. (Figs. 2.294-2.295)



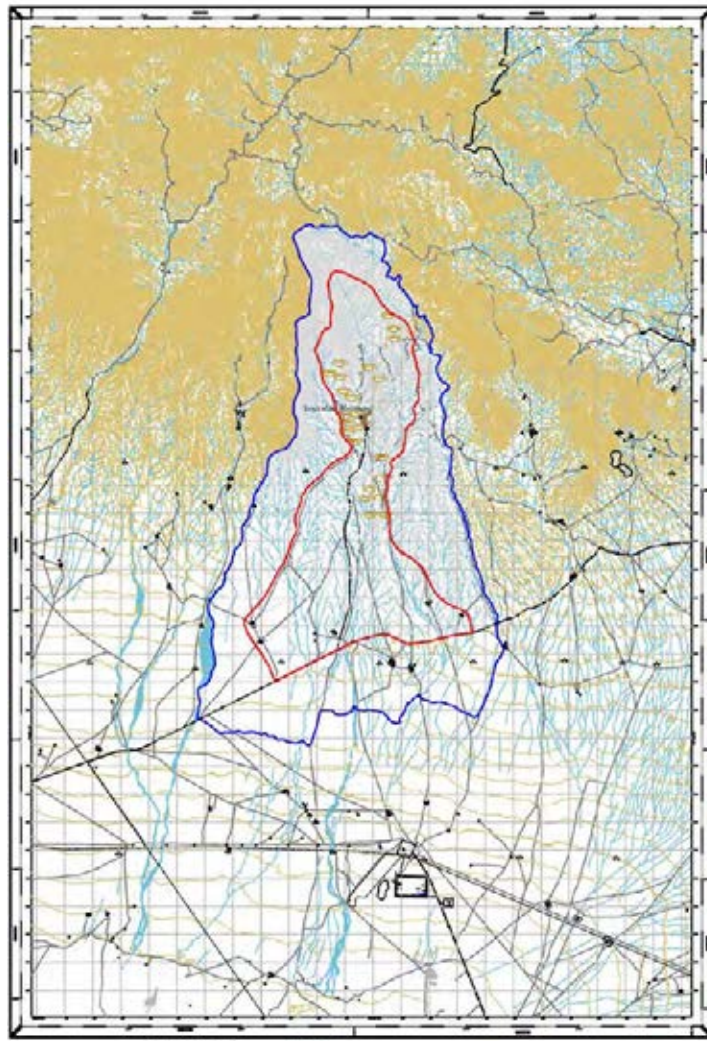
Fig. 2.292
A view of one of *Maymand's* graveyards



65. Ebrahimi Maymand, H (2002), Page 3



Fig. 2.295
Distribution of Pre-Islamic graves in Maymand



Figs. 2.294
Pre-Islamic graves



Som

Som is a troglodytic space cut into the *Kamar* the outside wall of which is constrained by stone-work. There is the likelihood that inhabiting the region has started here, and thus it may be deduced that *Lākhorīn* (situated on hill at the back of *Maymand*) has been the first formation nucleus of the village. An example of *Som* can be seen in *Qal'eh-Marj*. (Figs. 2.296)

Figs. 2.296
Som in *Qal'eh-Marj*



Rock arts⁶⁶ (Petroglyphs)

Among other scattered sites that have been categorized among artistic / ritualistic works are petroglyphs, abundantly found in *Maymand*. With their diverse and at times mysterious shapes, these petroglyphs are significant traces to reveal the history and culture of the people of this land. Some of the patterns on these reliefs belong to more recent ages, yet many are estimated by experts to belong to thousands years ago.

⁶⁶ . For more details look at Appendix III



Maymand's petroglyphs are of two types:

- 1-Scattered petroglyphs
- 2-Islamic Tombstone

There is an extensive and detailed report on these stone reliefs and their patterns available at the document centre of MCHB⁶⁷.

(Figs. 2.297-298)



Fig.2.297
Gorgondar Petroglyphs

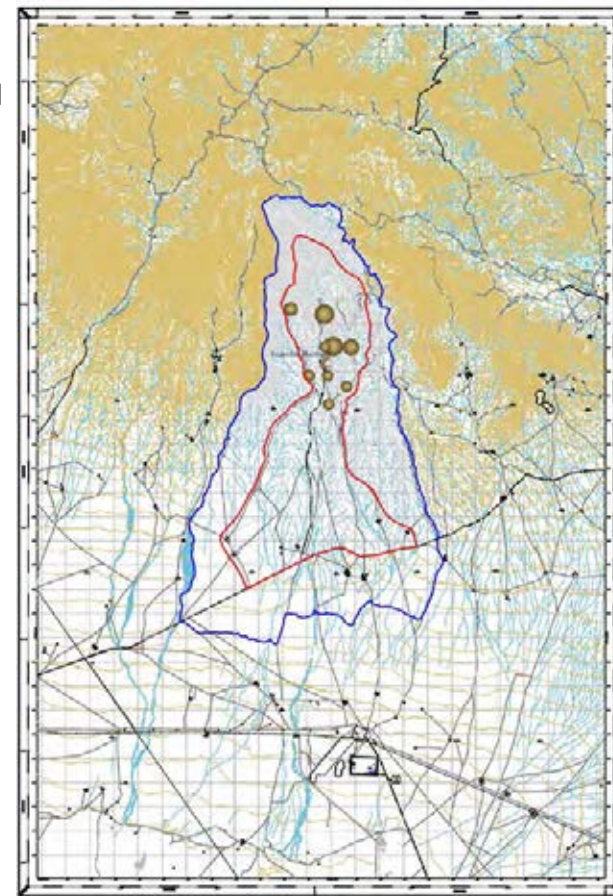


Fig. 2.2.298
Distribution of petroglyphs in *Maymand*

67 .Karimi, F (2003)



Livelihood

The means of livelihood of *Maymandies* is of a nomadic-rural style. Among the important economical resources of *Maymand* are animal husbandry, orchard gardening and agriculture, handcrafts (as carpet and textile weaving), seasonal migration to find labour work in other regions, shepherding and other similar jobs. Seasonal migrations take place each year to look after the orchards and harvest the crop. Moreover, people of *Maymand* gather wild plants (fruits and seeds) growing in the mountains including wild almond and pistachio and use them for diverse purposes.

The type and means of *Maymandies* livelihood influences many aspects of their lives including the place they dwell on, the architectural structures they live in as well as the village's appearance in each season; The changing appearance of the village in different seasons and the way the living spaces change to production/work spaces are all as a result of such a specific way of life *Maymandies* live.



Fig. 2.299
Cattle breeding at *Sar-e-Āqol*

Cattle Breeding

Cattle breeding is a major occupation of the villagers. They breed their cattle (sheep and goat)⁶⁸ in the southern plains of *Maymand* at *Sar-e-Āqols*. (Fig. 2.299)

Every *Āqol* has a legal pasture area called *Row*. There are also some other pastures that are commonly grazed. Seasonal rivers were once used as the cattle's water source. The villagers used to dig up *Qadirs* to collect rain water. Now, they build new pools filled up by water tankers.



Arbāb (the owner of *Āqol*) takes usually some partners to hire a shepherd. This is usually done during a period called *Panjeh* in the end of July. If the owner is pleased with the shepherd, then he will extend the agreement for another year. The shepherd wage (*Khoshkeh*) is fixed then. For each 10 sheep, farmers should accompany the shepherd for one night and provide him with food (*Gomār-Dādan*).

The cattle are always accompanied by a shepherd in pastures while the farmers spend their winters in *Maymand* and their summers in *Sar-e-Bāqs*. The sheep pass the nighttime out in the plain from April till November (*Shab-Char*). After this period they are kept in *Sūl* at *Sar-e-Āqol* during the nights.



Fig.2. 301
Milking



Fig.2. 300
Foddering

During foddering season (*Jīreh-Dādan*) – beginning of January – one person from each family stays at *Sar-e-Āqol*. Fodder is composed of hay, barley, almond hull and the leaves of walnut, almond and willow.

The sheep begin to give birth from mid-February. A newly born lamb (*Khalameh*) is kept for 4 days at *Korm* near *Markhūneh* and then it is taken to *Kūz* where it is kept for 15 days. The lambs are usually taken outdoors twice a day for feeding with milk.

After a period of growth, fodder is also added to their food portion. Lambs are fed by milk for less than 2 months. Then, it is the time for milking. During spring, from April till the end of July (*Panjeh*), when it is time for milking, villagers are remarkably present in the region. (Figs.2. 2.300-2.301)



Sheep shearing begins after washing the sheep in mid-late May. Spring wool is delicate and is used for spinning and weaving while summer wool that is thicker is used in felt making. (Figs.2. 302)



Figs.2. 302
Sheep being washing and sheared

Fig.2. 303
Foddering to fatten the lamb



Young lambs are sold three months after the Nowrooz (Late spring). Sale of the sheep with lambs is held at higher prices in early spring.

The second period of stay for the *Maymandies* used to begin in *Eshām*. The villagers used to spend some time in the green ranges of *Eshām* before leaving for *Sar-e-Bāq*. This helped preserve the pastures of *Sar-e-Āqol* partly for winter. Pasture deterioration and water deficit in recent years, however, have almost eliminated *Eshām* from the *Maymandies'* lives.

During the third period at *Sar-e-Bāq*, young lambs are taken to the village for fattening (*Parvār-Bandī*). Leaving for *Maymand* or the city of *Babak* (fourth stay), the fattened sheep are either sold or slaughtered to make potted meat (*Ghormeh*). (Figs.2.303-304)

Activity	Spring			Summer			Fall			Winter		
Foddering										+	+	+
Delivery											+	+
Milking	+	+	+	+	+							
Wool Shearing		+										
Panjeh						+						
Parvār-Bandī				+	+	+						
Selling				+		+	+					
Slaughtering & making Ghormeh						+	+					

Fig.2. 304
Cattle breeding time schedule



Hunting

Hunting has been a major occupation of the villagers in the past. Now, due to the many restrictions of the Environmental Protection Agency and the climatic conditions, hunting has become scarce though partridges are still hunted. Mr. *Abbas Baqeri* is one the hunters in *Maymand*. Mr. *Hossein Ebrahimi* is also one the *Maymand's* artisans who used to be a gunsmith. (Fig.2.305)

From late October, hunters try to hunt only male preys like rams as it is the time of the preys' pregnancy (*Aves*). The prey's skin, horn and meat are of use. Ewe's skin is also used as *Mashk-e Zenā* (a large water-skin used to make butter out of yogurt) as its fine skin allows for the temperature of the warm yogurt inside out so that it cools down and the butter is formed. The skins of smaller and slimmer animals with less fat are used for *Mashk-e-Spār* which keeps *Spār* cool and fresh and not get fetid or smelly⁶⁹. Horns are used for decoration, ornaments and tool-making. (Fig.2. 306)



Fig.2. 306
An antler



Fig. 2.307
Partridge and *Komeh*

The villagers believe that eating the prey's meat helps to relieve some illnesses. They also use rumen to treat facial acnes.

The hunters use several methods to hunt birds of prey such as gun, *Komeh* (a low-walled hideout made of rock, brushwood made near water to trap partridges (*Kowk*) and other birds) as well as the partridge-hunting curtain (a colorful curtain from wood and colorful cloth to attract partridges made). Villagers believe that there are many health benefits in birds' meat. For example, *Toyī's* meat (dull-yellow partridge) and partridge's gizzard are good for treating kidney stones. (Figs.2. 307)

69



Beekeeping

Beekeeping has been a source of income for the villagers especially in the past. During their spring migration to green pastures, the villagers used to make some beehives called *Ghandīl* from old trunks of walnut tree or wild pistachio (*Beneh*) to keep the bees in (called the honey-fly or *Magas-e-Asal*).

A decomposed trunk of the *Archan*⁷⁰ tree (or sometimes *Beneh* or walnut tree) was cut to the length of seven spans. The already hollow inside was then burnt in a way that the walls were not damaged, emptied up then by a crowbar. The seams and fractures were filled with honey wax and a hole was made on the wall for the passage of the bees. One side of the hive was protected by clay and the other side by stone. To avoid any leakage or moisture intrusion, the surface was covered by *Kāhgel* (a plaster of clay and straw). To extract the honey, the stones were removed. Grape juice was used for honey dew. Some of these hives may be found in *Lākhīs* Village in northern *Maymand* belonging to *Sheikh Mahmud Madih-ol-Maktabi*.

These handmade hives have gradually been replaced by readymade ones. However, the beehives are still relocated according to the dispersion of flowers and plants. (Figs.2.308-2.310)



Fig. 2.310
A natural beehive



Figs. 2.308
Qandīl



Fig. 2.309
Closing *Qandīl*'s lid



Agriculture (Figs.2.311-2.312)

With many springs, *Qanats* and seasonal rivers, tillage and gardening have become of important occupations of the villagers. Dry farming is also conducted in limited regions. (Fig.2.313)



Fig. 2. 313
Orchards around *Maymand*

Tillage

In late October, villagers plant wheat and barley in their previously prepared farms. Harrow or plowshare was once used in plowing. Someone roped himself to *Ejdār* and hauled forward while another one pushed *Noghārom* downward so that its metal blade plowed the farm while he was spreading the seeds at the same time ⁷¹. Sometimes, in place of the two people a donkey or bull was used in plowing. Today, this is of course done by tractors. During winter because of precipitations, they irrigate their farm only twice. As spring arrives, they begin irrigating their farms every 6 or 8 days.

⁷¹ *Ejdār* and *Noghārom* are parts of the plowshare



Wheat and barley are harvested by sickles and stacked, and then corn thrashed by animals. Three or four donkeys are walked around the stack. Sometimes, two donkeys or bulls thrash the corns by thrasher (*Garjīn*), while someone sits in the *Garjīn* to guide the bulls. Now, crops are thrashed by tractors. In addition to cereals, summer crops and vegetables such as eggplants, potatoes, tomatoes, turnips, carrots etc. are also planted. (Fig.2.314)

Gardening

Gardening is also a good source of income for the villagers during their third stay at *Sar-e-Bāq*. Trees are planted in four ways: sowing the seeds (*Tokhmeh-Dānī*), cutting, grafting and sapling (*Bījeh*) plantation. Whenever the fruits are ripe, they are picked by family members at *Sar-e-Bāq*. Fruits are picked from early spring till late October. (Fig.2.315-316)



Fig.2. 314
Tillage

Fig. 2.316
Picking almonds by family members



Fig. 2.315
Picking grapes





Collecting

It includes the self-growing plants and trees scattered in the region whose usage is free for the villagers except for the areas on the borders of the gardens. These are trees such as *Beneh*, *Tāyī*, wild Almond, mulberry as well as different types of medicinal and or edible herbs such as *Līsu*, *Sershū*, *Ālāleh*, *Āvīshan* etc. (Figs.2.317-2.318)



Fig. 2.318
Collecting self-growing plants (*Chemzū*)



Fig. 2.317
Collecting wild almond



Fig.2. 311
Planting and harvest time of crops

Crop	Planting Time /Method	Irrigation Time	Harvest Time
Wheat & Barley	Nov.	Early spring	Jun. & Jul.
Pea	Mar.	Early spring	Early Jul.
Almond	Nov. (sowing) Jun. & Jul. (grafting) Jan. & Mar. (sapling)	Early spring	Jun.
Walnut	Grafting	Early spring	Mid Sep.
Pomegranate	Late Mar. & Early Oct. (cutting)	Early spring	Early Oct.
Grapes	Late Mar. & Early Oct. (cutting)	Early spring	Mid Sep.
Quince	---	Early spring	Mid Oct.
Wild Pistachio	Self-growing	Precipitation	Mid May (Benūshū) Mid Sep. (Beneh)
Mulberry	Self-growing	Precipitation	Late May
Wild Almond	Self-growing	Precipitation	Jun. (fruit picking) Mid Aug. (Twig & branch gathering)

Fig.2.312
Agricultural activities based on seasons

Activity		Spring		Summer	Fall			Winter			
Tillage	Wheat Barley&Pea	Irrigati on Time		Harvest Time	Planting Time					Planting Time (Pea)	
Gardening	Almond- Walnut- Pomegranate& Quince	Irrigati on Time		Harvest Time (Almond& Walnut)	Harvest Time (Pomegranate & Quince)						
Collecting	Beneh-Wild almond- Mulberry- Senjed		Benehūshū Mulberry- Wild almond		Beneh-Senjed	Beneh					



Handcrafts and Tools⁷²

In a native self-sufficient community, there is a complex yet transparent network of relations among all dimensions and aspects of life; the humans and their natural habitat seem to be the two major constituents of such a network. Food, clothing, tools and daily utensils and most importantly artistic thought and creation, innate in all aspects of life, are symptomatic of such an interaction and relationship. Handcrafts and all the human-made tools for everyday life are suggestive of the human-nature relation and the culture emerging from such interactions. In the realm of *Maymand*, which is a rare instance of such interactions, the effects of a close interaction between humans and the nature are evident. All that is hand-made in *Maymand* is created based on the nature's blessings and reliant on a system of thoughts derived from this organic relationship.



Figs. 2.319
Felt-making



Figs. 2. 320
Carpentry: Door-making (left)
Modern wood-crafts (right)

Felt-making, *Saftū*-weaving (basketry), *Kārbāfi* (textile- weaving), carpet-weaving, *Kilim*-weaving, spinning, dyeing, blacksmithing, stone-carving, carpentry, leather- stitching ... are among the customary handcrafts in *Maymand*. The interesting point in all these is the particular attention to recycling and the most efficient use of all the available natural resources rooted in *Maymandies* cultural beliefs clearly observable from the way they produce handcrafts or even their everyday life tools and utensils. There is a full report on this matter, which can also be found in the document centre of MCHB⁷³. (Figs. 2.319-2.336)

72 . For more details look at Handicrafts Appendix IV
73 Mohammadi, J (2004-2005)



Figs. 2.321 Blacksmithing
Andāghū, The medicine container (right)



Figs. 2.322
Stone-Carving



Fig. 2.323
Saftū-Bāfi



Fig. 2.324
Different woven *Saftūs* with
modern functions



Fig. 2.325
Chandelier (*Saftū* and *Dashtī*
curtain or *Pardeh-Dashtī*)



Figs. 2.326
Carpet-weaving: *Khorjīn* (right)



Fig. 2.327
Tūbreh

Fig. 2.328
Kīlīm-weaving: *Khatkhatū*
(striped) *Kīlīm* woven with
colourful knitting wool)





Fig. 2.329
Kārbāfī (textile-weaving)



Fig. 2.330
Spinning



Figs. 2.331
Leather Industries: Water Mashk (right)
Sun-shade (left)



Figs. 2.332
Chādor-Shab



Figs. 2.333
Crocheting: weaving *Giveh's* top (above) Weaving *Gū* or string ball (below)



Fig. 2. 334
Dyeing wool



Fig. 2.335
Weaving *Band-e-Tonbān*



Fig. 2.336
Clothing; *Arkhāleq*



Food⁷⁴

Local food which is made with natural and healthy local ingredients – itself indicative of *Maymandies* lifestyle, type of activities and the region’s climate – is surely important in studying *Maymand*’s cultural landscape.

The type of food and the main meals of the native people are shaped by their life-style and their surrounding nature; thus getting to know the food and eating habits of the local people would assist in understanding their culture and lifestyle. There exists a comprehensive research on the food and eating habits of *Maymand* natives available at the document centre of MCHB⁷⁵. (Figs. 2.237-241)



Fig. 237
Cattle



Fig. 2.338
Fruit orchards inside the village



Figs. 2.339
Farm (left) Gathering wild-almond (right)



Figs. 2.340
Hunting
Partridge (left)

74 For more details look at Appendix V

75 Taghavi Shirazi, M (2003-2004)



Maymand Villagers Food Resources			
Animal	Domestic animals	Sheep, Goat, Cow Chicken, Rooster, Turkey and sometimes Duck Honey bee (Magas-e-Asal)	
	Hunting⁷⁶ and Food-gathering	Partridge, Ram, Deer Honey from natural bee hives	
Plants	Agriculture	Fruit Orchards	Grapes, Berries, Senjed, Pomegranates, Pears (Hormū), Figs (Hanjīr), Tamnū (wild sour cherry), Walnuts and Almonds
		Farm	Cereals: Wheat, Barley Pluses: Chickpeas, Beans, Lentils, Vetch, Kerū (bigger than vetch) Vegetables: Aubergine, Courgette, Tomatoes, Sheng (cucumber), Carrots (Zardak)
	Gathering	Beneh (wild pistachio), Wild Almond (Talkhū) Medicinal herbs and infusions: Kangar, Sīrmok, Sershū, Līsū, Alāleh	

Table 2.341
Food Resources

76. In general, hunting was much more practiced in the past; Partridge hunting, however, is still popular in the region.



Fig. 2.342
Baking bread on *Tābeh*



Fig. 2.343
Yogurt



Fig. 2.344
Espār: spices are added to the boiled *Dūq* (yogurts & water) and left in a *Mashk* until its water is extracted



Fig. 2.345
Preparing *Kashk* (a dairy product taken from boiling and thickening whey used in cooking)



Figs. 2.346
Diced lamb (*Qormeh*) Dipping bread in *Owqūnī* (freshly cooked lamb with



Fig. 2.347
Barley broth (*Jowbā*)



Figs. 2.348
Āsh-Reshteh (noodle broth) made with freshly-made noodles(*Reshteh*)



Fig. 2.349
Āb-Garmū (a dish made of *Qormeh* or diced lamb, potatoes, onions, tomato paste and spices)



Fig. 2.350
Sir-ow-Beneh (They mash *Beneh* seeds till its oil is extracted, and eat it with hot bread)



Fig. 2.351
Ghorbā (cooking *Sershū* seeds or *Qor-e-Sershū* with *Qormeh* and *Kashk*)



Fig. 2.352
Sershū broth



Fig. 2.353
Kaljūsh (made with *Kashk*, turmeric and dried herbs)



Figs. 2.354
Pest-e-Senjed (ground pincushion is put inside the *Mashk* to lose the water, then the *Mashk* is cut and *Pest-e-Senjed* is separated)



Figs. 2.355
Nokhod-Pokhtū
(Roasting fresh peas over the fire)



Figs. 2.356
Shalgham Pokhtū (boiled turnip)



Figs. 2.357
Ājīl: A mixture of roasted wheat, *Talkhū* (wild almond), almonds and...



Clothing

Clothes and clothing of a region is also one of the significant features of peoples' culture. The type of textile used, the dress-making methods as well as the colours are all indicative of the features of the specific climate, artistic taste and ways of thinking and beliefs of the people of a community. Sadly, since a few decades ago and along with many other wide-ranging cultural, intellectual, social and political changes in Iran, the use of native clothes has been abandoned in many areas of Iran, *Maymand* included.

The original *Maymand* clothes are almost totally disappeared; according to the locals since 30 years ago they have been abandoned totally so much so that not one sample of such *Maymandies* clothes may be found in the village as no one makes them anymore. If anyone in the village still owns a sample, they are keeping it in their homes in *Shahr-e-Babak*. The only sample of *Maymandi* dress found in *Maymand*, a 100 years old red dress called *Arkhāleq*, belongs to *Salma Fathi*. (Fig. 2





Women's Clothing

It included a long pleated skirt and a dress (*Jūmeh*) with open-ended long sleeves and a closed neck with two short slits on both sides to let the head pass the collar. Under the skirt, they used to wear a *Tah-Tonbān* (knickers) made out of canvass.

To cover their hair, women used different pieces of covering. The first part was a triangular cloth called *Lateh* or *Lateh-Sarū* or *Lachakū* worn over their head. The next piece was a special women's hat (sewn from cloth, the hat had two cords or ribbons to be tied or buttoned up under their chin.

Sometimes it was quilted called *Ajīdeh-dūzī* by the locals). The final piece called *Chārqađ* or *Mokhannā* was from printed calico worn on top of the hat. In special occasions a black silk scarf (*Dastmāl Yazdī* = handkerchief souvenir of Yazd) was worn on top of all the previously mentioned pieces. *Dastmāl Yazdī* was also used as a headband to relieve headaches. (Figs. 2.259-2.260)

Chādor-Shab was also worn over the head coverings. Nowadays, though, women do not use Chador or *Chādor-Shab* during daily journeys or everyday chore; Chador with small floral patterns is worn mostly on special occasion such as visiting relatives and friends, weddings or funerals. (Fig. 2.361)



Fig. 2.359
Women's hat



Figs. 2.360
Silk Handkerchief (used as headband)



Figs. 3.261
Chādor-Shab



Figs. 2.262
Wrist-band and Ankle-band (*Pāpīch*)

Bride-Groom's Clothes

It included *Jūmeh-Arkhāleq*, Canvass *Tonbān*, two-layered cloth *Pāpīch* (foot-band); the top (display) layer was from *Qanāvīz* cloth⁷⁷ and was worn over or under *Tonbān* round the ankle. (Fig. 2.362)

⁷⁷ *Qanāvīz* was a type of textile in the time of Mohammad-Shah and end of Nasser-e-dīn-Shah era: a cotton textile that had a background of various colors with closely printed parallel lines (stripes) from a different, often an opposite color to that of the background.(Dehkhoda Persian Dictionary)



Bride-Groom's Clothes

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Bride's Clothes

Bride's clothing consisted of a canvass *Tah-Tonbān* (knickers), a round pleated *Tonbān* which had *Navārdūzī* (ribbons) from printed calico - or satin in the case the bride from a wealthy family – a dress (*Jūmeh-Arkhāleq*) or made from simple printed calico which had *Yarāgh-dūzī* (sewing galloons) round the collar and wrists and was as long as the knees (wealthier families used velvet and *Qanāvīz* cloths for the bride's dress).



Fig. 2.363
Bride and Groom



Fig. 2.364
Bride and Groom clothing from canvass and patterned calico

The bride then would put on a quilted hat (*Ajīde-duzī*), a silk handkerchief and another silk cloth called *Kīsh* and on top of all these pieces she wore *Chādor-Shab*. (Figs. 2.364)

Of course, and as mentioned before, none of these clothes are currently made or used in *Maymand*. There is a full report on this matter, which can also be found in the document centre of MCHB⁷⁹.

78. Qanāvīz was a type of textile in the time of Mohammad-Shah and end of Nasser-e-dīn-Shah era: a cotton textile that had a background of various colors with closely printed parallel lines (stripes) from a different, often an opposite color to that of the background.(Dehkhoda Persian Dictionary)

79. Mohammadi, J (2005-2006)



Traditional Medicine and Herbal Remedies ⁸⁰

Another angle to the *Maymand* people's native lives – along with their sustained life close to Mother Nature and inspired by that – is the knowledge of the herbal remedies and their use in traditional medicine.

With a meticulous knowledge of the local herbs and plants and their therapeutic properties, all *Maymandies* have an interesting encyclopaedia of traditional medicines based on herbal-therapy in their oral and practical memories. There is a comprehensive research undertaken on medicinal herbs and their properties as well as a report on the health and wellbeing of the local *Maymandies* available to the public from the document centre in MCHB Base ⁸¹. (Figs. 2.365-2.369)



Figs. 2.367
Akfil-ol-molk (its infusion is believed to alleviate fever and cold symptoms)

Figs. 2.366
Angūr-Bāū (if it is burned, the smoke may relieve toothache and sore throat)



Fig. 2.365
Kākol-ūttī (its infusion is believed to relieve tummy-ache as well as cold)



Figs. 2.368
Beneh (above)
Benehsk (*Beneh's* resin)

80. For more details look at Appendix V

81 Taghavi Shirazi, M (2003-2004)



Figs. 2.369
The wood of *Senjed* (pincushion tree) trunk was used as *Ātel* to keep the broken bone still

Beliefs, Faiths and Rituals

To illustrate the depth of nature-inspired beliefs and its presence in diverse aspects of *Maymandies'* life, some instances will be brought to attention:

Animals

Maymand natives believe that if *Chaghūt's* (sparrow) egg is given to little babies, they will start speaking earlier. In the past, they used to give the blood of *Kerneh* (a kind of tick). When the child grew up, they took her near farm animals such as cows to get scared and scream. This frightened the animal so it would leap suddenly. Thus all *Kerneh*s would get out of its body. (Figs.2.370-2.371)



Fig. 2.370
Chāghūt

Fig. 2.371
Kerneh

Plants

Similar to other spots in Iran, *Espand's* smoke was believed to keep away bad eye and the evil. When the locals want to use a *Mashk* for the first time (*Mashk-zadan*: pushing the *Mashk* which is full of milk back and fro to make butter), they first blow air into it.

Then they burn some *Dashtī* and salt before the *Mashk* scattering its smoke around; later when it is completely burnt, they draw a ++ shape in the middle of the *Mashk* using the leftover charcoal to keep the evil eye away and their sheep would multiply. (Figs. 2.372-373)



Fig. 2.372
Esfand



Fig. 2.373
Mashk-zadan (pushing the *Mashk* back and fro to make butter)



Another example would be when the bride and groom are going to their wedding home; the bride is given a pomegranate. She should hit the pomegranate strongly against the door so that it is split into halves (*Qāb*). The locals believed that if the fruit is halved the bride will be lucky in her marriage; so the brides would normally hit the pomegranate a few times until it is halved! Planting trees in graveyards such as *Beneh* and *Tāyī* as holy trees is among other old beliefs of the locals. In the memory of their beloved dead ones, these people would plant trees (or make water ponds) on the dry and treeless roads where many people would pass everyday so that the shade and comfort of the tree would send God's forgiveness to their dead one in the heavens. (Figs. 2



Figs. 2.375
Beneh-Nazari



Other examples:

The locals put the first ever butter made in their *Mashk* to ant holes believing that it will bring good luck and prosperity. Also they believe if a child takes a broom and starts sweeping, they will have some unexpected guests.

Rituals: The most important religious ceremony is *Jūsh* which is the mourning rituals over Imam *Hossein's* martyrdom in *Tāsūā* and *Āshūrā* when huge number of people from all over the region and the neighbouring villages gather in Troglodyte *Maymand*. (Figs. 2.376)



Figs. 2.376

Jūsh mourning ceremony



Life and Sustainable Thinking

Energy and recycling are two indispensable parts of the sustainable life and thought in *Maymand*.

Energy Consumption Optimization

Regional Migration

As a leading parameter in life, the *Maymandies* migrate three times a year to have optimized energy consumption. In spring, they migrate to *Sar-e-Āghol* where there are green pastures for the cattle to have the best nutrition and efficiency with the least energy consumption.⁸² Water is supplied from the seasonal rivers and the pools filled up during winter. Architectural elements of *Sar-e-Āqols* also play an important role in energy consumption. For instance, the architecture of *Markhāneh*, half of which constructed under the ground with the roof fully covered with earth and clay, protects the people dwelling inside from the high winds and rainstorms during spring.

When it is hot, they migrate to *Sar-e-Bāgh* on the banks of the seasonal rivers around the village. In the hot season, the cool shade of trees together with the architectural elements of the village (the *Kapars* and the *Gombehs*) creates a favourable atmosphere for living. The above mentioned elements accompanied by the fact that the fruit orchards exist next to the residential units are the major causes of energy saving.

In the winter when it gets cold, the destination is *Maymand*. Consuming the foodstuff stored inside and staying in the *Kīchehs*, they protect themselves against the harsh winter. The rooms of the troglodytes can be favourably warmed up with the minimum energy consumption.

In Situ Migration (within house)

During daytime, the residents in the *Kīcheh* move from room(s) to other spaces to make the best use of the natural energies.

These spaces are:

Eyvān (veranda/balcony), for everyday activities (cloth-weaving, spinning, cooking, etc.) when the weather is fine;

82. As mentioned before, in section dedicated to Eshām, during favourable climate conditions such as enough rainfall and good weather, the villagers would go to green pasture lands (Eshām) along with their herds in early springs and during the growing season of winter plants. In this way, some of the plants in *Sar-e-Āghol* pasture lands would be saved for the next year



Toqol (terrace), flat surfaces on the slope of *Kamar* to sit and enjoy the village landscape, or to spread and dry fruits using the wind and sunshine;
Panāh-bād, a space in front of the *Kīcheh* with its back against the wind, suitable for setting a fire and doing a number of everyday activities;
Otāq-e-Bonī (rear room), being cooler than the front room (*Otāq-e-Jeloyī*), is used to keep foodstuffs cool
... And thus, the *Maymandies* take the best advantage of the nature. Energy distribution is another point of in *Maymandies* lifestyle as well as architecture. Here, an example of energy distribution by the *Maymandies* in everyday life reveals interesting points: “An old man in *Maymand* is constantly working. Even if sluggishly, he is busy during the whole day without getting tired. Therefore, there is always something for him to do which makes him never feel idle or useless.” Such a slow-but-steady attitude is the very method by which the household would gradually and during their stay repair the house or add what it is needed to its structure. (Fig.2.377)



Fig. 2.377
Elderly men and women working together in Sar-e-Āghol



Recycling

Recycling clearly stands out, observable in the rural life of the people of *Maymand*. That is, the whole life is based on the principle of maximum use of the materials and thus exploiting the maximum longevity and efficiency. Recycling in *Maymand* can be categorized into two branches; natural recycling and everyday life recycling.

Natural Recycling: The locals let the process of natural recycling happen by a consciously minimum non-intervention to the village's nature and surrounding:

- a) They refrain from overstocking foodstuffs and dried fruits which can potentially result in the increase of one or several animal species, causing disorder in the existing life cycle and ecology of the region.
- b) They never overuse natural resources to exhaustion (employing architecture compatible with natural climate etc.)
- c) They use surplus plants and wild trees in their architecture (use of withered branches of the wild almond – Mar – as roof covering).

Another kind of recycling used in everyday life is meant for the handcrafts and architecture. The available materials are used for handcrafts production and once they are worn out, they are put to another use/purpose (as in the case of re-using the sole of *Gīveh-Karbāsī* in door-making). As for architecture, the main materials used are stone and wood; both long lasting and reusable. For instance, the villagers use wooden beams and tree trimmings to cover the roofs of *Kapar* and *Gombeh*. After a while, when the main beams lose their strength, they are used for lateral beams to bear less load. Eventually when the beams are fully worn out, they are burnt to produce heat and light. Other instances include reusing the stones in the ruined walls of *Gombehs* or the worn out large stones of watermills (installed at the outlet of mill pools) etc.

In all of the abovementioned examples, longevity is the main feature in how the energy employment and recycling methods affect the lifestyle and architecture of the region.

Moving on from the troglodytes which are by nature very long lasting, the structures in the *Sar-e-Bāghs* and *Sar-e-Āqols* are also long lasting for the very reasons explained above. For instance, the age of some *Gombehs* and other constructions in the region exceeds 80 years. The longevity of these structures can be compared to that of a building in Tehran which is torn down after 30 years and has to be reconstructed.

The set of parameters mention here has created a sustainable lifestyle and architecture in the region which is simple and regional but meanwhile, very efficient, functional and long lasting.



“This village has maintains a durable life of the people through the history; those who made the most efficient use of the entire natural resources and surroundings in such a way that their occupation, residence, lifestyle and traditions are all inspired by, consistent with and in a close relation to the nature. Over the years, because of such profound connections between these people and the nature, the lifestyle in the region is kept unchanged despite the changes in the life traditions, means of livelihood as well as the physical spaces. Due to its very specific way of maintaining lifecycle within nature which has continued to survive, this type of settlement and migration is of high importance; this is a very special sort of migrant life contrary to the other traditional ones with only hot and cold seasons, this style has three migration stages. At each step of migration or dwelling, the main motivation is the nature or a natural feature of a specific place which is harmonious with the changing weather and in accordance with environmental and economical conditions.”⁸³

⁸³ . Ashrafi,M (1383-2004)



2- b History and Development

History

Maymand can be considered as one of the oldest human settlements in Iran and the world. The village has been formed on volcanic sediment layers and is located on the moderate slopes of a hill. Clearly, only defined archaeological soundings and excavations in the periphery of this village would provide us with the required data on the formation date and the development history of the *Maymand* village. Information given in this section is therefore only based on other available data and should be considered cautiously.

Archaeological Studies:

In 1971 Iranian sociologist and ethnologist, Dr. *Ruhalamini* and a local villager identified a petroglyph at *Gorgondar* village to the northeast of *Maymand*. Photograph of this petroglyph was sent to French scholar Andre *Leroi-Gourhan* (1911-1986) who dated it to 10000-12000 years ago. This dating was however based on the image and is revisable. Nevertheless, its technique, size, style and subject-a hunting scene- reflect the antiquity of the piece. (Figs. 378-2.379)

Fig. 2. 378
Mr. Ebrahimi, who first discovered
Gorgondar petroglyphs about 40 years ago.



Fig.2. 379
Gorgondar Petroglyphs



In 2010 some research were conducted on the pictographs discovered in the *Eshkaft-e-Lāshkorgūyeh*, a natural gorge located in *Khorīn* Mountains to the north of *Maymand* ⁸⁴. As the result, black pictographs were dated to the 6th millennium B.C. while red pictographs were attributed to about 2300 B.C. based on the existence of linear patterns in them⁸⁵. (Figs.2. 380-2.381)

Fig .2.380
Black cross-shaped pictograph (it might represent four main axes)



Fig.2.381
A pictograph in red showing human birth, dated to 2nd millennium B.C.

A team of Iranian archaeologists working in the area discovered potteries dating to different historical periods from *Maymand Dezh*, *Lākhorīn* cemetery and the nearby pre-Islamic graves through surface surveys and limited excavations in 2001. All potsherds were red, wheel-made and with rather similar decoration techniques. Thermoluminescence dating showed the potteries belonged to Achaemenid, Parthian, *Sasanian* and Islamic periods. Excavated Late Parthian potteries dated to 2000 ± 160 B.P. and were located below the Late *Sasanian* remains dated to 1600 ± 120 B. P. An Achaemenid potsherd was collected through the *Dezh's* surface survey, while most of the surface potteries from the cemetery belonged to the Islamic period ⁸⁶.

84. Naseri Fard,M(1389-2010), www.Homayen.com

85. For more details look at Appendix III

86 . Pour Qorbanian, Sh (1381-2002)



Historical Studies⁸⁷:

It seems *Maymand* is a historical village rather than a pre-historic settlement. Since *Maymand* is not a Mesolithic village site, it could not have been formed prior to the arrival of Aryans to the Iranian plateau. Mesolithic villages were ruled through a matriarchy system. In *Maymand*, however, no trace of such system has been found. In contrast, all aspects of life in *Maymand* and specifically its physical features reflect the existence of a patriarchic system, where men had a full power and command in controlling the nature.

Last group of Aryans entered Kerman basin around late 2nd and early 1st millennium B.C. Hence, the rock architecture of *Maymand* cannot be dated to pre-1000 B.C. and was probably had shaped around 8th-7th centuries B.C. after the establishment of newly arrived Aryan culture. There exist two assumptions regarding the formation of *Maymand* settlement:

- 1- Mithraism developed in Iran around this time and it could have influence the foundation of *Maymand* rock architecture. In addition, around the same time, Medes created examples of rock architecture in western Iran and *Maymand* could have been founded during the same period under the influence of a similar culture.
- 2- Other evidence such as graves and castles as well as the potteries discovered around *Maymand*, persuade us to believe that *Maymand* was at its highest level of growth during the *Sasanian* period



In about 130 A.H. *Maymand* was ruled over by a member of *Khadi Kermani* family (who were anti-*Umayyads*) called *Isa*. In 743 A.H. *Amir Mobarez al-Din Mohammad Mozaffar* (founder of *Al-e Mozaffar* dynasty) governed *Maymand* and its neighboring districts. Kerman was under command of *Abu Saeed Bahado* during the *Gurkanid* era until he was defeated by *Hasan Beyg* of *Aq Qoyunlu* dynasty in 873 A.H. *Hasan Beyg* appointed his son, *Zanil Beyg* to rule over Kerman. During the *Safavid* period, Kerman enjoyed a period of stability and development under *Ganj Ali Khan*. In 1133 A.H., however, *Mahmood Afghan* invaded Kerman and continued his way towards *Isfahan* through *Sirjan* and *Maymand*. During *Afsharid* period and from *Nader Shah* until *Qajar* period, a native of *Maymand* known as *Mahmood*, was in charge of all soldiers of *Shahr-e Babak* district⁸⁹.

Mithraism and Zoroastrianism in *Maymand*⁹⁰:

Mountains were always places of worship and respect among ancient civilizations and played an important role in ceremonial and religious rituals. In a large number of cultures, high and picturesque mountains were considered as domain of deities. Worshipping ceremonies were held on top of mountains or at other high locations; *Babylians* for instance, believed that *Marduk* resided on top of a mountain. We can trace this ancient belief among other cultures and ethnic groups. Moses prayed in Mount Sinai and Mohammad was appointed to prophecy while worshipping in a cave at *Harra* Mountain.

According to ancient Iranians, *Giomarth* who was considered the first human being created by *Ahura Mazda* had lived in mountains for thirty years.

In some of the Iranian religions such as Mithraism and Zoroastrianism, there exists a clear holiness regarding the mountains. Mithraism (*Mehr* or *Mithra*=Sun God), was developed long before Zoroastrianism by Aryan people.

89. Vaziri, A (1340-1961)

90. Homayun, Gh (1361-1982)



It was later expanded towards Roman Empire and then Europe from Iran through Iranian missionaries as well as Iranian soldiers attending Irano-Roman wars since the 1st century A.D. Mithraism became an established religion in Europe until the late 4th century when it was finally defeated by Christianity and was finally vanished from Europe in the 5th century A.D.

According to *Vermaseren*⁹¹: “*Mirtha* was worshipped in natural caves; a river usually also ran nearby. Outside the temple, there were special holes in which bones of the sacrificed animals were buried. Cave was the symbol of the sky, and no window or porthole was made in it”.

Mithra worshippers believed that the sun was unbeatable and eternal and these specific characteristics of eternity and power of sun have caused mountains to become the best worshipping sites and sacred in Mithraism.

Maymandi stonemasons, who were probably followers of Mithraism, have made use of their beliefs in order to shape the architecture of their dwellings. They created houses within mountains that akin to sun have remained unbeatable and eternal for thousands of years.

Founders of *Maymand*, choose this quiet and remote location in order to be safe from enemies and at the same time be in peace to perform their rituals (probably Mithraism) and preserve their traditions beliefs and costumes. Hence it is not surprising that many of *Maymandi* people have preserved their purity as they have not been mixed with other ethnic groups.

Present population of *Maymand* is usually light-colored. Arabic names are rare among them; they still respect water and fire; they swear to fire; they celebrate *Nowruz* more importantly compared to other present Iranian religious holydays and only their sons inherit from their fathers. Opposite of many other villages in Iran, there is no *Seyyed* (a descendant of Prophet’s family) in *Maymand*. All these and other existing evidence show that *Maymandi* people have been followers of ancient Iranian religions of Mithraism and Zoroastrianism.

91. Vermarzen, M (1344-1965), P.45-51



Shahshahani writes in her book that⁹²: “there exists this possibility that after Zoroaster, followers of Mithraism came to this place and founded a *Mithraeum* for their rituals. Gradually they felt safe in this location and even after converting to Zoroastrianism and then Islam, they remained in this place and in order to preserve themselves from passing people, created houses in mountain to spend some time of the year in here....a river flows in the middle of *Maymand* and an open grave that resembles that of Mithraism followers has been found near *Maymand*”.

She has also noted that: “*Mani* wore blue dress while performing Mithraism rituals; while and blue were important colors in Mithraism”. Interestingly, *Maymandi* fabrics were also usually blue and white.

According to the studies conducted by MCHB on the handicrafts of *Maymand*, a kind of muslin fabric was produced in *Maymand* in white. It was dyed blue if made for men’s clothing and it remained white if made for women’s clothing⁹³.

In the same source we read: “a picture of crow is depicted on the crescent-shaped edge of many of the caves. Crow was the messenger of God in Mithraism”. A neighborhood in *Maymand* is also called *Kalāghūn* (Kalāgh=crow). Further studies however, are required in order to establish a clear connection between these elements⁹⁴.

Village Formation

The underlying reasons why *Maymand* village came to being may be concluded as:

- 1) The vital role of the climatic, geographical as well as biological conditions (weather, land and soil, prey animals, etc.) made this location inhabitable. Dwelling near rivers and water springs as well as the possibility of groundwater exploitation (*Qanats*) are among the other reasons.
- 2) Special topography and natural features made the foothills of this area fit for human habitation. Rocky nature helped the people to allocate different areas for living, farms, orchards and pastures separately.

92. Shahshahany, S (1384-2005), P.139-140

93 Mohammadi, J (1383-1384/2004-2005)

94 .Shahshahany, S (1384-2005), P.141



- 3) Economical thinking: using the potentialities of the region serving as a natural shelter was an answer to this need.
- 4) Defensive aspects can be the main reason to reside here. Being situated on a gorge as a natural fortress, made it possible for people to defend against any invasion. The forts on the neighbouring hills and the one on top of the village are proof to this assumption. Maybe, they selected this impenetrable place to be safe from attacks and also protect their family values and traditions as well as their religious beliefs and rituals and from enemies.
- 5) The people's economic and livelihood relation to the nature is a fundamental reason for the village's specific features and its sustainability. They have worked out a harmonious way to deal with natural aspects of their surroundings and the village maintained its valuable feature while getting along with the technological advancements and replacement of new construction methods and lifestyles.
- 6) Houses in *Maymand* have economic value that is, a perpetual asset for a family.
- 7) Houses are secured against natural disasters.
- 8) Conformity of the troglodytes with the heat and cold that is, they are cool in the summer and very easily warmed up in the winter.

Based on the studies, the village has had its maximum population till the 1960's when the construction of new spaces for living and creation of public services– which were to some extents incompatible with the original fabric– partly spoiled the untouched and natural architecture of the place.

Some of these spaces were later removed by the protective and restoration strategies in the village during the recent years. By the end of the 1970's, however, the village experienced a rapid population decline so that nowadays only a few people have remained in the troglodytic part of the village.



Development

Based on different parts of *Maymand* cultural landscape and its specific conditions, it is possible to portray its foundation and

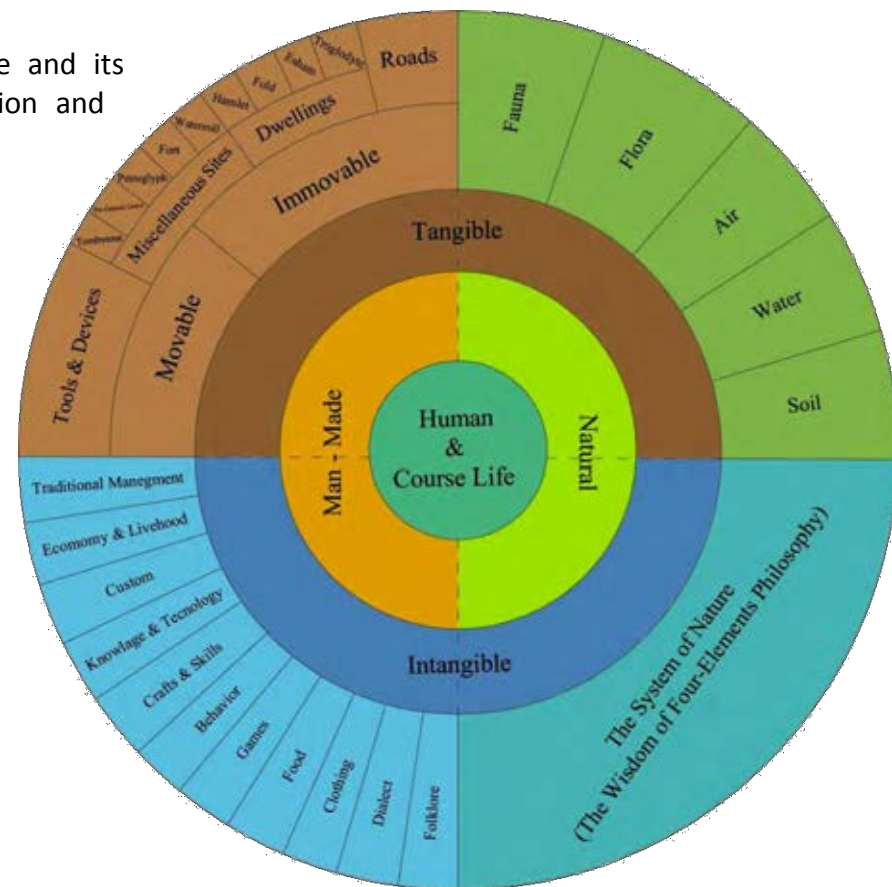


Fig. 2.382: Cultural Landscape of *Maymand*



1- Development of the tangible, immovable and man-made heritage:

Dwellings

Troglodyte *Maymand*

It is not possible to determine the exact date of the troglodytes' formation and creation. Its expansion process is also only vaguely known. To sum up, the following notes can be made:

- The exact date of digging of the *Kīcheh* units is not known
- Probably *Soms* have been the preliminary dwellings.

Maymandies believe that *Lākhorīnī* tribe originally resided in *Maymand*. In fact, it seems the people who chose to settle in *Maymand* area, first established themselves by creating a few in the hill slopes in *Lākhorīn*, a farmland near *Maymand*. Later on, due to the better location of *Maymand*, these people moved to *Maymand* and created their troglodyte houses⁹⁶.

Lākhorīnīes were Zoroastrian before the introduction of Islam in this region and conversion to Islam up to about 900 A.H. Their burial practices also followed Zoroastrian traditions. On gravestones found in *Maymand*, however, dates such as 201, 211, and 231 A.H. can be read. These burials follow Islamic burial practices, i.e. the corpse would lie facing Mecca and no precious item was put in the grave. This may indicate that as early as the third century A.H. *Maymandies* had converted to Islam⁹⁷.

There are few evident indicating *Lākhorīn* was the initial starting point of *Maymand*:

1-Locals believe that *Maymandies* were originally *Lākhorīnī*

2-A few shallow caves with smoke-blackened walls known as *Som* may be remnants of earliest settlers of *Maymand*⁹⁸.

3-*Lākhorīn* village is situated in a valley behind *Maymand*, at the end of which *Tīrkhorīn* Mountain is located. As the village is also named *Lākhorīn* and the most important village in the valley was *Lākhorīn* itself, the earliest settlement in the valley must have been *Lākhorīn* village.

96. Ebrahimi, K (1386-2007),P.41

97. Shahshahany, S (1384-2005), P.141

98. Pour Qorbanian, Sh (1381-2002)



4-Ending part of this valley is known as *Bon-e-Lā*



Fig. 2.383
An aerial photo of *Maymand* valley and surrounding valleys



- One of the supporting evidence about this assumption is the discovery of a cemetery in the area located in front of the *Mahdīhā Kīcheh* – current office of MCHB. As cemeteries were usually established in a considerable distance from the residential sites, it can be concluded that the Troglodytes were created in the Islamic period and this part was included in the outer section of the village during the early formation period of the village.
- In an unknown time, some of the *Pātāq* stones in the *Kalāghūn* neighborhood were detached from their original position and had fallen, causing blockage in the entrance of some *Kīchehs*. This feature has been attributed to the thunder and lightning by the locals. (Fig.2, 384)
- For some unknown reason, some of *Kīchehs* have been left unfinished. This might have been due to the stone type of that particular part of the population increase in the village in that period.
- During modern times, in about 1950s, as a result of population increase and need for the construction of new residential unit, new construction activities were taken place using materials such as mud brick. This was in a contrast with the troglodyte personality of the village.
- Another architectural change taken place during modern times has been the construction of *Sarsoffehs* with bricks and mud bricks in the form of vaulted arch or by using wood.
- Changes in the used material have happened in some architectural elements (like using iron and glass instead of wood for door) at some of *Kīchehs* and along with using new unsuitable material inside and outside the architectural spaces. Although in a limited scale, but these practices have changed the unity of the whole village.



Fig. 2,384
Destruction of raised layers of *Tāq* as the result of lightning.



- During recent times, a new health center and a school have been built using iron and brick. These buildings are in a strong contrast with the unified constitution of the village. Fortunately such structures are not many and they can be positively modified.
- A communication tower erected to set up the communication network of the village is another recent addition.
- During recent restoration activities undertaken by ICHHT Base, the holed roofs were covered using wood and dry sticks.
- Abandonment and leaving many of the *Kīchehs* is another result of modern changes.

Sar-e-Āghol

In general, changes in the *Sar-e-Āghols* are briefly as follows:

- Changes in some of the architectural elements like using different material to cover the roofs
- Abandonment and destruction of some of *Āghols* like *Mahdīhā* and *Mashhadīhā*.
- Performing several restoration activities in some of *Āghols* like establishment of *Kapar* and *Markhāneh* in *Darkhāniha*

Sar-e-Bāgh

Leaving and abandonment of some of hamlets during modern times, as well as destruction of some of the architectural units (like *Kapar* and *Gombeh*) in some of them are examples of changes and transformation in the *Sar-e-Bāgh*.

Eshām

Weakening of *Eshām* practice in the four-phase lifestyle is another aspect of changes that happened in the life at this cultural landscape.



Maymandi herders handed their herds, both senior (with about 100 sheep) and junior herders (mostly old women with about 10-20 sheep) sizes to one of the locals for their daily grazing but did the nightly and morning nurturing of the herds themselves next to their houses in the Troglodyte *Maymand*. According to *Maymandi's* opinion nobody will take care of the herds as their owner. Along with the population decrease during recent decades (from a few thousand to 150 persons in 1380/2001) and desertion of many *Kīcheh* units, unlike earlier times the sheep were brought to the Troglodyte village and were kept in the unoccupied *Kīchehs*. This had caused an increase in the number of flea in the village.

During the first years from the establishment of the Cultural Heritage Base at *Maymand* and especially due to the ascending arrival of experts and visitors, local community and the *Shahr-e Bābāk* township leaders began to remove the herds from *Maymand*. During 3-4 years, about 70% of the herds were transported outside *Maymand*.

Junior herders (old women) sold their herds. The last groups who still moved about the *Eshām* were the junior owners along with their daily shepherds. By selling their herds from 3 years ago, this practice is no longer performed.

Miscellaneous Site

Water mills

With the changes in the life styles and introduction of new technologies in daily lives, some elements were inevitably had to be put aside and forgotten. Water mills were one example of such elements. *Maymand* water mills are currently out of use and abandoned. Only one of them (*Rezmalek* Water mill) was restored and revitalized by ICHHT Base of *Maymand* few years ago but for some reasons it is currently not in use.

Pre-Islamic Graves and Dezh

Clearly Pre-Islamic graves and *Dezhs* have lost their usage and function in the modern daily life and are now endangered. This situation applies to the *Maymand* cultural landscape as well. There is a need for proposing serious restoration and conservation programs by the responsible authorities.



2- Development of the tangible, movable and man-made heritage:

Daily life tools and devices

As a result of aforementioned changes and transformations, many of tools and devices that were used by the locals in their daily lives are now replaced by modern equivalents. Although in some cases, this is an evitable and necessary process, but it is important to prevent their complete abandonment and to preserve the older style tools and devices and their presence in the daily lives of the local community as much as possible.

The Cultural Heritage Base of *Maymand* fortunately collected and reserved such old items - that were going to be abandoned and forgotten -and has exhibited and kept them in the *Maymand* Museum.

3- Development of the tangible natural heritage:

Perceptible natural heritage includes all natural features and characteristics of the region, which in some cases, were altered and transformed. These changes were result of both natural and human factors:

Natural Factors

This includes climatic and weather changes, which has largely affected the region.

Human Factor

As a result of modern developments (refer to Chapter 4), human factor has caused changes and problems in the natural heritage of *Maymand*. Examples of these problems are water and soil contaminations, lessening water sources and changes in the flora and fauna of the region.



4- Development of the Intangible man-made heritage:

Parts of the imperceptible man-made heritage of *Maymand*, shown in fig.2.382, have been greatly affected by the aforementioned circumstances and factors as well as by the changes happened in the modern era. Decline of the traditional management systems, leaving and changes in some practices like local clothing are examples of transformations happened in the imperceptible man-made heritage.

5- Development of the Intangible natural heritage:

This part of *Maymand* cultural landscape, in spite of all affecting factors and changes is almost preserved in the life of *Maymandi* community; and we can observe its reflection in the daily lives these people.

Chapter 3



Justification For
Inscription





3.a Criteria under which inscription is proposed and justification for inscription under these criteria

Summary

The Cultural Landscape of *Maymand* is located in the Western part of Kerman Province in south-eastern Iran. The area is relatively concentrated (some 20 x 20km) on the southern slopes of Iran's central mountains, Mount Shirkuh, which surrounds the area on northern, western and eastern sides, and rises up to some 3000 m. The difference of altitude in the landscape area is about 1000m from north to south, providing diverse climate conditions to benefit living in the different seasons. It is an unspoiled region, which bears testimony to the different forms of interaction of man and nature living in harmony over millennia. Indeed, it is an exceptional and outstanding example of a cultural landscape, where 'three-phased' seasonal and 'inner' migration (transhumance) have continued to be practiced in the traditional form until today. While this type of lifestyle will have been common in many parts of the world, including Iran, it has been mostly lost, leaving only a relict landscape or individual elements often turned into museums. Therefore, *Maymand* remains a rare if not unique example still living.

The focal point in the centre section of the cultural landscape consists of the troglodytic villages of *Maymand*, representing a great variety of types of winter habitation, i.e. cave dwellings excavated into the slopes of natural depressions in the ground, thus also providing places for hiding in case of enemy attack. Following the seasonal movement of the livestock towards higher or lower altitudes according to requirements, the cultural landscape has grown to provide all the necessities to humans and animals. Indeed, the territory bears testimony to the gradual development of a great diversity of different types of shelters for humans and animals (*Sar-e-Āghol*) associated with a specifically adapted lifestyle. The area includes water sources (wells and *Qanats*) and gardens (*Sar-e-Bāgh*), means to provide for food, medicine, clothing, tools and objects using locally developed techniques and handicrafts, and based on a thorough knowledge and understanding of nature and the ingenious use of natural resources.



Criterion (III): “to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization, that is living or which has disappeared”

The cultural landscape of *Maymand* bears exceptional and even unique testimony to the evolution over centuries of a traditional way of life in close interaction with nature. It bears testimony to significant social, economic and religious activities from the ancient times. And the traditional lifestyle is still part of the present-day farming and animal husbandry. Indeed, in a relatively limited area, this cultural landscape comprises a significant range of elements and man-made structures, representing different stages of their evolution. These include shelters for humans and animals, adapted to the seasonal requirements, such as natural caves, man-made troglodyte villages, mountain villages, gardens, and spring-time shelters on the plains (*Sar-e-Āghol*). The residential structures are combined with constructions for diverse purposes, such as shelters for animals, systems for water management, and access routes (dry river, pathways, *Kāshkor*).

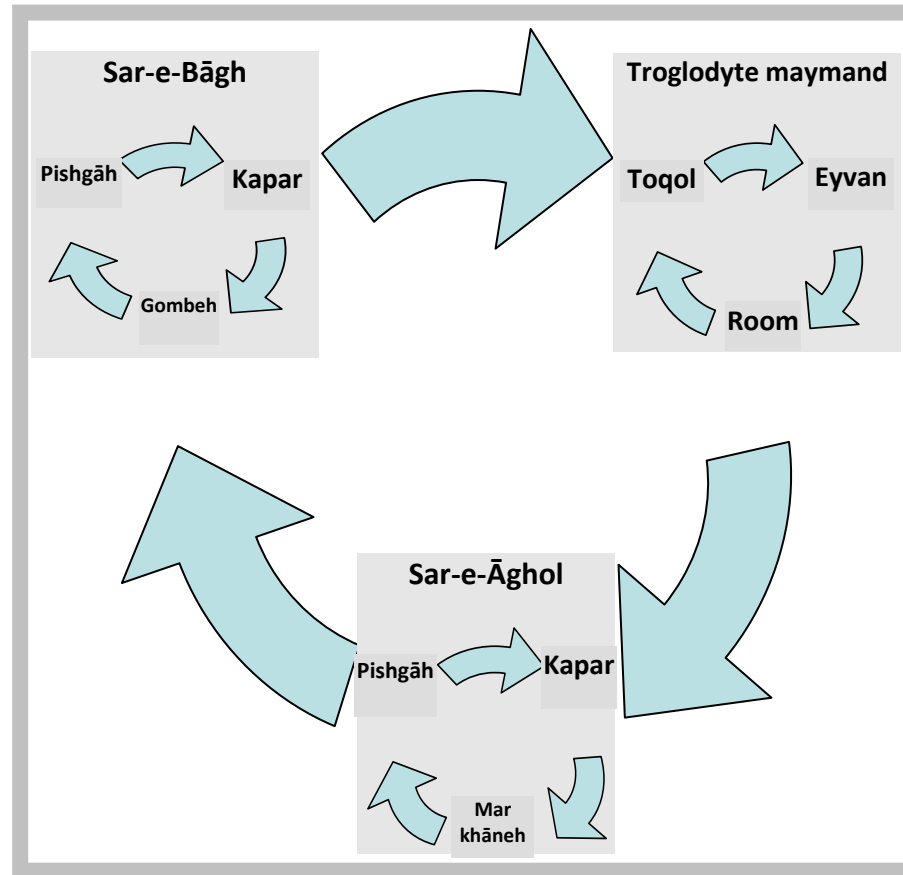


Fig. 3.1 The life diagram of Maymand Cultural Landscape



Fig. 3.2 Living tradition in Cultural Landscape of Maymand -Aghol-





Fig. 3.3,4 Living tradition in Cultural Landscape of *Maymand*



Fig. 3.3



Fig. 3.4



Fig. 3.5 Living tradition in Cultural Landscape of Maymand





Fig. 3.6 Life in Cultural Landscape of Maymand



Fig. 3.7 Living tradition in Cultural Landscape of *Maymand*
-migration to *Ābādf-*





Criterion (IV):“To be an outstanding example of a type of building, architectural or technological ensemble or landscape, that illustrates (a) significant stage(s) in human history”

The nominated property is an outstanding example of a cultural landscape that illustrates significant stages in the development of human habitat based on transhumance, and dated initially to the Parthian and early Sassanid periods, ca. 3rd century BC to AD 3rd century. The troglodyte residences of *Maymand* illustrate the evolution of such habitat from the use of natural caves and simple holes dug into the ground (*Markhāneh, Kapar*), to more elaborate man-made troglodyte spaces for a diversity of purposes, including residences, forts (*Dezh*), religious spaces (Fire Temples, mosques, *Hosseiniyeh*), baths, and schools. Other non-residential spaces include shelters for sheep (*Kūz, Darkūz, Korom, Talgard*), beehives, mills, food storages (*Jīr-e-dān*), vegetable gardens (*Sar-e-Bāgh*), pools, water tanks, wells, and underground water canals (*Qanāts*), as well as graveyards (Pre-Islamic and Islamic), providing the framework for living with what was required in the different seasons.

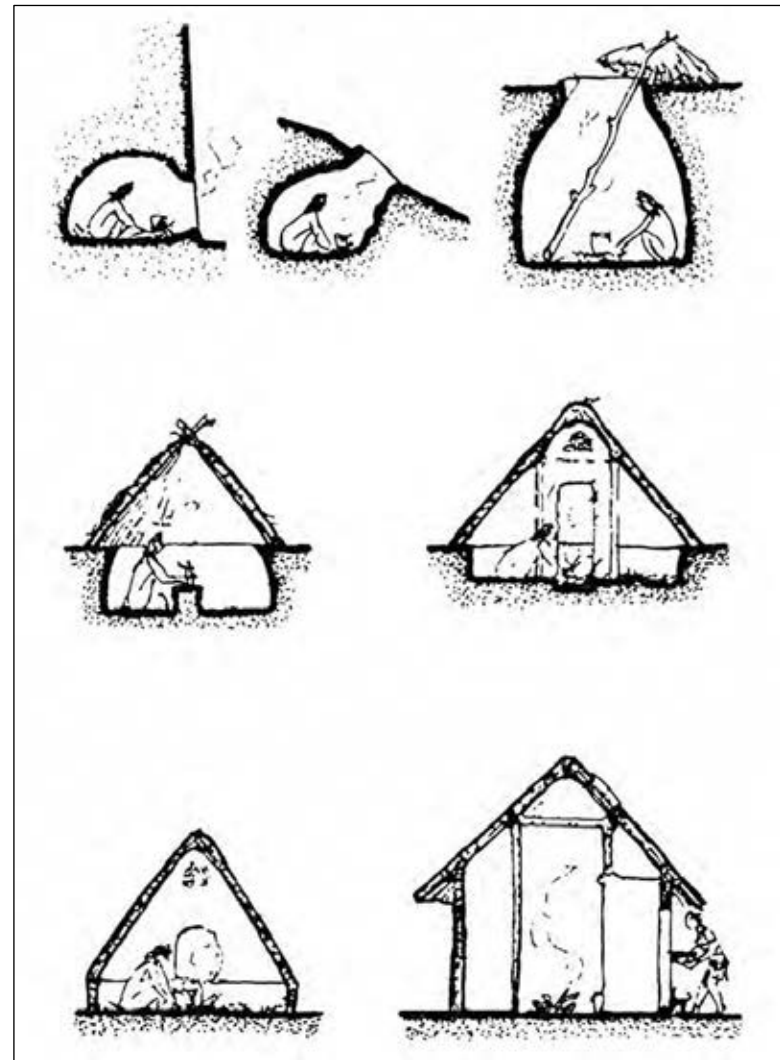


Fig. 3.8 Different stage of human residential architecture



Fig. 3.9 *Āghol*
Fig. 3.10 *Ābādī*
Fig. 3.11,12
Troglodyte Maymand



Fig. 3.9



Fig. 3.10



Fig. 3.11



Fig. 3.12



Fig. 3.13 Living tradition in Āghol



Fig. 3.14 Living tradition in Ābādī





Criterion (v): “To be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change”

The Cultural Landscape of *Maymand* is an outstanding example of a traditional settlement structure, resulting from human interaction with the environment and involving transhumance, which has become vulnerable under the impact of irreversible change due to globalization. The seasonal and daily movements of people with their livestock over relatively short distances, typically to higher pastures in summer and to lower valleys in winter, i.e. transhumance, has been based on an excellent knowledge of the nature and an ingenious use of natural resources, the scattered water resources, such as seasonal rivers, *Qanats* and springs, as well as different types and species of vegetation, such as herbal plants and wild almond trees.



Fig. 3.15 Quality of interaction with the Maymandis and their nature



Fig. 3.16 The way of collecting water in Cultural Landscape of Maymand

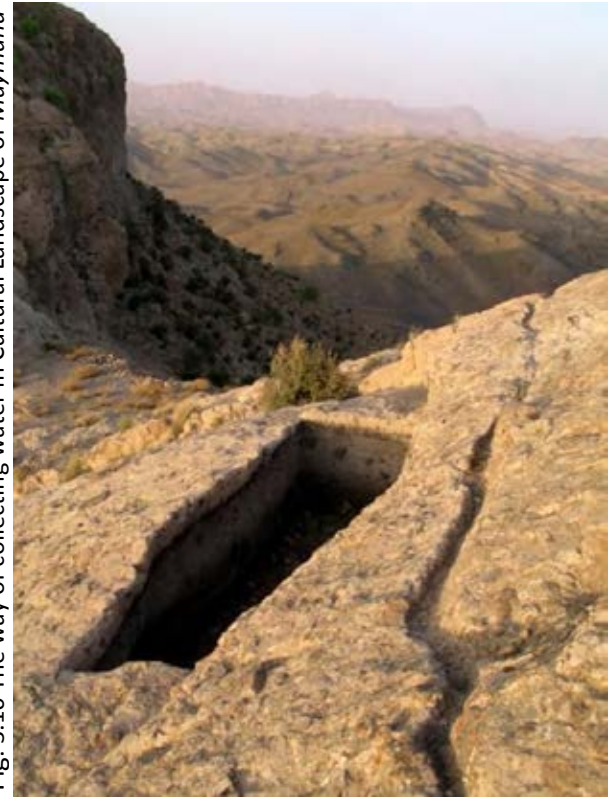




Fig. 3.17,18 Kel-e Dūshāb*



Fig. 3.17



Fig. 3.18

* *Kel-e Dūshāb* is two pits on the slope of hills for making Dūshāb



Integrity and Authenticity

The Cultural Landscape of *Maymand* is a rare example of transhumance territory that has retained its traditional functions alive, and that continues to bear testimony to the historical evolution of the habitat, consisting of troglodyte residences, and a variety of service spaces and structures of which many still in use. The nominated area comprises all the significant elements that document the traditional transhumance functions, as well as the associated residential and non-residential structures. Furthermore, these elements have kept their traditional form and are in good state of conservation. The traditional techniques, materials and craftsmanship have continued in use until the present, and the landscape has maintained the spirit of the traditional ensemble, expressed in the continuity of farming and animal husbandry. The landscape area has also retained significant sources of information of the different phases of development of this lifestyle.

Protection and management

The World Heritage area and the buffer zone of the *Maymand* cultural landscape are defined taking into account the significant elements that justify its outstanding universal value. This cultural landscape consists of troglodyte village of *Maymand*, *Sar-e-Bāghs* and *Sar-e-Āghols*, natural sites such as a cave as well as miscellaneous sites like mills, castle, pre-Islamic graves, *qanats*, etc. Life in *Maymand* involves all these elements and therefore all of them are introduced as the core zone of the site, while a larger area including other related features that in some cases have similarities with elements of *Maymand* cultural landscape forms its buffer zone. Specific set of regulation and policies are set in order to preserve and protect the life based on sustainable development policies. The area is subject to traditional management system, which is formalized in the management plan prepared specifically for the nominated property.



3.b Statement of outstanding universal value

Introduction

Due to its special form and unique characteristics which are of geographical, climatic and architectural nature, having witnessed the man's social life there, in which one can find a lot about the cultural patterns and lifestyle together with economic considerations, *Maymand* is a note worthy example of one of the complexes which is biological and vernacular, considered as ground for doing the different projects in the different fields namely as: architecture (organic and vernacular), archeology, geology, ethnology, botany, zoology, ...etc. at the universal level. One can summarize the values of the organized system of *Maymand* cultural landscape as the following:

- An outstanding example of special architectural type of man's residential complexes having an exclusive from of natural setting.
- Diversity in the environmental and architectural forms (troglodyte, *Sar-e-Bāgh*, *Sar-e-Āghol*) and similarity of each of them with one of the periods of drastic changes in housing and residential architecture (cave dwelling, the architecture inside the earth and the one on the surface of the earth).
- The continuation of life during the different periods of time from the past till now and relative safe guarding of the occupational and economic patterns of the past.
- Definition of the spaces and architectural elements and details together with the needed man-made structures according to the specific characteristics of the area in a completely organic and vernacular form.
- The practical manifestation of the wisdom of fore elements in man's life styles.
- The architecture which uses virgin and pure material with the least change applied which yields in the simplest and the most organic possible from of the architecture in the region.



The table shown below is an indicative of the special characteristics of *Maymand's* cultural landscape:

The exclusive characteristics of <i>Maymand's</i> cultural landscape	Tangible	<p>The natural form of setting of troglodyte</p> <p>The form of man-made architecture which is organic and vernacular</p> <p>4The diversity of architecture (<i>Ābādī</i>, <i>Āghol</i>, troglodyte village)</p> <p>Creativity in creation of architectural elements based on the necessities of life</p> <p>The building technology by employing the most virgin materials</p>
	Intangible	<p>The continuation of life in an immediate interaction with natural setting and environment lasting from early days till now</p> <p>The lifestyle (the three phase-seasonal and inner-migration)</p> <p>The manifestation of the wisdom of fore elements in the structure of the whole life (specially in architecture, migration, food and medical affairs)</p>

Fig. 3.19 The table showing the exclusive characteristics of Cultural Landscape of *Maymand*



(III):

Based on the undertaken studies and research, it can be stated that *Maymand* is an exclusive cultural landscape in the world which has preserved living continuity and its three-phase migration lifestyle tradition in a certain region while considering its uniformity and originality. It possesses both permanent (troglodyte village) and temporary architectural spaces and along with natural cycles, their residents spend time in three different natural environments.

Nomadic and migrating life style is a regular way of life in Iran due to its natural and climatic conditions which has been common in many parts of this country from Azerbaijan to the north to Fars in the south. The nomadic lifestyle however, lacks permanent architecture in the first place and or it is connected to permanent architectural spaces which are located in their village camps, between which nomads migrate in two phases during a year to spend cold and warm seasons. This style still exists in some parts of Iran, although affected by modern facilities and conditions. In other parts of the world, as far as studies have shown, no other site exists which encompasses all characteristics present at *Cultural Landscape of Maymand*.

Since many centuries ago, residents of *Cultural Landscape of Maymand* have founded a life style according to their natural environment by utilizing natural resources and capabilities in the most efficient and creative way.

Environmental and natural differentiations that exist in one larger unit along with a distinct rocky bed in the heart of this area, have let the residents of this region to be able to change their living location according to seasonal cycles and hence, enable them to utilize available resources in the best and the most efficient way to respond to the diverse necessities of life.



Living in troglodyte spaces during cold seasons – from mid fall to late winter- which provides a security against harsh natural conditions, migration to southern plains in late winter/early spring to enjoy fresh spring weather, green pasturelands and seasonal rivers and the perfect environment for sheep, goats and ... regeneration, and at the end migrating toward mountain foothills in early summer to mid fall to do gardening activities is a lifestyle which has been practiced in this region for centuries up to present.

A remarkable point is that in spite of migration of many *Maymandis* to the nearby *Shahr-e Bābak* and their lack of presence in troglodyte *Maymand*, this seasonal migration cycle has continued to exist and many of *Maymandis* who now live in *Shahr-e Bābak*, return to *Cultural Landscape of Maymand* in Summer to spend this time of the year in their gardens and *Ābādī*.

Survival of such a life style up to the modern era indicates its originality as well as close and ancient interactions that have existed in this region between this people and their surrounding environment.

Considering the aforementioned points, *Maymand* can be considered as the only example of a life tradition based on a three-phased migration cycle along with a permanent residential site such as troglodyte village, which has been survived up to this date in its original form.



Fig. 3.20 Living tradition in Cultural Landscape of *Maymand* - migration to *Ābādī*-





(IV):

Maymand is a remarkable site that due to its specific social and natural characteristics, possessed different architectural forms with local and novel features. The architecture at *Maymand* includes a diverse range of forms and types, each suitable for a specific time of the year and in accordance with surrounding natural environment.

Maymand is a unique example of human ingenuity in creating a nature-based troglodyte architecture, which attracts attention of everyone who enters this region. The systematic structure of troglodyte spaces which are located methodically next to or on top of each other, *Maymand* village access routes hierarchy, specific spaces and elements created within the rock, nomadic lifestyle-related and nature-based architectural forms, detailed structures which have been founded in natural and local forms, thousands of years old petroglyphs and pictographs, have all formed a living complex which is the result of human creativity established centuries ago.

“Cultural Landscape of Maymand represents a living complex that reflects important stages of human history and his settlement background for two main bases:



i: Quality of settlement in the nature: three phases of human settlement history are still visible in *Maymand*. The process of humans' walking out of inside the earth to the surface of the earth, as mentioned by Jean-Paul Loubes in his book titled *Maison creusées Du Fleuve Jaune*¹, is still noticeably visible in *Maymand*". Troglodyte *Maymand* is a representation of human residence inside cave, while *Āghol* symbolizes a midpoint stage when humans were coming out to live in the plains but still resided in semi-cave shape spaces and *Ābādī* is reflection of the final stage when humans were settled down on the earth surface and created architectural forms on top of the soil.

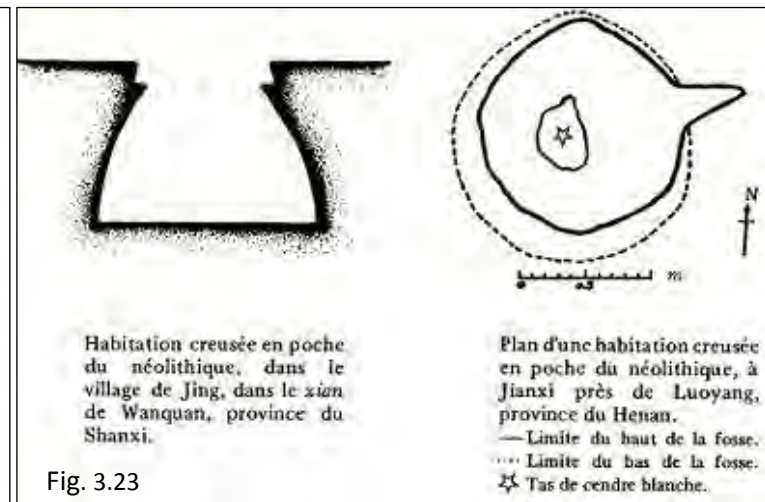
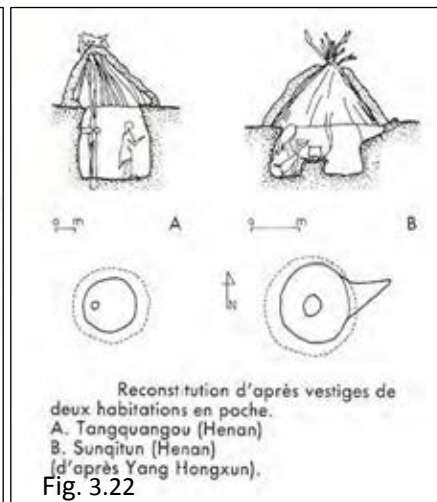
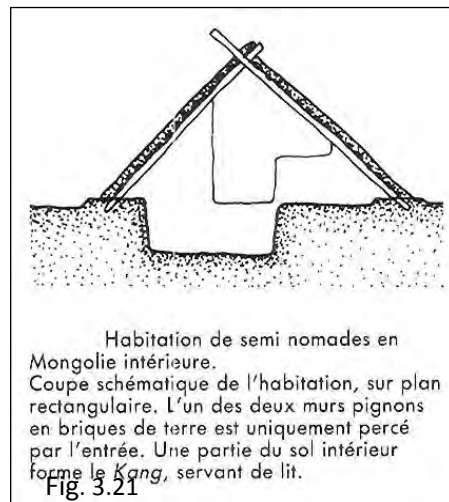


Fig. 3.21,22,23 Different Stages of human Architectural space

¹ Loubes ,J., (1984)



Fig. 3.24,25,26,27 The style and quality of Aghol's architecture



Fig. 3.24



Fig. 3.25

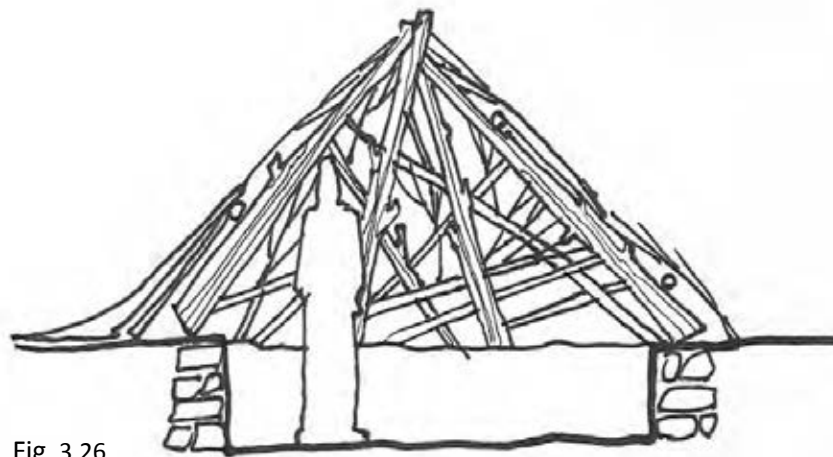


Fig. 3.26

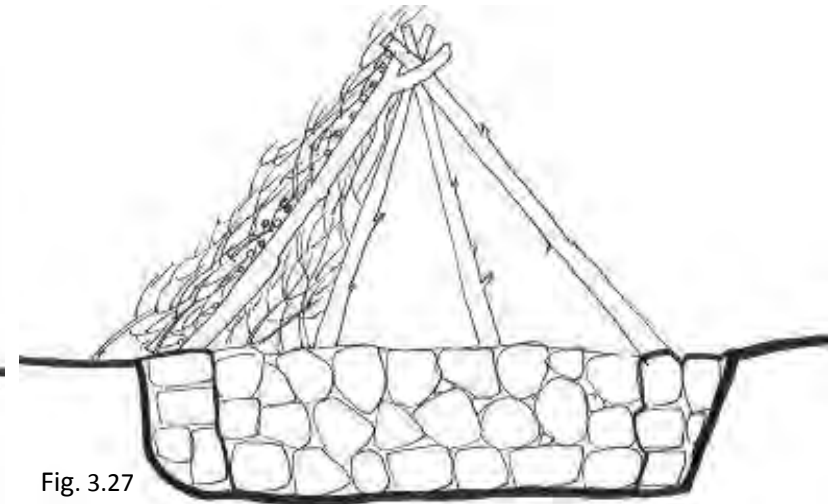


Fig. 3.27



Fig. 3.28,29,30 The style and quality of *Ābādī*'s architecture



Fig. 3.28



Fig. 3.29

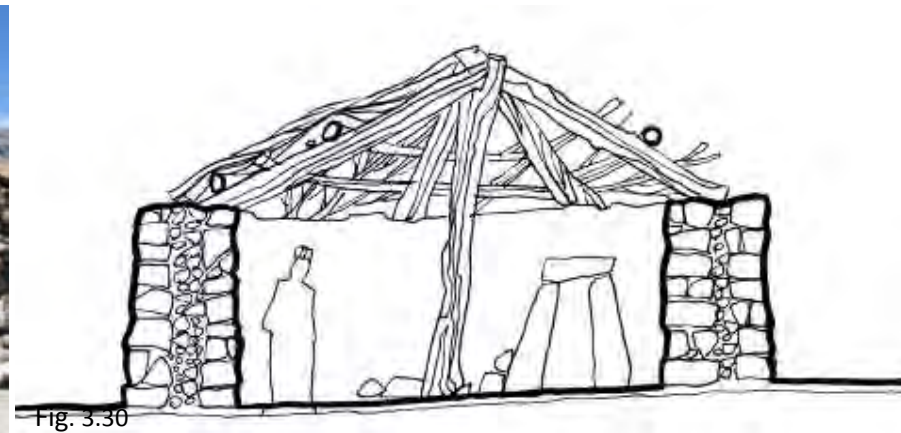


Fig. 3.30



Fig. 3.31,32,33 The style and quality of troglodyte village architecture



Fig. 3.31



Fig. 3.32



Fig. 3.33



Fig.3.34 Eshkaft-e Lāshkorgūyeh



ii: Application of troglodytes' architectural techniques: all three phases of human settlement history have connection with troglodyte architecture in some way. In *Āghols*, most of human and animal housing spaces have been created using spaces dug in the ground. *Āghols* are clear representations of 'Habitation enterrée et semi enterrée, Habitation creusée en fosses et en poche'². In *Ābādīs*, although less space have been founded by digging the ground and natural bed, and architecture forms such as *Kapar* and *Gombeh* have been created on the surface of the earth using available material, but their floor has been somehow hollowed in order to preserve them against some natural threats. Even many associated spaces such *Dīdān*, *Dūshab* workshops, flour mills and their attached troglodyte furnace, sick and weak animals treatment rooms, etc. have all been dug inside the natural bed. And finally, winter residence of villagers in form of numerous houses dug within the rock, is a complete illustration of the application of troglodyte architecture. All necessary spaces required in a residential complex have been constructed in the troglodyte village including service centers such as bath, school, mosque, and *Hosseinieh*, as well as commercial units such as dyeing shops, etc.

Religious and ceremonial rituals were practiced in *Cultural Landscape of Maymand* and its connected natural rocky grottos such as *Eshkaft-e Lāshkorgūīyeh* for a long time. Remaining pictographs and petroglyphs with a diverse range of motifs and designs witness this claim.

In Colorado of the United States, larger constructions in form of dwellings have been created in rocky structures of that region. These are considered by experts as examples of troglodyte architecture and are known as under rock dwelling or 'Habitation sous roche' in French. It can be stated therefore, that the collection of different types of troglodyte architecture applications in one region is one of exceptional features of *Cultural Landscape of Maymand*³.

² Loubes J. (1984)

³ Ashrafi, M., (2008)



(v):

Maymand is also an outstanding example of a specific natural landscape that has been transformed to a new manifestation as the result of humans' interactions with the nature. Methods of exploiting natural resources and nature's potential capacities to basic human needs such as creation of *Qanats* and mills, land use policies for creating gardens and agriculture fields, grazing approaches and pasture lands protecting methods, as well as using wild plants of the area for numerous purposes are all examples on human-nature interactions taken place in this region.

As the result of their knowledge of regions environment and natural capacities, *Maymandi* people have invented and used the most efficient, practical, natural and simplest techniques for many centuries. The most important factor has always been respect for nature and common effort to protect and preserve it. *Maymandis* land use methods and their exploitation techniques never threatened the nature and were never against it. Arrangement of gardens, agriculture fields, mills, qanats, architectural spaces, grazing policies, tool and furniture making and all other life-related issues have been in close and direct connection with the nature in the most genuine form, causing the least amount of change in the environment and natural landscape. This approach is even today visible in all aspects of *Maymandis* life and in the *Cultural Landscape of Maymand*.

Plains and pasture land management, friendly relation with other herd owners, inventing and using creative methods in order to reinforce and reviving pasture lands during drought (like hanging seed bags from animals' necks in order to spread them in the plain using less time and



energy), or planting local fruit trees among thorny bushes in order to keep them from getting eaten by animals, are all representations of important values of this site.

Urge to use available water sources such as seasonal rivers' and springs' water in this arid and dry landscape has resulted in the foundation of many gardens and villages. Numerous mills have for long times been operational in this country to ground wheat and barley and prepare flour for the main village and its neighboring settlements by intelligent utilization of little available water. Water was directed through a shaft dug inside rocky bed and created energy to move the mill stone. These and many other exploitation techniques are all examples of *Maymandis* creativity and ingenuity in utilizing available resources.

Apart from aforementioned issues, strategic location of *Maymand* in the intersection of three historical provinces of Fars, Kermanshah and Yazd has added to its exceptional quality for many centuries. *Maymand* that is now included in Kermanshah province, was once part of Yazd province. These issues point to its strong historical and cultural connections with the mentioned three provinces. On the other side, Persepolis and *Maymand* are both located on one latitude and discovery of ancient graves and other dated remains that strengthen the possibility of *Maymand's* Achaemenid background, may indicate cultural relationships between these two important sites. This theory however needs more evidence and identification of possible ancient routes. All these features, point to the important and specific location of *Maymand*.

Cultural Landscape of Maymand is one of the most ancient residential sites in Iran and the world with several thousand years old. Pre-Islamic graves and numerous pictographs and petroglyphs as well as potsherds all point to a live historical, cultural and social background enriched by many historical events. Each of mentioned pictographs and petroglyphs is unique in its own and further research on them would lead to identification of evidence towards a better understanding of human history.

Research and studies undertaken on the pottery collection from this site, verify existence of settlements dates to Achaemenid in this site and as mentioned earlier, pictographs and petroglyphs point to an earlier date of about 12000 years ago (according to Andre Leroi-Gourhan).



3.c Comparative analysis (including state of similar properties)

Introduction

Different examples of ancient troglodyte architecture – created inside natural rock and stone beds – exist in the world; each example has certain features and characteristics, which distinguish it from other similar sites.

What makes the *Maymand* complex a unique example among similar sites throughout the world is its distinctive life style and way of living: inter-regional migration and formation of architectural spaces based on this way of life. This was described with detail in the previous section. In order to give a better understanding about the *Maymand* complex and a detailed comparison between troglodyte *Maymand* and other similar sites in Iran and other countries, a comprehensive comparison study has been undertaken, which will be provided here.

Cultural landscape of *Maymand* is differentiated from other similar examples due to the following two issues:

- It contains a troglodyte and other architecture types that are in accordance with the three-phase migration lifestyle of its residents
- Co-existence of three-phase migration lifestyle and troglodyte village



First those sites that have a form of troglodyte architecture and are considered as a residential complex are examined and compared with *Maymand*. Secondly, those regions in which nomadic life style is common are introduced.

It should be noted that all of these sites are important and unique in their own turn, but the cultural landscape of *Maymand* is distinct from them due to its architectural values, landscape, continuity of co-existence of migrating life style and a permanent residency at the troglodyte space, as well as specific natural geographical conditions.

Comparable Examples with Troglodyte Architecture

■ Iran

Various examples of troglodyte- rock- architecture can be found in Iran in form of individual and hardly-accessible cases (such as chamber tombs) that have been created in rocks and mountains. Most of these sites have had ritual, religious and symbolic functions and are valuable and significant remains. Nevertheless, they have fundamental differences with the cultural landscape of *Maymand*. Among them, one can name *Kandovān* village, *Nūsh Ābād* underground town, *Karāftū* Cave, a number of ancient rock tombs in different parts of Iran, *Hīlehvar* village, *Sur* village, *Tamīn*, *Chelleh Khāneh* at *Būshehr*, Mithraism sanctuary at *Marāgheh* and many other examples. Those that are comparable with *Maymand* as a residential complex are introduced below:

- *Kandovān* Village⁴

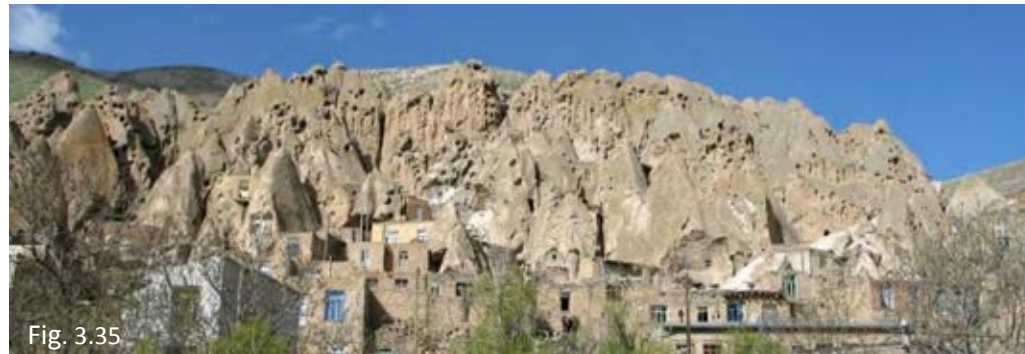
This village is located in the East *Āzerbāyjān* province in the *Oskū* Township and is the most famous troglodyte complex architectural example in Iran. The village is still populated; it is estimated that *Kandovān* is a 750 years old village. The substance economy of the villagers is herding along with rug weaving during winter. The rocks, within which the village is formed, are conical volcanic rocks known as *Kīrān* or *Qīyeh* in the local *Azerī* accent, meaning rock. Architectural spaces are three, five or even five story spaces created within these *Kīrāns* and most of them are residential units. The village's mosque is also a five story

⁴ [www.ichto.ir,\(1388/2009\)](http://www.ichto.ir,(1388/2009))



sapace, which is now destroyed. Today, the upper stories are usually residential units while in the lower ones the herds are kept. Modern structures and unsuitable constructions have severely affected the village and many threatening factors have endangered the village. Current constructions and inappropriate conversions have severely affected village's appearance. Many other threatening and damaging factors have endangered the village. Besides, schemes regarding the cultural landscape such as temporary architectures connected with the migration system are not present anymore.

Fig. 3.35,36,37,38
General view and different
spaces of *Kandovān* village



As visible in the images, this village is different from *Maymand* in form and type. Generally it is more comparable with *Cappadocia* in *Turkey*. The important point regarding *Kandovān* village is its fundamental difference with *Maymand* since *Kandovān* only exhibits sedentary life style. However, tourism pressure has caused the village to lose its original integrity and functionality and it is currently changing to a village for tourists.



Fig. 3.39 General view of *Kandovān* village



Fig. 3.40,41,42
General view and different spaces of
Kandovān village



Fig. 3.40



Fig. 3.41



Fig. 3.42



- *Hilehvar Village*⁵

This village is located about 3 kilometers before *Kandovān* and as regard its architecture it is a valuable site. However due to abandonment and natural causes has severely damaged this village. Most of its architectural spaces are now filled or got drained in some seasons. Architectural spaces in this village are representations of human and domestic animals co-living. Its troglodytes include a central residential space that from both sides leads to two large spaces for keeping herds. Existence of long mangers (*Ākhor*) in the interior spaces indicates their different function.

Fig. 3.43,44,45,46
Different spaces and general view of
Hilehvar village



Fig. 3.43



Fig. 3.44



Fig. 3.45



Fig. 3.46

***Hilehvar* village is completely different from *Maymand* as regards its form and shape, extent, the conformity between different parts of the complex, living way (*Hilehvar* has currently no population) and so on.**

⁵ Ashrafi, Mahnaz, (1381-2/2002-3)



- *Sevar Village*⁶

This village is also located in the East *Azerbāyjān* province and in *Bonāb* Township. At the first glance, Sur is a stepped village with flat roofs located in the hill slope, but after stepping inside the houses' basements we face another form of structure. In fact it can be stated that Sur is a village on top of another village. The first one is created inside the mountain in the form of grottos, each with a detailed and glorious plan that seems more complex and solid compared to other troglodyte sites in Iran. There are about 40 troglodyte units that are all connected to each other. It appears that in some stage the roofs had some lighting holes created for weather circulation and lightening. But today as a result of building new houses on their top, these holes have lost their original role.

Proximity of human and animals living spaces forms the main common point between this village and *Hīlehvar*. Here too the central space has been allocated for human residency, while long space located at both sides of it with mangers in their walls, have been assigned for livestock. A platform in the middle space separates human and animal spaces. One of the reasons for building air circulating openings in the ceiling is this spatial proximity between human and animal living spaces.

As regards the comparison between this village and *Maymand*, one can mention the ceilings of troglodyte spaces. In Sur, the curved ceilings are common, while in *Maymand* they are almost flat. Furthermore, in *Maymand*, animals' living spaces are located outside the village and herds are kept near humans' residential spaces only in special circumstances and in a limited scale. In none of *Maymand* troglodyte spaces mangers exist as extensive as they are in Sur and Hilehvar and all internal spaces have been designed according to needs and livelihood of their human residents, pointing to the location of livestock's keeping area outside these residential spaces. About 40 troglodyte spaces exist in Sur, while in *Maymand* we face more than 374 units. All these point to the fact that since its formation, *Maymand* village was a human residency site, while in Sur and Hilehvar it is not possible to define their early function as human residency sites with certainty and it seems animal keeping has been the main functional aspect at these spaces. Troglodyte spaces at Sur village are currently used as fodder storage, while in *Maymand* they have almost preserved their original function.

⁶ Ashrafi, Mahnaz, (1381-2/2002-3)



With reference to quantity and extent of the spaces, troglodytes of the Sur village are very interesting and fascinating. However compared to *Maymand*, Sur village is fundamentally different and are not comparable. As regards form and shape, structure and arrangement of the spaces, continuation of living in the troglodyte spaces, architecture and three-phase migration and so on, these two sites are completely different.



Fig. 3.47 General view of Hilehvar village



- Underground city of *Nūsh Ābād*⁷

Nūsh Ābād is located in *Īsfahan* Province, in central part of *Ārān and Bīdgol* Township, 900 m.a.s.l.

The underground town (Owyī) is located beneath the current town and has been created in troglodyte form with thousands of meters area in order to keep its residents from assailant's attacks. Different spaces such as rooms, corridors, wells and canals have been dug 4-18 meters below the surface. Access routes leading to the underground town have been constructed in hidden forms. Their entrances are located inside houses, in the mud brick castle, or along the water canals passing beneath houses, *qanat* canals, gardens' and mosques' wells, bazaars and busy parts of the town or where easy access was possible in order to provide quick access to the underground town. In some of the old houses, a well has been constructed in the kitchen that made access to the underground town easy. The well's mouth was covered with a baking oven; a baked palette was put in the bottom of the oven and then covered with ashes. In dangerous and unsafe times, residents of the house could escape toward the underground town through this oven-well and then block it in order to hide their escape way. Along the underground town main passageway, a number of troglodyte rooms were dug as temporary residents. The rooms are lined up next to each other and are connected through angled corridors which guarantee their privacy. 70 cm below the ceiling of each room in 1 meter intervals, niches have been dug in the walls to put lighting devices such as candles and fat burners. Several 700 years old fat burners discovered in these spaces indicate their long occupation history.

It is believed that these structures were made during the *Sāsānīān* and early Islamic period and were used during later periods of *Saljūqīs* and *Safavīd* up to this valuable complex has been registered in 2006 in the National Heritage List, property No. 15816.

Nūsh Ābād troglodyte complex, like many other similar examples, is not currently inhabited and functional. In addition due to its location under the surface (no outer front elevation), spaces plans, different lifestyle and architectural forms is completely different from the cultural landscape of *Maymand*.

⁷ www.ichto.ir, (1389/2010)



Fig. 3.48,49,50
Different views of Nūsh Ābād underground city



Fig. 3.48



Fig. 3.49



Fig. 3.50



- *Karaftū Cave*⁸

This important cave site of Iran is located in Kurdistan province, 72 km to the east of *Saqez* and north of *Dīvāndareh* townships, with 12 km distance from *Karaftū* district and village. The main access route leading to the cave is through *Tekāb* road. After *Gūrbābā Ali* and 4 km after *Yūzbāsh Kandī*, village one can reach the site. The main entrance of cave is located with 25 km distance from the mountain slope. Geologically, *Karaftū* cave was located under water during Mesozoic period (lasted 150 million years), and during late Mesozoic period mountain ranges in which *Karaftū* is located, came above water level. *Karaftū* is a limestone cave and due to human occupation of the cave during different periods, its structure has been changed in many ways. Water still exists in this cave and one should ride small boats in some areas of the cave in order to visit those parts. One of the important attractions of the site is the pictographs (showing human, animal and plant designs). The cave length is about 750 meters and numerous secondary branches derive from it. Architecturally, the cave has four main floors. Archaeological team working in the site named the fourth floor by Hermitage Hall due to its splendor and view. At this level, the ceiling of the hall resembles that of music hall (acoustic ceilings) due to natural uneven deformations. A Greek inscription has been created above a doorway. The cave has been identified as Hercules temple by some scholars according to this inscription. It is read as follows: “Hercules lives here and may the evilness do not enter his domain”. *Karaftū* cave was visited by Sir Robert Kerporter in 1818, who first read this inscription. In 1838, Henry Rawlinson re-visited the cave and corrected Kerporter’s reading. In 1964, Sir Aurel Stein and his surveyor *Ayūb Khān* visited the site and prepared a map of the rooms, corridor and natural passages. Stein’s map is not however accurate since at that time the cave was not fully cleared of the accumulated top soil and dirt. In winter 2000, archaeological investigations started at *Karaftū* cave. Archaeological surveys inside and outside the cave indicated existence of different period settlements in the cave. Prehistoric litchis were discovered in the fourth floor of and from outside the cave. Potsherds dated to Parthian and *Sāsānīān* up to 6-8th centuries A.H. (9-11 A.D.) period were also found. *Karaftū* cave has been registered in the National Heritage List under no. 440.

⁸ www.ichto.ir, (1389/2010)



As mentioned in this part and as visible in the images, *Karaftū* cave is now a site-museum with no residential functionality. Its area, landscape, living style, architectural forms and spaces are completely different from the cultural landscape of *Maymand*, with the latter being a more complete and extended residential complex in comparison.



Fig. 3.51 General view of *Karaftū* cave



Fig. 3.52



Fig. 3.53



Fig. 3.54



Fig. 3.55

Fig. 3.52,53,54,55,56
Different spaces of Karaftü
cave



Fig. 3.56



- *Qorveh Village*⁹

This village is located in *Zanjān* province near *Abhar* city. It is established on the remains of an ancient rock. Today the residential section of the village is extended in the new part and the troglodyte sections have become upper village's rubbish collecting site. Similarities between this village and *Maymand* are more than previous cases.

- *Vīnd Village*¹⁰

This village is located in the border area between East *Āzerbāyjān* province and *Ardebīl*, 5 km from *Sare'īn* city. Today the troglodyte village is abandoned and the population resides in a new village below the troglodyte one. In the troglodytes, the spaces for human residence and those for keeping herds are created at different levels.

- Other Parts of Iran

Troglodyte architecture has examples in other part of Iran like at *Chelleh Khāneh* in *Būshehr*, Zoroastrian (*Gabrī*) grottoes in *Khārk* Island, *Tamīn* village in *Sīstān* and *Balūchestān* province, Zoroastrian (*Gabrī*) houses around *Tabas*, similar sites near *Ābesk*, and

***Maymand*, however, is a different and significant case among all the above-mentioned sites due to its extension, continuity of its original life style in the village and the surrounding environment as well as its capacity to respond to different residential requirements.**

⁹ Ashrafi, Mahnaz, (1381-2/2002-3)

¹⁰ Ashrafi, Mahnaz, (1381-2/2002-3)

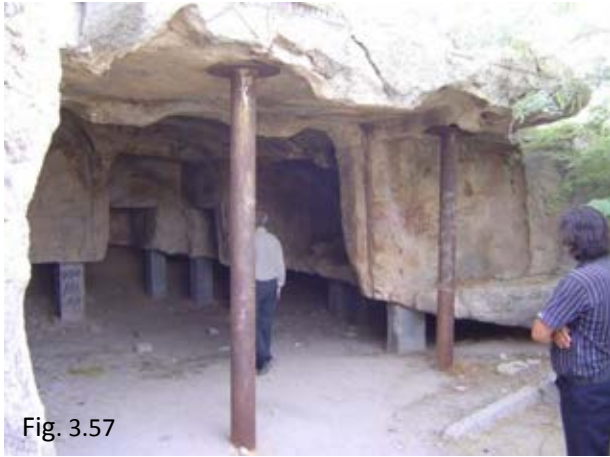


Fig. 3.57



Fig. 3.58



Fig. 3.57,58,59
Different view of Pālmīrān temple in
Khārk Island



Fig. 3.60,61,62
Different view of Tamīn village

Fig. 3.60



Fig. 3.61



Fig. 3.62



Fig. 3.63 Table showing summarizing the comparison between The Cultural Landscape of *Maymand* and other similar sites in Iran

Site Name	Location	Similarities	Differentiations
<i>Kandovān</i>	East Āzerbāyjān- <i>Oskū</i>	-troglodyte architecture -populated	- landscape -number of each residential unit and internal special division of troglodyte -new buildings and constructions - absence of three-phase migration and the related architectural spaces
<i>Hīlehvar</i>	East Āzerbāyjān- <i>Oskū</i>	-troglodyte architecture -Bed rock type -access way to the troglodyte space	-absence of human occupation and domination of herding way of life in the past -smaller covering area -less harmony - absence of three-phase migration and the related architectural spaces
<i>Sevar</i>	East Āzerbāyjān- <i>Bonāb</i>	-troglodyte architecture	-landscape - size and design of the internal space of troglodytes -new constructions on top of troglodytes - absence of three-phase migration and the related architectural spaces -desertion of troglodyte spaces
<i>Qorveh</i>	<i>Zanjān-Abhar</i>	-troglodyte architecture -expansion along a linear pattern on both sides of a valley	- desertion of troglodyte spaces - new constructions on top of troglodytes - absence of three-phase migration and the related architectural spaces
<i>Nūsh Ābād</i>	<i>Īsfahan-Ārān and Bīdgol</i>	-Troglodyte Architecture	-Landscape - Form and type of its natural bed -Functional difference and lack of human residency
<i>Karaftū cave</i>	<i>Kūrdīstān-Marīvān</i>	-Troglodyte Architecture	-Landscape - Smaller area -Functional difference and lack of human residency - Architectural forms and types, lighting techniques, number of levels, ...



- **World**

Caves might have been mans' first architectural spaces. There are examples of natural caves in Iran and other countries such as Lasco or Altamira caves that are representations of the early humans' dwellings.

Egyptian pyramids, Iranian and Mesopotamian ziggurats and Mithraism temples and Christian Catacombs are all imitations of natural caves.

It has been suggested that the oldest example of troglodyte architecture was developed first in the Asia Minor and Near East.

In Minorca at Spain there exist several rock tombs with an oval plan. In Polymerio at Siroccos, dated to the European Bronze age, spaces have been carved inside the mountain with a circular plan with joining minor spaces. In Sardinia there are houses and tombs - locally known as Witches - dated to 2000 years ago. In Greece in Delphi at Castalia beside Antique Spring as well as in Etruria region in Italy and Goya in southern England there are holes carved inside the mountains.

There are villages near Tripoli where people still reside in rock houses.

In Africa in Ethiopia at Lalibala and Kargar regions, numerous 12th century churches have been dug inside the mountains.

In Asia there are more examples of rock architecture. There were about 200 rock tombs in Jerusalem. Asia Minor is one of the main regions as regards the rock architecture. We can name examples of such architecture in modern Turkey at Pontus, Cappadocia, Phrygia, Lydia and Paphlagon. In Eski Dogubayazit near Erzurum-Bazargan road, 5 km to the east of Turkish border town of Dogoba Yezid, there is a rock tomb from the 8th-7th century B.C.

Rock architecture in Indian sub-continent has begun since about 200 B.C. and continued up to 9th century A.D. Here, rock architecture has a close link with religious rituals.¹¹

Matera in southern Italy, Cappadocia in Turkey and Petra in Jordan are comparable sites with troglodyte architecture.

¹¹ Hodayun, Gh., (1361/1982)



A number of world's troglodyte architecture sites that are in some aspect comparable with the cultural landscape of *Maymand* are examined below. Among them one can name Petra in Jordan, Cappadocia in Turkey, and Santorin in Greece and Huang Ho (Yellow River) villages in China.

- *Cappadocia*¹²

Ancient name for the country between the rivers Halys and Euphrates, today central Turkey.

The name was traditionally used in Christian sources throughout history and is still widely used as an international tourism concept to define a region of exceptional natural wonders characterized by fairy chimneys and a unique historical and cultural heritage. The term, as used in tourism, roughly corresponds to present-day Nevşehir Province of Turkey.

Cappadocia's limits are debated. In the time of Herodotus, the Cappadocians are supposed to have occupied the whole region from Mount Taurus to the vicinity of the Euxine (Black Sea). Cappadocia, in this sense, was bounded in the south by the chain of Mount Taurus, to the east by the Euphrates, to the north by Pontus, and to the west by Lake Tuz, in Central Anatolia. But Strabo, the only ancient author to provide a major account of the area, greatly exaggerated its dimensions. It is now believed that 400 km (250 mi) east-west by 200 km (120 mi) north-south is a more realistic appraisal of Cappadocia's area.

The earliest record of the name of Cappadocia dates from the late 6th century BC, when it appears in the trilingual inscriptions of two early Achaemenid kings, Darius I and Xerxes, as one of the countries (Old Persian *dahyu*) which are part of the Persian Empire. In these lists of countries, the Old Persian name is *Katpatuka*, but it is clearly not a native Persian word. The Elamite and Akkadian language versions of the inscriptions contain a similar name from Akkadian *katpa* "side" (cf. Heb *katēf*) and a chief or ancestor's name, *Tuka*.

Herodotus tells us that the name of the Cappadocians was applied to them by the Persians, while they were termed by the Greeks as "Syrians" or "White Syrians" (*Leucosyri*).

¹² www.worldheritagesite.org, (1388/2009)



Fig. 3.64 A view of Cappadocia



Fig. 3.65 The map of Cappadocia in 15th century





Fig. 3.66,67,68
General view of cappadocia



Fig. 3.66



Fig. 3.67



Fig. 3.68



Fig. 3.69

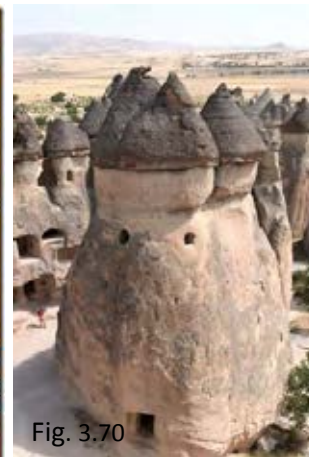


Fig. 3.70



Fig. 3.71

Fig. 3.69 An interior space in Cappadocia
Fig. 3.70 A overall view of rocks in
Cappadocia

Fig. 3.71 A Cappadocian (relief from the
eastern stairs of the *Appādānā* of
Persepolis



Cappadocia is also mentioned in the Biblical account given in the book of Acts 2:9. The Cappadocians were named as one group hearing the Gospel account from Galileans in their own language on the day of Pentecost shortly after the resurrection of Jesus Christ. Acts 2:5 seems to suggest that the Cappadocians in this account were "God-fearing Jews".

The Cappadocians, supported by Rome against Mithridates VI of Pontus, elected a native lord, Armenian troops under Tigranes the Great (Tigran) entered Cappadocia, dethroned king Ariobarzanes and crowned Gordios as the new client-king of Cappadocia, thus creating a buffer zone against the encroaching Romans. It was not until Rome had deposed the Pontic and Armenian kings that the rule of Ariobarzanes was established (63 BC). In the civil wars Cappadocia was now for Pompey, now for Caesar, now for Antony, now against him.

The Ariobarzanes dynasty came to an end and a certain Archelaus reigned in its stead, by favor first of Antony and then of Octavian, and maintained tributary independence until 17 AD, when the emperor Tiberius, on Archelaus' death in disgrace, reduced Cappadocia at last to a Roman province. Much later it was a region of the Byzantine Empire.

Cappadocia shared an always changing relation with the neighboring Armenia, by that time a region of the Empire. The Arab historian Abu Al Faraj purports the following about Armenian settlers in Sivas, during the 10th century: "Sivas, in Cappadocia, was dominated by the Armenians and their numbers became so many that they became vital members of the imperial armies. These Armenians were used as watch-posts in strong fortresses, taken from the Arabs. They distinguished themselves as experienced infantry soldiers in the imperial army and were constantly fighting with outstanding courage and success by the side of the Romans in other words Byzantine". As a result of the Byzantine military campaigns, the Armenians spread into Cappadocia and eastward from Cilicia into the mountainous areas of northern Syria and Mesopotamia. This immigration was increased further after the decline of the local imperial power and the establishment of the Crusader States following the Fourth Crusade. Cappadocia became part of the Armenian Kingdom of Cilicia, a state formed in the 12th century by Armenian refugees fleeing the Seljuk invasion of Armenia and a close ally of the Crusaders.

Following the Battle of Manzikert in 1071, various Turkish clans under the leadership of the Seljuks began settling in Anatolia. With the rise of Turkish power in Anatolia, Cappadocia slowly became tributary to the Turkish states that were established to the east and to the west, and some of the population converted to Islam. By the end of the early 12th century, Anatolian Seljuks had



established their sole dominance over the region. With the decline and the fall of the Konya-based Seljuks in the second half of the 13th century, they were gradually replaced by the Karaman-based Beylik of Karamanoğlu, who themselves were gradually succeeded by the Ottoman Empire over the course of the 15th century. Cappadocia remained part of the Ottoman Empire for the centuries to come, and remains now part of the modern state of Turkey. A fundamental change occurred in between when a new urban center, Nevşehir, was founded in the early 18th century by a grand vizier who was a native of the locality (Nevşehirli Damat İbrahim Pasha), to serve as regional capital, a role the city continues to assume to this day.



Fig. 3.72,73,74,75 Painting of interior spaces of rocky church in Cappadocia



In the meantime many former Cappadocians had shifted to a Turkish dialect (written in Greek alphabet, Karamanlıca), and where the Greek language was maintained (Sille, villages near Kayseri, Pharasa town and other nearby villages), it became heavily influenced by the surrounding Turkish. This dialect of Greek is known as Cappadocian Greek. Following the 1923 population exchange between Greece and Turkey, the language is now only spoken by a handful of the former population's descendants in modern Greece.

The Cappadocia region is largely underlain by sedimentary rocks formed in lakes and streams, and ignimbrite deposits erupted from ancient volcanoes approximately 9 to 3 million years ago (late Miocene to Pliocene epochs). The rocks of Cappadocia near Göreme eroded into hundreds of spectacular pillars and minaret-like forms. The volcanic deposits are soft rocks that the people of the villages at the heart of the Cappadocia Region carved out to form houses, churches, monasteries. Göreme became a monastic center between 300—1200 AD. First period settlement in Göreme reaches to the Roman period from Christianity. Yusuf Koç, Ortahane, Durmus Kadir and Bezirhane churches in Göreme, houses and churches carved into rocks till to Uzundere, Bağıldere and Zemi Valley carries the mystical side of history today. The Göreme Open Air Museum is the most visited site of the monastic communities in Cappadocia and is one of the most famous sites in central Turkey. It is a complex comprising more than 30 rock-carved churches and chapels containing some superb frescoes, dating from the 9th to the 11th centuries.

Underground Cities

Although referred to as "cities", the underground communities of Cappadocia probably served as temporary shelters rather than as permanent hidden cities. The incessant darkness is hardly conducive to life and some of the passageways are little more than crawling spaces that would have been intolerable in long-term situations. No one is certain as to the number of underground communities that exist or even by whom they were built. The two largest communities that have been unearthed are located at Kaymakli and Derinkuyu, 20 and 30 km. South of Nevsehir on the Nevsehir-Nigde road. It is thought that the Hittites may have excavated the first few levels in the rock when they came under attack from the Phrygians around 1200 BC. However, some with stone rather than metal tools are substantially older. These chambers were later expanded into an extensive troglodytic complex by Christians escaping the Arab invasions of the 7th and 8th centuries.



Discreet entrances give way to elaborate subterranean systems with air shafts, waste shafts, wells, chimneys and connecting passageways. The upper levels were used for living quarters while the lower levels were used for storage, wine making, flour grinding and worship in simple chapels. Everywhere, walls have been blackened from the use of torches. There is a connecting tunnel between Kaymakli and Derinkuyu that allowed three people to walk through at the same time but it is not available to the public as parts of the tunnel have collapsed.

Fig. 3.76,77,78 Different views of Derinkuyu



Fig. 3.76



Fig. 3.77



Fig. 3.78

Only 10 km to the east of Kaymakli is another cave town at Māzīkoy that may be connected with Derinkuyu but this remains to be proven. This community was built within the walls of a cliff. Unlike Kaymakli and Derinkuyu, there are no stairs or grades that pass from one level to the next. Instead, the different levels are well defined with connecting tunnels through which people climbed up or let themselves down by means of footholds carved into the walls of the shafts. Mazikoy is often bypassed because it is a smaller community, its location is away from the main road and certain agility is required to fully appreciate its features.



Similarities and differences between Maymand and Cappadocia:

Similarity:

Troglodyte architecture and spaces

Differentiation:

-Extent and Size: Cappadocia rocks cover a large area but *Maymand* troglodytes have been formed in a limited and specific area.

-Rocks' Form and Shape: Cappadocia rocks are conical and there are formed on the ground, while in *Maymand* there is no item above the ground level. There is no visible sign of settlement and existence of a human living complex in *Maymand* before entering the village.

- Function: *Maymand* troglodyte is a completely indigenous organic complex created for human settlement not for ritual and religious purposes. In Cappadocia however, troglodyte spaces were created as churches decorated with religious symbols.

-Unsuitable constructions and changes in Cappadocia has affected the balance and harmony of the site and it is only due to its large area that the site is seen as a united harmonized complex but in *Maymand* the unity and originality of the site is in reality preserved and unchanged.

- Cappadocia is currently a museum, tourist attraction site but in *Maymand* in spite of all related problems and difficulties, traditional way of life is still practiced.

-Architectural spaces in Cappadocia is restricted to troglodyte spaces but in *Maymand* as a result of its specific way of life there are three different architectural spaces.



- *Matera*¹³

This is the most outstanding, intact example of a troglodyte settlement in the Mediterranean region, inhabited zone dates from the Palaeolithic, while later settlements illustrate a number of significant stages in human history.

Matera is in the southern region of Basilicata. The city was allegedly founded by the Romans in the 3rd century BC, with the name of Matheola after the consul Lucius Caecilius Metellus.

Fig. 3.79,80 General view of
Matera



Fig. 3.79



Fig. 3.80

In 664 AD Matera was conquered by the Lombards and became part of the Duchy of Benevento. In the 7th and 8th centuries the nearby grottos were colonized by both Benedictine and Greek-Orthodox monastic institutions.

The 9th and 10th centuries were characterized by the struggle between Saracens, Byzantines and the German emperors, including Louis II, who destroyed the city. After the settlement of the Normans in Apulia, Matera was ruled by William Iron-Arm from 1043.

¹³ www.worldheritagesite.org, (1388/2009)



After a short communal phase and a series of pestilences and earthquakes, the city in the fifteenth century became an Aragonese possession, and was given in fief to the barons of the Tramontano family. In 1514, however, the population rebelled against the oppression and killed Count Giovanni Carlo Tramontano. In the seventeenth century Matera was handed over to the Orsini and then became part of the Terre d'Otranto di Puglia. Later it was capital of Basilicata, a position it retained until 1806, when Joseph Bonaparte reassigned it to Potenza.

In 1927 it became capital of the Matera province. On September 21, 1943, the Materani rose against the German occupation, the first Italian city to fight against the Wehrmacht.

Matera has gained international fame for its "Sassi". The Sassi originate from a prehistoric (troglodyte) settlement, and are suspected to be some of the first human settlements in Italy. They are composed of the Sasso Caveoso and the later Sasso Barisano.

The Sassi are houses dug into the tuff rock itself, which is characteristic of Basilicata and Puglia. The ancient town grew in height on one slope of the ravine created by a river that is now a small stream. The ravine is known locally as "la Gravina". The numerous natural caves in Matera were the first houses of the Neolithic inhabitants of the region, who transformed the natural landscape into new forms of architecture.

Fig. 3.81,82,83 Different spaces of Matera



Fig. 3.81

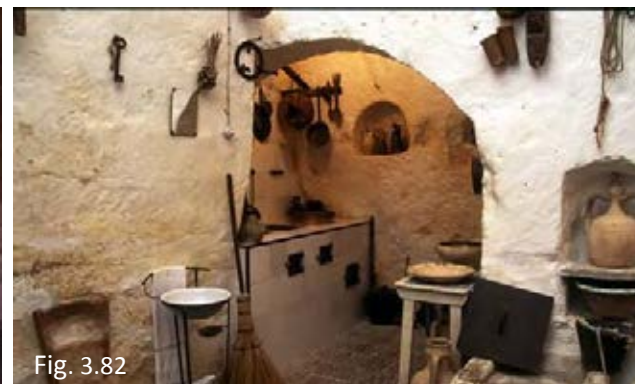


Fig. 3.82



Fig. 3.83



Caves are carved out one above the other and arranged in a seemingly chaotic way until it is realized that the caves are really a labyrinth of houses. The roof of one house may appear as a road, a stairway, a garden or as the floor of yet another house.

Walking through the old city, many chimneys sprout out of the road, and you find yourself walking on the roofs of other houses.

In the 1950s, the government of Italy forcefully relocated most of the population of the Sassi to areas of the developing modern city. However, people continued to live in the Sassi, and according to the English Fodor's guide:

"Matera is the only place in the world where people can boast to be still living in the same houses of their ancestors of 9,000 years ago."

Until the late 1980s this was considered an area of poverty, since these houses were, and in most areas still are, mostly unlivable. Current local administration, however, has become more tourism-oriented, and has promoted the re-generation of the Sassi with the aid of the European Union, the government, UNESCO, and Hollywood. Today there are many thriving businesses, pubs, and hotels.

Matera was developed by its inhabitants over the centuries in a manner that is now called "Spontaneous Architecture" due to the way the city conforms to the natural environment while revealing many very sophisticated and elegant styles. This form of architecture strikes the attention of visitors arriving in the city, as it creates a surreal landscape reminiscent of the emotions stirred before certain modern abstract paintings.

Amidst the rocks of Matera, Byzantine churches carved into the rock are adorned with religious paintings on ancient walls eroded by time. Before these unique churches one feels transfixed in a place where time seems to have stopped - in sacred time.

The face of Matera has been changed as much by rapid increases in population as by a series of crises in agriculture. In addition, the construction of more modern residences on the periphery of the city have made it more and more difficult to provide water to the old residential center of Matera - effectively drying the life out of the ancient city.



Some ancient wells were emptied and used to expand livable space. Indeed, some wells ended up being turned into residences over time. Due to the nature of the rocky landscape it has been practically impossible to construct water or sewage systems. Houses were abandoned and unmaintained, often alternating in sheltering people and farm animals. Many rocky churches were transformed from places of worship into houses, and the situation continued to deteriorate through the 1940's.

The Italian government - having noted the deteriorating conditions in this historic city - pronounced that it would be illegal for inhabitants to continue to live in this manner. It decided to offer inhabitants new houses in exchange for abandoning their ancient residences.

Only the richest inhabitants benefited from this situation, as they could afford to purchase the new houses built by the government while refusing the offer to give up their ancient properties. Therefore, only the most wealthy maintained ownership in the old city.

For about 15 years, more than 18,000 people abandoned their old properties in order to move to new outlying districts, and the evacuation of the historical center took place. Matera was now a lively city with a completely dead center. The ancient city of Matera became one of the greatest completely abandoned historical centers in the world.

Today, local authorities and environmental associations are fighting to preserve Matera from the annoying invasion of tour operators who would violate - along with the inevitable onset of mass tourism - the sacred space and magical atmosphere of the place.



Similarities and differences between *Maymand* and *Matera*

Similarity:

Troglodyte architecture and spaces

Differentiation:

-form and type of the bed ground

-Spatial organization

-Domination of religious function of the spaces in the past

-General landscape; covering troglodyte spaces with other hand-made structures

-Volume of the changes occurred in the spacial structure of the site

-living style and life cycle

Fig. 3.84 General view of
Matera





- *Syracuse and the Rocky Necropolis of Pantalica*¹⁴

The site consists of two separate elements, containing outstanding vestiges dating back to Greek and Roman times: The Necropolis of Pantalica contains over 5,000 tombs cut into the rock near open stone quarries, most of them dating from the 13th to 7th centuries BC. Vestiges of the Byzantine era also remain in the area, notably the foundations of the Anaktoron (Prince's Palace). The other part of the property, Ancient Syracuse, includes the nucleus of the city's foundation as Ortygia by Greeks from Corinth in the 8th century BC. The site of the city, which Cicero described as 'the greatest Greek city and the most beautiful of all', retains vestiges such as the Temple of Athena (5th century BC, later transformed to serve as a cathedral), a Greek theatre, a Roman amphitheatre, a fort and more.

Many remains bear witness to the troubled history of Sicily, from the Byzantines to the Bourbons, interspersed with the Arabo-Muslims, the Normans, Frederick II of the Hohenstaufen dynasty (1197–1250), the Aragons and the Kingdom of the Two Sicilians. Historic Syracuse offers a unique testimony to the development of Mediterranean civilization over three millennia.

Pantalica is found near the Anapo River and the Ferla and Sortino localities in a canyon not too far from Siracusa. The site is famous for its necropolis carved in squared forms into the limestone. Numbering around five thousand, the tombs were carved beginning in the twelfth century BC (BCE). This is one of the oldest archeological sites in Sicily, and was largely abandoned by the time the Greeks settled the area in the seventh century BC, but in the middle Ages the Arabs established a community here. By 800 BC these communities flourished westward in the area of the Sicanian Mountains which bear their name. Cefalù's Temple of Diana was built by Sicanians.



Fig. 3.85 Tombs of Pantalica

¹⁴ www.worldheritagesite.org, (1388/2009)



One of the earliest structures at Pantalica, the Anaktoron, is a megalithic building which may have been influenced by Mycenaean architecture. We know that there were Mycenaean settlements along Sicily's Ionian coast, and this suggests close contact between them and the native Sicanians. Though Pantalica itself is a cemetery, there were settlements nearby. Not many certainties can be deduced about the ancient people of the Pantalica area. Other Mediterranean cultures (for example the Egyptians) were far more advanced. As so often happens in historical studies, what we know is eclipsed by what we do not know.

There are a few necropolis carved in circular forms, and in fact the tombs of Pantalica are linked to two periods of exceptional development. Pantalica is a very natural setting for these tombs. The gorge formed by the Anapo and Calcinara is a focal point of natural beauty, both flora and fauna.

Fig. 3.86 Necropolis caved in squared forms into the limestone



Pantalica, identified as the ancient Hybla (founded, it is alleged, as Megara Hyblaea in 728 BC by a group of colonists from Megara with the blessing of their last king Hyblon), has been inhabited since the Bronze Age. Towards the middle of the 13C BC, the Sicani moved inland from their original settlements in the coastal regions to a chosen site at Pantalica, for the coast at this time was subjected to attack and regular waves of settlers, and therefore no longer secure. The narrow valley through which ran the Anapo river, together with the Cavagrande (which becomes Calcinara in its final section) were naturally defensible in that they comprised two deep gorges with one means of access (the saddle of Filiporto, to the west); furthermore, the area was provided with

two rivers that were considered of inestimable value.

Today, little survives of the original town, which was probably destroyed by the Syracusans before the foundation of Akrai in 664 BC, save for an incredible number of tombs in the steep limestone cliffs (excavated at the cost of huge efforts, probably using bronze or stone axes, given that iron had not yet been discovered). New life was breathed into Pantalica by the Byzantines, who installed small communities in rock-hewn dwellings there. It is probable that the site continued to be occupied during the Arab



and Norman periods before being completely abandoned until the beginning of the 20C when the archaeologist Paolo Orsi began excavating.

Fig. 3.87 A view of one tomb



- *Bamiyan Cultural Landscape*¹⁵

The cultural landscape and archaeological remains of the Bamiyan Valley represent the artistic and religious developments which from the 1st to the 13th centuries characterized ancient Bactria, integrating various cultural influences into the Gandhara school of Buddhist art. The area contains numerous Buddhist monastic ensembles and sanctuaries, as well as fortified edifices from the Islamic period. The site is also testimony to the tragic destruction by the Taliban of the two standing Buddha statues, which shook the world in March 2001. The Initiates of the Fourth Race Atlanteans built the fantastic *Bamiyan* statues 200 kilometers northwest of the City of Kabul.

¹⁵ www.worldheritagesite.org, (1388/2009)



Fig. 3.88 An overall view of Bamiyan Cultural Landscape



Many statues of Buddha are carved into the sides of cliffs facing *Bamiyan* city. The two most prominent of these statues were standing Buddhist, now known as the Buddhist of *Bamiyan*, measuring 55 and 37 meters high respectively, that were the largest examples of standing Buddha carvings in the world. They were probably erected in the 4th or 5th century. They were cultural landmarks for many years and are listed among UNESCO's World Heritage Sites. In March 2001 the Taliban government decreed that the statues were idolatrous and ordered them to be demolished with anti-aircraft artillery and explosives.

The Buddhist remains at *Bamiyan* were included on the 2008 World Monuments Watch List of the 100 Most Endangered Sites by the World Monuments Fund. It is hoped that the listing will put continued national and international attention on the site as a whole (including, but not limited to, the statues) in order to ensure its long-term preservation, and to make certain that future restoration efforts maintain the authenticity of the site and that proper preservation practices are followed.

Bamiyan is also known for its natural beauty. The Band-e Amir lakes in western *Bamiyan* province continue to be a tourist destination for Afghans.

Fig. 3.89 A general view of *Bamiyan* Cultural Landscape





Fig. 3.90,91,92,93 Different view of Bamiyan Cultural Landscape



Fig. 3.90



Fig. 3.91



Fig. 3.92



Fig. 3.93

- *Petra*¹⁶

Petra, meaning "rock" in Greek, was built in 200 BC as the capital of the Nabataean Kingdom. Inhabited since prehistoric times, this Nabataean caravan-city, situated between the Red Sea and the Dead Sea, was an important crossroads between Arabia, Egypt and Syria-Phoenicia. Petra is half-built, half-carved into the rock, and is surrounded by mountains riddled with passages and gorges. It is one of the world's most famous archaeological sites, where ancient Eastern traditions blend with Hellenistic architecture. Lying on the slope of Mount Hor in a basin among the mountains which form the eastern flank of Arabah (Wadi Araba), the large valley running from the Dead Sea to the Gulf of Aqaba. It is renowned for its rock-cut architecture. Petra is also one of the New Seven Wonders of the World. The Nabataeans constructed it as their capital city around 100 BCE. The site remained unknown to the Western world until 1812, when it was introduced to the West by Swiss explorer Johann Ludwig Burckhardt. It was famously described as "a rose-red city half as old as time" in a Newdigate prize-winning sonnet by The site remained unknown to the Western world until 1812, when it was introduced to the West by Swiss explorer Johann Ludwig

¹⁶ <http://sacredsites.com>, (1388/2009)



Burckhardt. It was famously described as "a rose-red city half as old as time" in a Newdigate prize-winning sonnet by John William Burgon. UNESCO has described it as "one of the most precious cultural properties of man's cultural heritage." In 1985, Petra was designated a World Heritage Site.

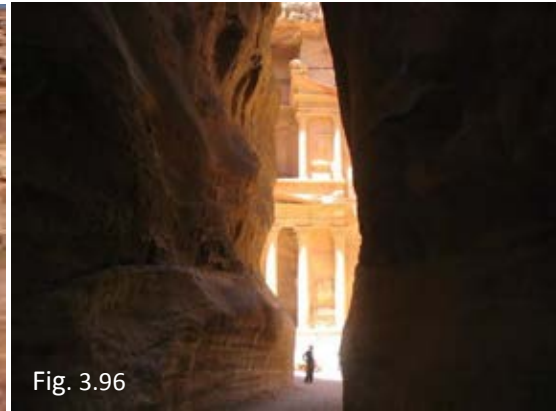
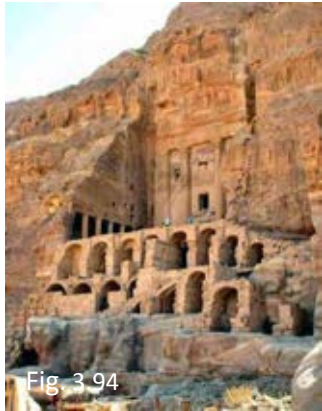


Fig. 3.94,95,96,97 Different view of Petra

- *Indian Rock Architecture*¹⁷

Indian rock architecture is more various and found in greater abundance than any other form of rock-cut architecture around the world. Indian rock-cut architecture is mostly religious in nature. In India, caves have long been regarded as places of sanctity. Caves that were enlarged or entirely man-made were felt to hold the same sanctity as natural caves. In fact the sanctuary in all Indian religious structures, even free standing ones, retain the same cave-like feeling of sacredness, being small and dark without natural light.

¹⁷ www.worldheritagesite.org, (1388/2009)



The Oldest Caves is the *Barabar* caves, Bihar built around 3rd Century BC, other early cave temples are found in the western Deccan, mostly Buddhist shrines and monasteries, dating between 100 BC and 170 AD. They were probably preceded as well as accompanied by wooden structures which are destroyed over time while stone endures. Throughout the history of rock-cut temples, the elements of wooden construction have been retained.

Skilled craftsmen learned to mimic timber texture, grain and structure. The earliest cave temples include the *Bhaja* Caves, the *Karla* Caves, the *Bedse* Caves, the *Kanheri* Caves and some of the *Ajanta* Caves. Relics found in these caves suggest an important connection between the religious and the commercial, as Buddhist missionaries often accompanied traders on the busy international trading routes through India. Some of the more sumptuous cave temples, commissioned by wealthy traders, included pillars, arches, and elaborate facades during the time maritime trade boomed between the Roman Empire and south-east Asia.



Fig. 3.98 General view of Ajanta caves



Fig. 3.99 General view of Ellora caves

Although free standing structural temples were being built by the 5th century, rock-cut cave temples continued to be built in parallel. Later rock-cut cave architecture became more sophisticated as in the *Ellora* Caves, culminating ultimately the monolithic *Kailash* Temple. After this, rock-cut architecture became almost totally structural in nature (although cave temples continued to be built until the 12th century), made from rocks cut into bricks and built as free standing constructions. *Kailash* was the last spectacular rock-cut excavated temple.



- **Chinese Rock Architecture**¹⁸
 - *Longmen Grottoes*

The *Longmen Grottoes* or *Longmen Caves* are located 12 km south of present day *Luòyáng* in *Hénán* province, China. The grottoes, which overwhelmingly depict Buddhist subjects, are densely dotted along the two mountains: *Xiangshan* (to the east) and *Longmenshan* (to the west). The Yi River flows northward between them. For this reason, the area used to be called *Yique* (The Gate of the Yi River). From north to south, the distance covered by grottoes is about one km. Along with the *Mogao Caves* and *Yungang Grottoes*; the *Longmen Grottoes* are one of the three most famous ancient sculptural sites in China.

There are over 2100 niches, more than 100,000 statues, some 40 pagodas and 3600 tablets and steles in the caves of *Guyang*, *Binyang* and *Lianhua*.

Construction of the grottoes themselves began in 493AC. According to the *Longmen Caves Research Institute*, there are 2345 caves and niches, 2800 inscriptions, 43 pagodas and over 100,000 Buddhist images at the site. 30% of the caves date from the Northern Wei Dynasty, 60% from the Tang Dynasty, and caves from other periods less than 10%. It is the most impressive collection of Chinese art from these dynasties, and, dating from 316 to 907 CE, represents the zenith of stone carving in China.

The area was inscribed on the UNESCO World Heritage List in November 2000. According to the inscription the *Longmen Grottoes* are an illustration of "...the perfection of a long-established art form which was to play a highly significant role in the cultural evolution of this region of Asia.

¹⁸ www.worldheritagesite.org, (1388/2009)



Fig. 3.100 Longman Grottoes from southeast



Cave temples like this, which are replicas of temples on the ground, originate in India. Its most prominent examples there are the Ajanta and *Ellora* Caves. The concept came to China together with the spread of Buddhism via the Silk Route.

- *Yungang* Grottoes

The Yungang Grottoes are ancient Buddhist temple grottoes near the city of Datong in the Chinese province of Shanxi. They are excellent examples of rock-cut architecture and one of the three most famous ancient sculptural sites of China. The others are Longmen and Mogao.

The site is located about 16 km south-west of the city, in the valley of the Shi Li River at the base of the Wuzhou Shan Mountains. The grottoes were mainly constructed in the period about 460-525 AD during the Northern Wei dynasty. They are an outstanding example of the Chinese stone carvings from the 5th and 6th centuries. All together the site is composed of 252 grottoes with more than 51,000 Buddha statues and statuettes. The Caves are divided into east, middle, and west parts.

Pagodas dominate the eastern parts; west caves are small and mid-sized with niches. Caves in the middle are made up of front and back chambers with Buddha statues in the center. Embossing covers walls and ceilings. Started in 450, Yungang is a relic of the Northern Wei Dynasty (386-534). Absorbing Indian Gandhara Buddhist art, Yungang sculptures developed traditional Chinese art melded with social features of the time.

During the reign of Emperor Xiao Wen a monk named Tanyao took charge of the construction of Yungang Grottoes. The largest cave is No.6. In the 20-meter (65.6-foot)-high cave stands a 15-meter (49.2-foot)-high pagoda-like column decorated with Buddha statues and designs.

On the four sides of the tower pillar, and on the east, south and west walls of the cave, 33 embossed panels depict the story of Saykamuni.



Caves worth special attention are No.16, 17, 18, 19, and 20. Upon Tan Yao's suggestion, five statues of Emperors Taizu, Taizong, Shizu, Gaozong, and Gaozu as Buddha express the religious theme that the Emperor is Buddha. Caves housing these statues are known as the Five Tan Yao Caves, similar in style but not identical. The statue in Cave 20 is martial and stately, No.19 handsome and elegant, while No.18 is dignified but lively. Their similarity lies in their thick lips, big noses, slanted eyes and broad shoulders depicting the ethnic culture of the time.

Yungang Grottoes graphically tell the story of past glory In 2001, the Yungang Grottoes were made a UNESCO World Heritage Site the Yungang Grottoes is considered by UNESCO a "masterpiece of early Chinese Buddhist cave art....represent the successful fusion of Buddhist religious symbolic art from south and central Asia with Chinese cultural traditions, starting in the 5th century under Imperial auspices.

- *Santorin Islands in Greek*¹⁹

A big volcanic eruption in 1700 B.C. resulted in creation of a number of islands including Santorin islands. Life began in these islands about 300 hundred years later. The soil of these islands, which is a mixture of volcanic soil and stones, unsuitable climatic conditions, water shortage, moving sands and winds all caused difficulties for agriculture. Nevertheless, residents of these islands could overcome these circumstances by employing specific approaches and carry out agricultural activities in these lands. They established vineyards, which favor semi-arid climate, in the lands located at the foot of their houses and churches in terrace-shaped fields and deformed the vines into ring shape plants in order to protect them from aggressive winds

¹⁹ Ashrafi,M. (1389/2010)



Fig. 3.101



Fig. 3.102

Fig. 3.103

Fig. 3.101,102,103 Yungang Grottoes



Houses were composed of a troglodyte space and a supplementary part. These added sections have somehow concealed troglodyte units, to the extent that at the first glance one cannot recognize a troglodyte complex. Currently Santorin islands troglodyte units are more tourist attraction sites rather than symbols of a traditional human residence.

Fig. 3.104,105 Two views of Santorin Island



Fig. 3.104



Fig. 3.105



- *Siwa Town*²⁰

The historic town of **Siwa** stands on an isolated oasis situated in the Western Desert region of Egypt, approximately 550 km west of the capital Cairo. Although the oasis is known to have been settled since at least the 10th millennium BC, the earliest evidence of connection with ancient Egypt is the 26th Dynasty, when a necropolis was established. The ancient Egyptian name of Siwa was *Sekht-am* "Palm Land". Other local historic sites of interest include: the remains of the oracle temple; **the Gebel al Mawta (the Mountain of the Dead), a Roman-era necropolis featuring dozens of rock-cut tombs**; and "Cleopatra's Bath", an antique natural spring. The fragmentary remains of the oracle temple, with some inscriptions dating from the 4th century BC, lie within the ruins of Aghurmi. The revelations of the oracle fell into disrepute under the Roman occupation of Egypt.

As mentioned earlier, Roman period cemetery in Siwa, is in form of troglodyte architecture inside rocky beds.

The only resemblance between Siwa and *Maymand*, is the existence of troglodyte spaces and no other common point exists. It should be noted that structures in the main part of Siwa town is made out of mud brick and troglodyte spaces exist only in necropolis area.

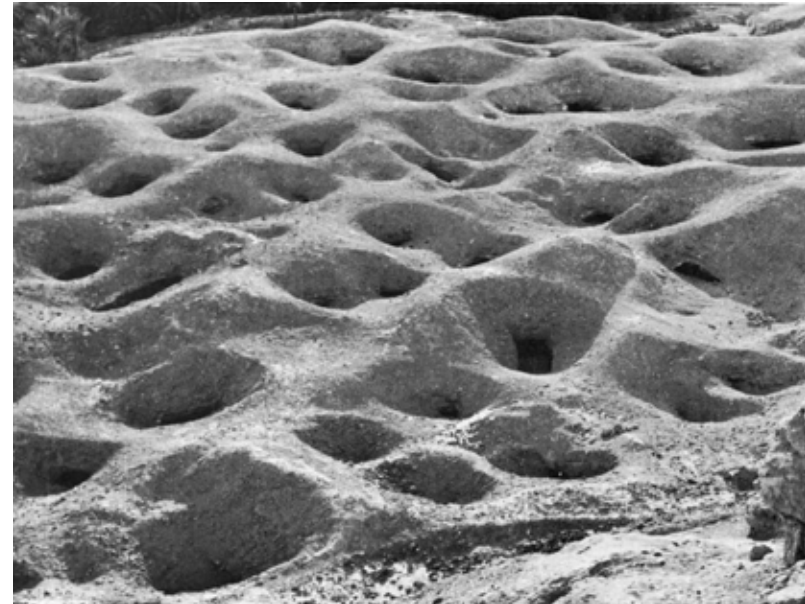


Fig. 3.106 Mountain of the Dead in Siwa

²⁰ <http://whc.unesco.org>, (1389/2010)



- *Other Examples*

Besides the aforementioned sites, other living complexes exist in the world where living spaces have been created inside the earth, but they are substantially different from rock and troglodyte architecture. Nevertheless, in order to complete the comparison study, these examples are briefly introduced here.

- *Huang Ho villages (Yellow River) villages, Shanxi, Gansu and Henan provinces in China*²¹

Semi arid climate and geographical conditions, high day and night temperature difference have caused the residents of these areas to create this kind of architecture.

In Shanxi province, residential units have been created around the main yard within the earth. The earth surface has been dedicated to agricultural activities and in order to use more land for this purpose, dwellings were made in a lower level with their roofs also used as fields.

Yards have quadrangle plans, which is based on the Chinese philosophical beliefs and believing in four main elements. Such was of thinking has affected other residential units in China as well. Jean Paul Loubes has estimated that about 40000000 people are living in this province²², making these dwellings the most populous troglodyte living complex of the world.

In spite of their importance and value, these sites are different from *Maymand* as regards their natural bed form and material. So they are more easily structured and are not very durable; they need restoration every few years while troglodyte spaces in *Maymand* are stronger due their natural rocky bed.

The view in such space is only towards the central quadrangle yard, while in *Maymand* unit outlook a vast landscape. Due to cultural factors, technical aspects, defensive and security issues, *Maymand* has introvert architecture, while in these spaces we

²¹ The UNESCO Courier, (1995)



face an eccentric architecture. They have been formed in a calm and peaceful environment, while in formation of sites like *Maymand* defensive and ritual factors played important roles.

Fig. 3.107 A view of *Tungkwan* village



Fig. 3.108 A view of *Loyang* village





- *Matmâta Village*²³

Matmâta or Metmata is a small Berber speaking town in southern Tunisia. Some of the local Berber residents live in traditional underground "troglodyte" structures.

The structures typical for the village are created by digging a large pit in the ground. Around the perimeter of this pit artificial caves are then dug to be used as rooms, with some homes comprising multiple pits, connected by trench-like passageways. This type of home was made famous by serving as the location of the Lars Homestead, home to Luke Skywalker, his Aunt Beru Lars and Uncle Owen Lars for the *Star Wars* movies. The Lars Homestead was in fact the Hotel Sidi Driss, which offers traditional troglodyte accommodations. One of Call of Duty 2 missions takes place in *Matmâta* as part of North African Campaign.

Ancient history: The origin of this extraordinary place is not known, except from tales carried from generation to generation. The most probable account says that underground homes were first built in ancient times, when the Roman empire sent two Egyptian tribes to make their own homes in the *Matmata* region, after one of the Punic wars, with permission to kill every human being in their way. The dwellers of the region had to leave their homes and to dig caves in the ground to hide from those invaders, but they left their underground shelters in the night to attack invaders, which appeared to be very effective in sending the killer groups away from *Matmata*. A myth was made those days, that monsters emerge from beneath the ground and kill land usurpers. In any case, the underground settlements remained hidden in very hostile area for centuries, and no one had any knowledge of their existence until 1967.

The way of survival in those severe conditions was difficult: since Tunisia is famous for prolific olive oil production, the men went



Fig. 3.109 A building in Matmata

²³ <http://Wikipedia.org>, (1389/2010)



searching for work north of the villages every spring, when the olive season began, getting back home in autumn, when the season was over. They were usually paid in olive oil, which they traded for other goods (in present days for money), and thus provided enough food, clothes and other things for normal life of their families.

Modern rediscovery: It was not generally known until 1967 that there were regular settlements in this area besides wandering nomadic tribes. That year, intensive rains that lasted for 22 days inundated the troglodyte homes and caused many of them to collapse. In order to get help from the authorities, a delegation was sent to the community center of the region in the town of Gabès. The visit came as a surprise, but help was provided, and the above-ground settlement of *Matmata* was built. However, most of the people continued their lives in re-built underground homes, and only a few of the families moved to the new surface dwellings.

Today, *Matmata* is a popular tourist attraction, and most of the population lives on tourism and folklore exhibitions in their homes.



Fig. 3.110



Fig. 3.111



Fig. 3.112



Fig. 3.113

Fig. 3.110,111,1112,113 Different views of *Matmata*



All mentioned sites were representation of man-made troglodyte spaces throughout the world with much dissimilarity. This feature shows the diversity of cultures, needs and the interactions between humans and their natural environment.

Most of the examples has had ritual-religious functions and currently are museum-sites.

To sum up we can name the following points as major differences between *Maymand* and other similar sites in the world:

- Form and type of the bed ground
- Special organization and form and shape of the troglodyte spaces
- function of the sites
- General landscape
- Continuation of life in *Maymand*

Images of several troglodyte sites throughout the world were presented in previous page; all these sites are registered in the World Heritage List but all of them are different form *Maymand* on the basis of mentioned factors.



Fig. 3.114 Table showing summarizing the comparison between The Cultural Landscape of *Maymand* and other similar sites in the world

Site Name	Location	Similarities	Differentiations
<i>Cappadocia</i>	<i>Turkey-Nowshahīr</i>	-Troglodyte architecture	- landscape - internal special division of troglodyte -new buildings and constructions - absence of three-phase migration and the related architectural spaces
<i>Matera</i>	<i>Italy-Basilica</i>	-Troglodyte architecture	- landscape - dominating function in the past -new buildings and constructions - absence of three-phase migration and the related architectural spaces
<i>Pantalica</i>	<i>Italy-Sicily</i>	-Troglodyte architecture	-landscape - function of the troglodytes - absence of three-phase migration and the related architectural spaces -desertion of troglodyte spaces
<i>Bamiyan Valley</i>	<i>Afghanistan</i>	-Troglodyte architecture -Expansion along a linear pattern on one sides of the valley	-desertion of troglodyte spaces - function of the troglodytes -no one lives in the troglodytes
<i>Petra</i>	<i>Jordan</i>	-Troglodyte architecture	-Landscape -desertion of troglodyte spaces - function of the troglodytes -no one lives in Petra
<i>Matmata/Loyang</i>	<i>Tunisia/China</i>	- Architectural spaces inside the earth	-Landscape -Form and design/Architectural & structural features



■ Comparable Examples as Regards the Livelihood and Transhumance Life Style

Introduction

Transhumance is the seasonal movement of people with their livestock over relatively short distances, typically to higher pastures in summer and to lower valleys in winter. Herders have a permanent home, typically in valleys. Only the herds travel, with the people necessary to tend them. Traditional or fixed transhumance occurs or has occurred throughout the inhabited world, including Scandinavia, Scotland, England, Caucasus, Chad, Morocco, France, Italy, Ireland, Lebanon, Romania, Bulgaria, Greece, Spain, Iran, Turkey, the Republic of Macedonia, India, Switzerland, Georgia and Lesotho. It is also practiced among more nomadic Sami people of Scandinavia. It is often of high importance to pastoralist societies, the dairy products of transhumance flocks and herds (milk, butter, yogurt and cheese) often forming much of the diet of such populations.²⁴

The term "transhumance" is also occasionally used for nomadic pastoralism – migration of people and livestock over longer distances.

These people have specific cultural and social characteristics such as particular language, accent, religion, customs and race and have chosen the transhumance way of life according to the geographical location, climatic conditions, weather, soil and vegetation of the region in order to make living and provide for their basic needs. In fact, the transhumance life style aims to find suitable residency place, livelihood and life style. Livestock and pasture are two main elements of transhumance life style.

²⁴ <http://Wikipedia.org>



According to archaeological finds from an ancient mound south of *Andīmeshk* indicates the existence of transhumance life style in Iran as old as almost 8000 years ago. In different parts of the world, different dates have been recognized.

Although the majority of transhumance societies are herding communities, some of them are not herders but have to choose this way of life in order to make living.

Migration is not performed in one way in different places and conditions and depends on many different factors. For instance, existence of warm valleys and plains near mountainous areas caused the migration to get performed with great height difference. But in large areas and foothills, no height difference is involved and only long distances are covered by nomads. Hence, migration and transhumance does not always involve vertical movements. Main differentiating factors regarding different migration nomad societies are their living environment, type of their livestock and their grazing practices. Hence nomadic migration is generally divided into horizontal and vertical migration according to geographical setting and nomad's livestock. Transhumance life style, as mentioned earlier, exists in many parts of the world and forms an integral part of ethnographic, sociologic and human geographical studies.

In this part, a brief introduction of nomadic societies of Iran seems appropriate to complete our comparative discussion of troglodyte architecture examples in Iran and the world and its related issues.



■ Iran

Due to specific geographical and social conditions, many different communities have chosen transhumance and nomadic way of life, with herding, handicraft production and in some case limited agriculture forming their major subsistence economy.

Iranian nomad communities can be divided into two main groups based on their subsistence economy: migrating communities and settled communities. Migration is also represented in different forms of full nomadic and semi-nomadic, which is a life style half way between settlement and nomadic life style. Iranian nomads are aware of different livelihood methods of their related tribes and differentiate between settled tribes and moving ones; and apply different term to each group. For instance, *Yamūt Tūrcūmans* call moving tribes “*Chārvā*” and have named non-moving groups “*Chamūr*”. *Balūchs* and Fars province *Qashqāees* call moving nomads “*Bādī*” and settled groups “*Khāki*”. Herder nomad tribes or Bedouins that reside in tents move from one location to another all year round and their livelihood is via this moving. They live in tents and when they travel, they pack all their equipments and tools on their animals, move in the deserts from one spot to another while seeking water and pasturelands for their herds. This Bedouins have a one-dimensional economy based on herding. This way of life has a long historical background in Iran, and many tribes and clans practice this living style and have no permanent winter and summer camps. In the contrast, seasonal migrating tribes practice winter and summer migration. They pack their belongings in the spring and move along with their livestock toward their cool summer camps and spend part of spring and whole summer there. In fall, they return to their warm winter camps. Some of these tribes have permanent stone or mud-made houses in their camps, while another group of them live in tents. All members of a tribe live in tents while on the way or on “*Ī-rāh*” or “*Ravāī*” (migration path) between summer and winter camps. Their subsistence economy is a combination of pastoralist and limited agriculture. Large groups of Iranian nomads including *Bakhtiyārī* nomads of Khuzestan and *Chāhār Mahāl*, *Qashqāee* nomads of Fars, *Īsavan (Shāhsavan)* nomads of Azerbaijan practice seasonal nomadism. *Baserī* tribe, one of *Kamseh* tribes of Fars, also performed seasonal migration till 1950’, lived in tents and moved between plains and mountains located to the north, east and south of Shiraz. Settled nomad’s left migrating life style and resided in village houses while preserving their traditional social and political structure. Their economy is based on agriculture and then herding. Tribe’s herders usually bestow their livestock to shepherds to take them to tribe’s pasturelands and surrounding highlands for grazing. *Īnānlū* and *Bahārlū* tribes of Fars are two examples of settled nomads. Since 1293 A.H. *Īnānlū* tribes settled in *Qare Būlāgh* plain of *Fasa* and started agriculture. Although these tribes left



migrating life style, they have preserved their traditional nomadic characteristics including their tribal and clan structure and resemble other nomad communities as regards these issues. For instance although life style and livelihood of settled *Chamūr* and migrating *Chārvā* Turcoman is different, but both of these groups are connected to each other and belong to a single traditional nomadic structure and political organization. In other words, both groups are Turcoman as regards their tribal division.

A review of research on pastoral nomads in Iran leads to a number of general observations about pastoral nomadism. Nomadic movement is highly purposeful and is oriented toward achieving specific production or other goals. Commonly nomadic mobility is used to advance production goals in a number of divers sectors. However, nomadism is not tide to one type of economic system; some nomads have generalized, consumption-oriented production, while others are specialized and market-oriented. Nor is nomadism limited to one type of land tenure; some nomads migrate leading a territory that they control, while others have no political or legal claim or over the land they use. Furthermore, some pastoral nomads live in isolated regions far from other populations, while others live close to peasant and urban populations. Pastoral nomads vary in political structure from state controlled peasants, to centralized chiefdoms, to weak chiefdoms, to segmentary lineages systems.²⁵

○ **Geographical Distribution of Iranian Nomads and Tribes**

No precise record is available about the geographical distribution of Iranian nomad tribes and no common view exists among ethnographers and sociologists regarding their definition and their boundaries. Below is a general introduction about their geographical distribution according to current available statistics:

- 1- *Kohgīlūyeh and Boyer Ahmad* tribes: their territories are located to the north and west of *Mamasanī*. These *Lor* tribes are divided into three major groups of *Jākī*, *Bāwī* and *Āqājārī*.
- 2- *Tayyebī*: this tribe includes 29 clans and their territory covers both warm and cold regions.

²⁵ Salzman, P.,(2002)



- 3- *Bakhtiārī*: *Bakhtiār* is the most important nomadic community of Iran. Their territory and warm and cold camps is in central Zagros Mountains and eastern *Khuzestan*; and their economy is based on sheep and goat herding. *Bakhtiārī* tribe is divided into two major clans of *Chāhār Lang* and *Haft Lang*.
- 4- Kurdish nomads: their main land is western Iranian provinces of Kurdistan, Kermānshāhān, west *Azerbaijan*, *Īlām* and north *Khuzestan* provinces. In *Safavīd* period some of them were transported to *Khorāsān* province in northeast Iran. Their livelihood is based on herding and agriculture.
- 5- *Īlsavan* (*Shāhsavan*): *Īlsavan* tribes are among famous Turkish speaking Iranian tribes. Their current territory covers mountainous area of *Ahar*, *Meshkīn Shahr*, *Dasht-e Moghān*, *Aras* river banks and some other areas in east *Āzerbāyjān* province. They practice full nomadic, semi nomadic and settled life styles. Baghdadi *Shāhsavans* and *Īnānlūs* live in *Sāveh*, *Qom*, *Varāmīn* and *Fars* *Shāhsavans* live around *Bakhtegān* Lake. *Shāhsavan's* of *Moghān* plain are composed of 30 clans; their summer and winter camps are located respectively in *Moghān* plain and near *Ahar* and *Sabalān* mountain. One of the most important centers of *Shāhsavans* of *Fars* is *Mahd Ābād* village in *Estahbān* district.
- 6- *Qashqāee* tribe: is one of the most important Turkish speaking tribes of Iran. Their homeland is *Fars* province. *Qashqāees* entered Iran during different periods. They were originally named *Qāch Qāee* meaning escaped or fled since their migration was at first in form of an escape. This word later changed into *Qashqāee*. Some historians believe that they have originated from *Tabriz* and *Azerbaijan*. *Qashqāee* tribe consists of six clans of *Kashkulī-e Bozorg* (large *Kashkulī*), *Kashkulī-e Kūchak* (small *Kashkulī*), *Farsimadan*, *'maleh*, *Shesh Bolūkī* and *Dareh Shūrī*. Their current territory covers southern *Fars*, bordering *Lār* and *Jahrom* to the east.
- 7- *Khamseh* tribe: this tribe was originally formed during *Qājār* period in order to counter *Qashqāee* tribe. It is composed of five clans of *Īnānlū*, *Bahārlū*, *Nafar*, *Arab* and *Baserī*. Their territory covers a straight north-south strip (200x25-50 miles) to the west of *Lār* as well as highlands and steppes located south, east and northeast of *Shiraz*.
- 8- *Balūchs*: their hearthland is *Sistan* and *Balūchestān* province. The most important *Balūch* clan is called *Rīgī*, whose territory is in *Zāhedān*, *Mīrjaveh*, *Khāsh* and *Irānshahr*. A group of them have migrated to *Gonbad-e Kāvūs* and *Gorgān* towns in *Golestān* province.
- 9- *Bechāqchi*: different tribe lives in *Kerman* province that has generally migrated to this region from other parts of Iran and especially from *Azerbaijan*. *Kerman* nomads have had less political, historical and social influence compared to other Iranian nomad tribes.



10- The above discussion was a brief description of nomad tribes of Iran, who have played important roles in its political, social and economic structure. Nevertheless, as noted earlier, there exist fundamental differences between these nomad tribes and migrating life style in the cultural landscape of *Maymand*.

Differentiations between the cultural landscape of *Maymand* nomadic practice and other nomadic life styles in Iran

- All noted tribal migrations take place in two summer and winter phases and only in the cultural landscape of *Maymand* we face a three-phase migration pattern along a troglodyte village
- The territories of the aforementioned tribes usually covers a large area while in the cultural landscape of *Maymand* migration takes place in a limited geographical span, within which different climatic conditions exist that form the basis for the three-phase migration pattern of *Maymandis*.
- The aforementioned nomad groups either lack a form of permanent architecture or only have a winter dwelling site. In the cultural landscape of *Maymand* however, three different permanent architectural forms exist in conjunction with migrating life style.
- No troglodyte architecture spaces exist is in the aforementioned nomadic territories as a permanent dwelling unit.



■ World

Transhumance and nomadic life style is practiced in many countries and continents in different form and ways among various human societies with different racial and ethnographic backgrounds.

Although recent developments and changes in human life have affected parts of nomadic and transhumance life style, nevertheless in many regions of Europe, Asia, Africa and Australia nomad tribes and communities practice this way of life in spite of alterations happened in their life.

Transhumance developed on every inhabited continent. Although there are substantial cultural and technological variations, underlying practices for taking advantage of remote seasonal pastures are similar.

Examples of transhumance and nomadism is present is Scotland, Wales, Ireland, Balkans, England, Alps Mountains, Italy, Lebanon, north and northeast Africa and Australia. Among them can mention the following cases:

- *The Royal Shepherd's Track in Italy*²⁶

The network of shepherd's tracks links wide areas in the southern part of Italy through the region of Abruzzo, Molise, Campania e Puglia. The routes of the transhumance comprise the grazing in the Gran Sasso and the Maiella up to Capitanata (Foggia). They pass through the inner side of the Apennines which are formed by an extremely variegated land, between mountains and plains. There is also an archaeological area: Sepino in the Molise region.

The shepherd's tracks are routes passed through by livestock for the seasonal moves linked to the transhumance. The transhumance is a type of grazing based on the seasonal move of herds between various regions with different climate. When the plain becomes arid because of the heat, herds and shepherds move to the mountain in spring and they come back to the

²⁶ UNESCO, World Heritage Site, www.worldheritagesite.org, (1389/2010)



plain in autumn. This 1000-year phenomena can also be traced in Spain, France, Swiss, Germany and other countries; in Italy, the transhumance presents its most evolved expression in Abruzzo, Molise, Puglia, Campania e Basilicata.

The network of shepherd's tracks, traced down to the pre-roman age, was further developed by Romans and connected to the network of consular routes thus making the transhumance an established, organized and protected economical activity. Thanks to the Aragonesi, the transhumance became the leading sector of the economy as much as Alfonso I of Aragona (1442-1458) established an office for its management and called it *Regiae Dohanae Menae pecudum Apuliae* and Royal Shepherd's Track. Along the network of shepherd's tracks there are many settlements. The tracks are long green-grass routes and the settlements present sanctuaries, taverns, weaving mills, etc. The town of *Saepinum* (Sepino) rises along one of the main shepherd's track of Molise. The whole set of public works realized during the roman age in this city were connected to the shepherd activities. The city walls, the gates and the towers were built during the I century A.C. Along the shepherd's track at the crossing with the cardoon, there are the most important public buildings: the *macellum*, the basilica, the temples. Behind the walls there is a theater, a thermal bath; outside and beside the walls there is the cemetery. Following the depopulation, Sepino has been occupied by farmers which established rural settlements; nowadays the latter have been restored thus representing a further historical evidence. The shepherd's track, instead, has been used constantly up to nowadays.

- *The Barotse Cultural Landscape*²⁷

The Barotse landscape is a vast expanse of open land with a gently undulating topography incised with a network of canals that are denuded with the waters of the Zambezi when it bursts its banks at the height of the rainy season from October to May. It is also known as the Bulozzi Plain, Lyondo or the Zambezi Floodplain and is one of Africa's great wetlands. It is designated as a possible Ramsar site on the basis of it being of high conservation value.

²⁷ UNESCO, World Heritage Site



The landscape is a flat plateau at an elevation ranging between 914 to 1218m tilting gently to the south. The floodplain stretches from the Zambezi's confluence with the Kabompo and Lungwebungu Rivers in the north, to a point about 230km south, above the Ngonye falls, south of Senanga. Along most of its length its width is over 30km, reaching 50km at the widest, just north of Mongu, main town of the plain, situated at its edge.

The main body of the plain covers about 5500km², but the maximum flooded area is 10750km² when the floodplains of several tributaries are taken into account, such as the Luena Flats. The Barotse Floodplain is the second largest wetland in Zambia after the Lake Bangweulu system, which differs by having a large permanent lake and swamps, and a much smaller area which dries out annually.

The Zambezi and its headwaters rise on the higher ground to the north, which enjoys good rainfall (1400 mm annually). It consists of large, flat grassy plains. These are drained by the Zambezi and its tributaries, which form large floodplains in the ecoregion. The area is situated on deep Kalahari sands of Aeolian origin (locally known as Barotse sands), which are waterlogged in the rainy season and dry during the rest of the year. The gleysols formed in this environment are nutrient-poor and have very low clay content.

Parallel to the plains on the northern frontier of the shore is a range of higher grounds. A combination of the flood and the upland areas has provided the natural platform for traditional human settlements and land use on which the famous Kuomboka ceremony has been sustained for years.

Kuomboka ceremony has been an annual event on the ancestral landscape. The term, Kuomboka, means 'emerging out of the waters'. When the plains are fully flooded every rainy season, the Litunga (King) and all plain dwellers sail in a colourful ceremony accompanied by an orchestra of traditional music and dance all the way to the highlands in Limulunga, where a similar capital to the traditional Lealui in the plain stands established. Others living within the plain also move to higher grounds on account of the flooding.



Whilst Kuomboka ceremony refers to the journey from Lealui to Limulunga, the reverse journey to Lealui is another ceremony known as Kufuluhela. The latter ceremony is not publicised.

The landscape has various resources which include spectacular man-made canals, natural and man-made mounds, traditional houses and palaces, shrines and other sacred sites and items of special significance mostly used as part of their rituals and ceremonies, roads and footpaths, culverts, natural water bodies (tributaries, lagoons, oxbow lakes, etc.), islands, weirs, trees, grasses, and various fauna.

The canals have been used for navigation, transportation and draining of the plain. The man-made mounds are where the ancestors of the present day Lozi community built their homes in response to the regular flooding. Both the canals and mounds are still central to the socio-economic livelihood of the present day Lozi community. The latter has literally perpetuated and sustained a cultural tradition or civilization that was authored on this landscape over centuries of years.

There is also a road that runs from Mongu harbour across the plains to Kalabo. Most of this road however, has been washed away as the raised ground upon which it was built could not withstand the pressures of the flood.

Patches of evergreen forests (*Cryptosepalum* dry forests) in the north and east part exist. The soils are predominantly alluvial on the plains deposited from regular flooding over the years, with seemingly a balance between sandy and clayey loam soils.



All these mentioned examples are important cases in their own turn; however fundamental differences exist between them and the cultural landscape of *Maymand* including the following issues:

- **None of these cases is related to a village or a residence with troglodyte architecture.**
- **None of them enjoy the diversity of migration-related architectural spaces in a certain area like what is present in the Cultural Landscape of *Maymand*.**



Conclusion

Regarding the information discussed so far one could say, compared with Iran's other vernacular *Dastkands*, *Maymand* have the following characteristics and privileges:

- The form and the way it has been created is rare and noticeable.
- The ultimate use of the form of the land to create the required spaces which has resulted in specific characteristics of *Maymand* village.
- The natural concealment in the middle of the stones.
- The wonderful view.
- The organized and order-oriented structure of the fabric.
- The natural form of *Pātāq* (highest level, a straight wall under the *Tāq* at the highest row of *maymand*'s houses), *Tāq* (edge at the highest row of houses surround *Maymand*) which acts as a natural castle.
- In addition to *Dastkand* Architecture one can see two other types of vernacular architecture (*Āghol* and *Ābādī*) in *Maymand*
- The primary genuineness of the system is kept in a rather satisfactory level and the examples of the new constructions compared to similar caves are few. Furthermore, the native and traditional methods are given special attention as well. Mean while. The young have also showed interest in this regard which is in turn appreciated.
- The architecture of *Maymand* is created by employing the virgin materials which suggest the least or actually no drastic change in their forms hence the simplest and the most organic architecture that can be ever imagined in that area.
- The most important merit of *Maymand* is the **continuation of life which still survives in its original and specific form in the format of half- nomadic within the cultural framework of the area.**



Fig. 3.115 Troglodyte *Maymand*



Fig. 3.116 *Eyvān* in Troglodyte *Maymand*



Fig. 3.117
Tīr-e Khorrīn peak



Fig. 3.118 Troglodyte *Maymand*



Fig. 3.119,120,121 Different views of
Ābādfī in Cultural Landscape of *Maymand*
Fig. 122 A part of
Cultural Landscape of *Maymand*



Fig. 3.119



Fig. 3.120



Fig. 3.121



Fig. 3.122



Fig. 3.123 Felt-making in troglodyte *Maymand*





3.d Integrity and Authenticity

Summary

The Cultural Landscape of *Maymand* is a rare example of transhumance territory that has retained its traditional functions alive, and that continues to bear testimony to the historical evolution of the habitat, consisting of troglodyte residences, and a variety of service spaces and structures of which many still in use. The nominated area comprises all the significant elements that document the traditional transhumance functions, as well as the associated residential and non-residential structures. Furthermore, these elements have kept their traditional form and are in good state of conservation. The traditional techniques, materials and craftsmanship have continued in use until the present, and the landscape has maintained the spirit of the traditional ensemble, expressed in the continuity of farming and animal husbandry. The landscape area has also retained significant sources of information of the different phases of development of this lifestyle.

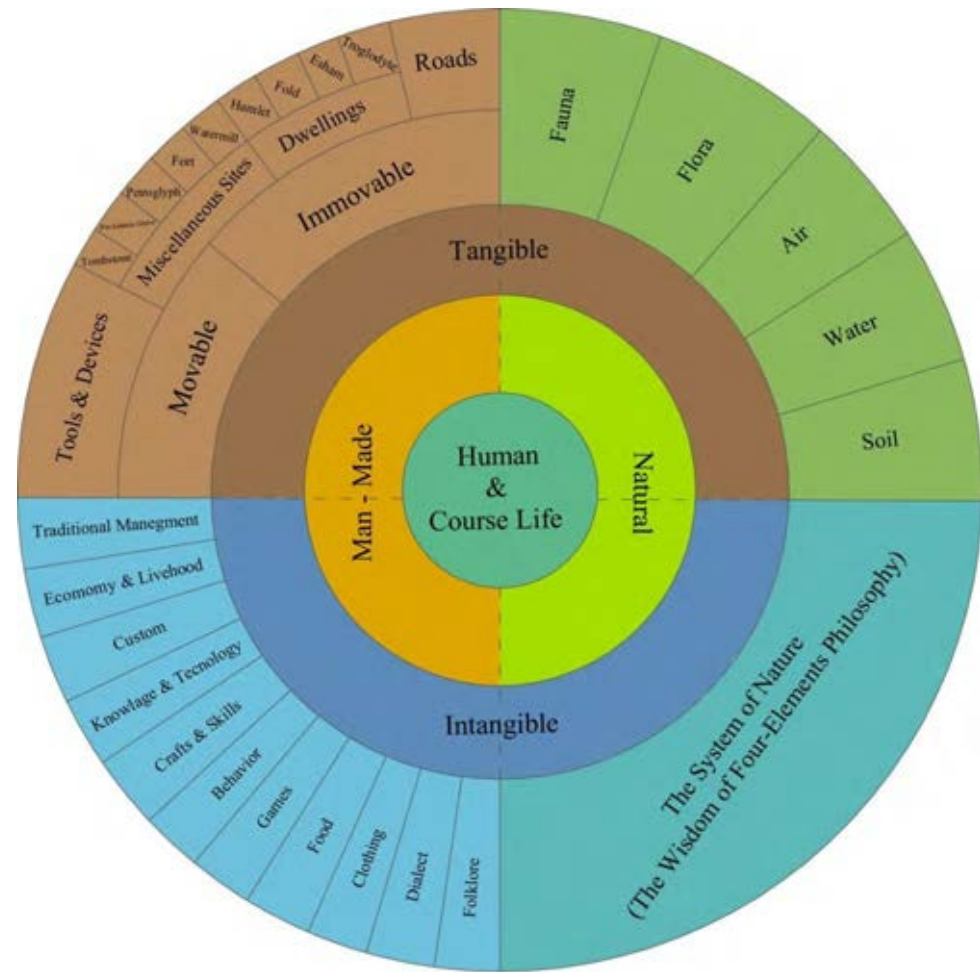


Integrity and Authenticity

The Cultural landscape of *Maymand* has so far been able to survive in its original and traditional format to a large extent. This feature is reflected in many different aspects such as ingenuity in its setting, design, materials and traditional life. An examination of integrity in function-structural-visual aspect confirms the existence of integrity in each part.

- **Authenticity in Setting**

Location, the formation settings and special structure of the village has been completely remained intact. As regards the troglodytes, due to their formation within the natural rock beds, there has been no means for their repositioning. As regards other perceptible remains in the cultural landscape of *Maymand* such as roads, petroglyphs and pictographs, pre-Islamic graves as well as the Āghols settings within the three-phase migration cycle since their formation have been preserved in their original location and form in spite of recent developments such as creation of new asphalt roads and similar activities.



The Cultural Landscape of Maymand

Fig. 3.124 Graph represents different aspect of the Cultural Heritage of *Maymand*



- **Design**

Architectural design of the *Maymand* residences has been survived in its original form. As visible in the images, they have completely preserved their organic and local characteristics.

- **Materials**

Three types of architectural structures existing in the cultural landscape of *Maymand* have to a large extent been able to preserve their original and local materials. Hence, all visible structures exhibit usage of naturally available and local materials. However, during the modern era as a result of new needs and changes, some buildings like a school, health center and a few residential units were constructed that are in a contrast with the original characteristics of *Maymand*. With suitable organizing activities it is possible to weaken their visibility or totally eliminate them.

In general, construction method of the architectural spaces in the *Maymand* cultural landscape and the used material and substances all are connected with the *Maymand* environment. They are based on the available natural material and potentials with the minimum deformation.

- **Traditional Life**

Fortunately due to its relatively long distance from any town and its location in a particular geographical setting, as well as people's choice to live in the village and continue their traditional living style, *Maymand* has been able to preserve its life style to a large extent.

- **Intangible Heritage**

This part, which is in fact the essence of life in the cultural landscape of *Maymand*, includes language and accent, economic and life earning pattern, food, clothing, medicinal practices ... (Fig. 3.124). Noted features have to a large extent preserved their novelty and follow their traditional system; only in some cases we face modifications that are results of the introduction of new



technologies, changes in life style and in the peoples' viewpoints and ideas –both in the regional and country scale. These factors have affected the local, organic and traditional system of old life in different ways and have changes them according to the specific conditions of the region. Comparing with other regions of country, changes happened in the cultural landscape of *Maymand* is not extremely considerable. With a suitable, logical, careful and decent agenda and taking needs of the local community into consideration, it is possible to control the rate of changes; this issue is currently a priority for the MCHB Base of *Maymand* cultural landscape.

The important and considerable key point in this regard is preserving the novelty and originality using the wisdom of four element philosophy in the daily practical life of the *Maymand* residents, which is totally in harmony with the nature's cycle and natural context of the region. This has been one of the main factors to maintain the harmony and course of life in the *Maymand*.

In fact life in *Maymand* , in its original and unique form in still alive by preserving the fundamental and main basis of life which is practicing the philosophy of four elements that brings simplicity, self-reliance and harmony with nature.

- **Integrity in Function**

The residential units in the cultural landscape of *Maymand* have preserved their novelty with a minimum level of alterations. These modifications were integral results of recent developments and changes in the life style and climatic conditions. Such factors have led to the abandonment of some of the *Kichehs* and *Sar-e Baghs* and destruction of several *Sar-e Aghols*. Nevertheless, most of the spaces have preserved their original function.

It should be noted that some of the abandoned and deserted troglodyte spaces have been revitalized during recent years by MCHB and were given new functions which will be returned to later.

Apart from permanent and temporary residential units and roads that have preserved their original old function, other sites like mills are currently out of use and are deserted. MCHB has undertaken some activities to restore and revitalize these sites. These will be noted in the section on the preservation activities.



- **Structural Integrity**

Fortunately key and fundamental elements of cultural landscape of *Maymand* including the village, *Ābādī* and *Āghol* and environmental connecting elements such as migration pathways, flora and pasture lands, traditional products and natural elements have been remained intact to a large extent.

- **Visual Integrity**

One of the valuable features in the cultural landscape of *Maymand* is its visual integrity and ingenuity. A few existing service buildings such as village school, health center and post office are planned to be modified into a local appearance. All the same, historical landscape of *Maymand's* core zone and buffer zone has preserved its visual integrity. In the village itself, its natural setting, location of each *Kīcheh* in a specific position as well as logical and reasonable relation between them, has created a unique and exceptional view of an integrated local living complex that is less visible at other living complexes.

As a result of all these characteristics and the strong unity and bond between all parts and elements that form the cultural landscape of *Maymand*, it can confidently be stated that the cultural landscape of *Maymand* has been able to preserve its originality and all-compassing personality in different aspects thanks to its extraordinary harmony with the nature and harmonizing life and architecture with its natural context and following the natural cycle and movements of the environment; and it will be able to continue its existence as a single system in the diverse nature of the region's environment.

- ▶ Taking the Originality Factor into Consideration during Restoration, Preservation and Revitalization Activities

From its establishment (in 1380/2001), the MCHB has undertaken numerous activities in order to organize and improve the condition of *Maymand* village. It has always tried to bear in mind the main factor of respect and appreciation of the novelty and originality of both perceptible and imperceptible values of the *Maymand* cultural landscape in its restoration and developmental programs. In this regard the settlement of the resident experts and visitor guests in the local and traditional spaces and sharing the native food, clothing and accent worth mentioning. In general, the quality and method of restoration and revitalization activities of the MCHB is as follows:



- In a complete indigenous way using traditional methods, materials and executive techniques as well as employing local work force
- In a semi-indigenous way using new innovations in order to achieve the best results
- Facing new non-indigenous phenomena in three different forms:
 - Executing in a hidden way: like conducting facility projects which are carried out underground and are invisible.
 - Executing using local methods: like designing and building furniture using local material.

- Functional change that are results of life style change and migration of the local population to other places like *Shahr-e Babak*. Following these events, living spaces such as *Kichehs* and *Aghols* became abandoned and unused. This sort of functional change has not caused any damage as regards the visual characteristics of the whole complex but desertion of these spaces leads to their gradual destruction.
- Functional changes that are in accordance with the village's preservation and organizing programs of the MCHB. These include creation of a guest house, restaurant, MCHT Base office, and its connected service facilities, as well as a parking, facilities and entertainment spaces, restrooms and so on. These functional changes and creation of new spaces were executed either using local old, abandoned and inactive spaces or through making new spaces utilizing traditional and indigenous methods, material and forms and structures that are in harmony with the existing traditional spaces in the village.
- Another part of changes happened in the village is in connection with the introduction of modern facilities and services such as telephone lines clean water piping, TV station and Using these services are now inevitable but in ancient, historical and traditional sites like *Maymand* their management and utilization needs a careful and suitable planning that is in accordance with the surrounding environment.





Fig. 3.125 (Troglodyte *Maymand* in 1344/1965)



Fig. 3.126 (Troglodyte *Maymand* in 1384/2005)

Fig. 3.125,126,127,128
 These pictures show the authenticity of setting, design, material and visual integrity of troglodyte *Maymand* within 40 years



Fig. 3.127 (Troglodyte *Maymand* in 1344/1965)



Fig. 3.128 (Troglodyte *Maymand* in 1384/2005)



Fig. 3.129 The student of troglodyte village of *Maymand* in 1344/1965;
Photo by Dr. Sarfaraz





Fig. 3.130



Fig. 3.131

Fig. 3.130 An old felt of *Maymand*
 Fig 3.131 Revitalization felt-making in *Maymand* as regard old motifs by MCHR

Fig. 3.132,133 Existing old handicrafts in *Maymand*, these pictures show authenticity of intangible heritage in this cultural landscape



Fig. 3.132



Fig. 3.133

Fig. 3.134 showing traditional life in the Cultural Landscape of *Maymand* nowadays





Fig. 3.135 Using traditional and local materials in building in Cultural Landscape of *Maymand*



Fig. 3.136 Attention to authenticity of *Maymand* in conservation activities by MCHB -Designing and constructing MCHB lavatory within 2003 to 2005 as regard local toilets (*Owrriz*)-



Fig. 3.137 Attention to authenticity of *Maymand* in conservation activities by MCHB -Interior design of restaurant in 2006-



Chapter 4



**State of Conservation
and Factors Affecting
the Property**





4.a Present State of Conservation

Introduction

Following the registration of *Maymand* in the National Heritage List in **02/10/2001** under record number **4135** and the establishment of MCHB, this complex was considered as one of the most important heritage sites and monuments of Iran and all official conservation regulations apply to it. All conservation, restoration and new proposals are conducted under the supervision of MCHB and according to the approved rules and regulations. All private and governmental organizations and institutions as well as individual people have to follow legal procedures in order to obtain approval for their proposals and plans under the supervision of the Iranian Cultural Heritage Organization or its legal representatives.

MCHB should prepare and present reports of all undertaken activities in written form to the Iranian Cultural Heritage Organization for further investigations and documentation. These activities may include restoration and conservation activities, documentations, different research and studies in various subject and all other plans and works carried out during one year by this base at Cultural Landscape of *Maymand*.

Following the establishment of MCHB in troglodyte *Maymand* in 2001, conservation and management of this valuable site was undertaken by this base directly or with the collaboration of numerous experts in the fields of architecture, archaeology, restoration, geology, zoology, botany, and ethnography. This process has been since conducted according to the short-term, mid-term and long-term management plans of MCHB with great effort. Currently, Cultural Landscape of *Maymand* is in an established and excellent condition as the result of all undertaken activities.



General Information About State of Conservation in Cultural Landscape of Maymand

Since the establishment of MCHB in 2001, different activities and projects have been accomplished in order to maintain balance and stability in this cultural landscape; these can be introduced under three phases:

First Phase: 2002-2004 (1381-1383Š)

This phase, which was in fact the beginning point of conservation activities in Cultural Landscape of *Maymand* in a systematic and serious way, coincided with the establishment of MCHB. Serious conservation and restoration projects were initiated and accomplished in *Maymand* during this phase including:

Clearing up and organizing village area, clearing up of *Kichehs*, case-restoration of *Kichehs*, reinforcement of *Kichehs'* bodies, restoration of architectural elements and parts such as *Sarsoffeh* and *Dargāh*, revitalization of some *Kichehs* and defining new function for them like changing *Kicheh Mehdiha* into MCHB, establishment of public restrooms (in *Kicheh-ye Medīha*), and so on.

Different research activities were also accomplished during this phase including botany, zoology and archaeology studies as well as site's buffer zone identification, studies on *Maymand's* architecture, studying other similar sites in Iran and the world, organizing festivals and congresses in order to introduce *Maymand* and so on.

It should be noted that *Maymand* was participated in **Melina Mercury** competition during this phase and could win the 2005 prize., the report of which was also prepared and is available.



Second Phase: 2005 to 2009 (1384-1388Š)

Maymand village had reached a level of stability and balance during this phase as the result of activities undertaken during the first phase, and had been recognized as a valuable national site. Most of the activities during this second phase concentrated on revitalizing the weakened aspect of *Maymand*'s life cycle and creating a connection between *Maymand* and other cultural tourism-related sites in Iran. Reproduction of *Maymand* handicrafts such as felt making and *Saftūbāfī* were among these actions. In addition, restoration activities like restoring *Sarsoffehs* and *Dargāh* and other architectural elements were carried out at this phase as well.

Third Phase: 2010 until Now (1389- ...)

In addition to continuing regular conservation and monitoring activities in this phase it is sought to focus the management and conservation activities on enhancing and reinterpreting the cultural values and potentials of the cultural landscape. Moreover, improving public education and cultural tourism facilities is among the managerial priorities in this phase.

List of conservation activities accomplished by MCHB since its establishment until 2011 is presented in coming pages.

Activities accomplished during these years by MCHB in *Maymand*:

- Research
 - Designing the botanical garden of *Meymand*
 - Planning preliminary investigations about the Children Museum
 - Studying and researching similar troglodyte sites and architecture identified around *Meymand* and in Iran and the world.



- General understanding of the village (collecting available documents and other available data about the village and preparing maps).
- Geographical study of *Maymand* and its surrounding environment.
- Ethnographic studies (such as their migration issue, beliefs, traditions, social organization, living practices, rituals and religious customs, slogans and legends).
- Studying and documentation pictographs and petroglyphs discovered in the region.
- Terminology studies.
- Studying medicinal plants and their usage in the village.
- Studying traditional medicine and health condition of the village.
- Foundation of a traditional arts workshop and conducting relevant research about them.
- Research about villagers nutrition and foods, food preserving methods and food-related tools.
- Studying different animal species of the village and in particular the insects.
- Preliminary arrangements to conduct geology studies.
- Research about traditional custom of the village like wedding ceremony customs.



- Conservation and Restoration
- Emergencies pathology and executive solutions.
- Establishment of the document center.
- Establishment of the office of MCHB.
- Planning and construction of bathrooms near the base.
- Equipping the base kitchen.
- Planning and construction of Swage system.
- Restoration of the watermill located near the village.
- Revitalization a *Kicheh as the* handicraft shop.
- Modification a newly-established bath of the village and its opening.
- Organizing the area around the mosque and *Hosseineh*.
- Organizing of the village.
- Organizing herds.
- Organizing public restrooms including those located in front of the mosque and those located next to the village public bath.
- Parking planning.



- Construction of guards' room.
- Preparation of village guesthouse.
- Organizing and restoring the old bath.
- Preparation and starting up the ethnography museum.
- Deconstructing the amendments.
- Improving and extending village's green area.
- Designing and construction of public garbage bins.
- Leveling and gravel paving of the area in front of the *Hosseinieh* and both sides of the road.
- Holding of traditional arts workshop.
- Reorganization of the village entrance: construction of walls alongside main routes of the village.
- Reorganization of the path ending in the hostel.
- Reorganization and expansion of public toilets.
- Demolition or making indigenous (homogenization of) the new constructions.
- Designing the Study and Assembly Center.
- Founding museum and Information Center.
- Construction of a new car park.



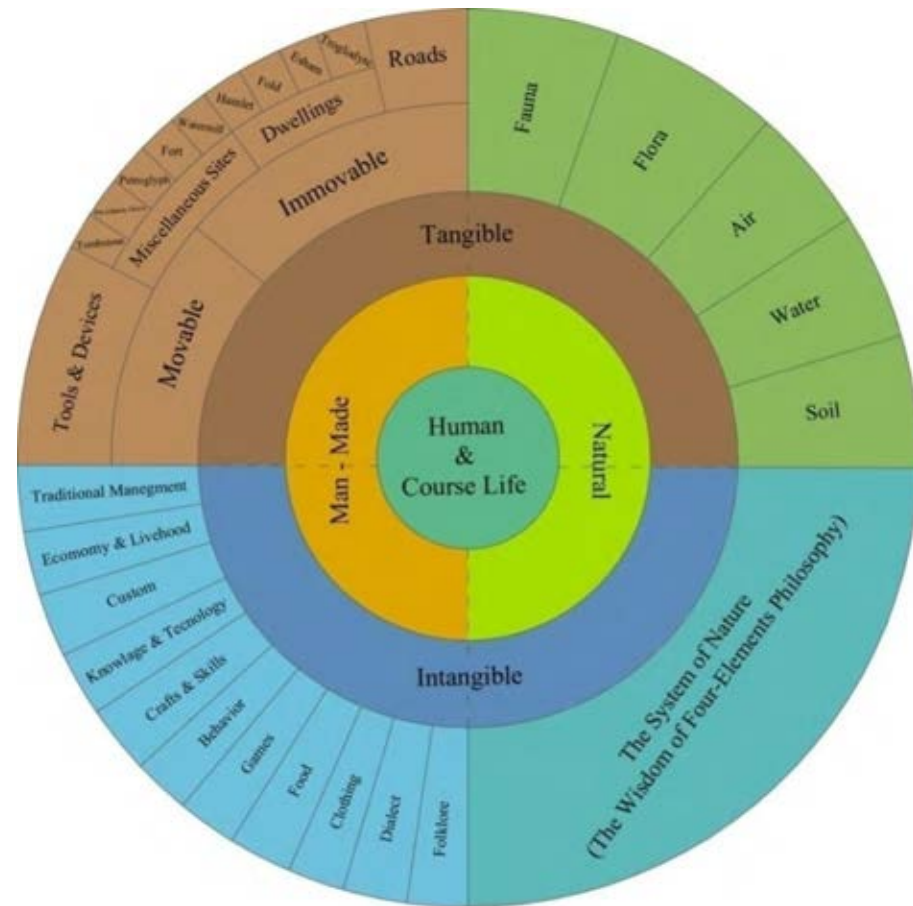
- Construction children's play ground.
- Expansion of green space.
- Establishing half cooking calk kiln.
 - Introduction and Education
- Holding *Maymand* photograph exhibition.
- Designing and launching *Maymand* website (www.Maymand.org.ir)
- Production of *Maymand* bags.
- Publication of undertaken activities reports and media releasing.
- Participation in ICTO conservation and revitalization seminar and presenting accomplished activities reports
- Holding different meeting with *Kerman* province authorities at *Maymand*.
- Holding the opening of *Kermanology* festival in *Maymand* village.
- Designing and erecting guiding and introductory signs.
- Making a video clip and a short film about village.
- Presenting the report on the accomplished activities both at the village and at other national and international gatherings.



- Provision and distribution of a trilingual brochure on *Meymand*
- Holding educational sessions with the participation of handicraft makers in order to improve the system of provision, distribution and presentation of handicrafts
- Forming a team for training Nowruz tourist guides
- Providing a three dimensional picture of *Meymand*
- Holding the conference on handmade architecture
- Inspecting operations conducted in rural areas of *Kurdistan*



Examining Current Conservational Situation at Different Sections of Cultural Landscape of *Maymand*



The Cultural Landscape of Maymand

Due to different aspects of the Cultural Landscape of *Maymand* (Fig. 4.1), in order to investigate this part in a systematic way, the conservation condition of the site has been conducted based on the division presented in graph.

Fig. 4.1 Graph represents different aspects of the Cultural Landscape of *Maymand*



- ▶ The conservation condition of the non-transportable, perceptible, and man-made remains located in the cultural landscape of *Maymand* is as follows:

- **Dwellings**

- *Troglodyte Village of Maymand*

In troglodyte village, due to the restoration and conservation activities of the existent Cultural Heritage Base of the village during recent years, almost most of the residential, public, service and ... units have a stable and suitable condition. However, because of the abandonment of some units (with no residents and no function), there exist some supporting and conservational needs. Major required activities are as follows:

- Cleansing and collecting the rubbish, restoration of damages parts like *Sarsoffehs*, other complementary activities such as installation of door, restoration of *Dīdān* and other necessary tasks, revitalization of and utilizing the units, establishment of entertainment and service facilities needed in the village.

In general, from a total number of 400 *Troglodyte Kīcheh* units in the *Maymand* village:

- 123 units are intact and are used currently. Their functions include residential, public, religious and administrative purposes. In most of these units, different conservation and restoration activities have been undertaken by the Cultural Heritage Base at *Maymand*.
- From the remaining number of *Kīchehs*, 3 units are considered semi-complete.
- 44 units are considered non-harmonic attachments that have been constructed after the 1960s with mud brick and brick. Cultural Heritage base of *Maymand* has included these in the list of eliminated buildings as regards the conservation issues.
- Two troglodyte units are currently ready for preparation and revitalization. This indicates that they are in an intact condition and merely need a new function.
- 1 *Kīcheh* unit is in a poor condition and is considered ruined with an urgent need for strengthening restoration activities.



■ The rest of troglodyte units are in a secure condition as regards their stability. They mainly require basic conservation jobs such as cleansing or installation of door and *Dargāh*. Units need restoration of *Sarsoffeh* and cases need their roof holes to be repaired. After these, they can be given new functions.

Below is a description of the restoration and conservation activities undertaken in the troglodyte village by the MCHB during the recent years.

It worth mentioning that respecting the uniqueness and ingenuity of cultural landscape of *Maymand* has been taken into consideration during all conservation activities. Protecting the originality, integrity and harmony of the site and agreement of all conservational and restoration actions with the whole site has been a priority principle, whose outcome is now visible in the village. As successful results of such approach one can mention the following conservation and restoration activities: designing and construction of the base restrooms, restaurant, electricity networking of all spaces, designing the guarding *Kapar*, designing and construction of temporary rest spaces for the visitors, children playground, designing garbage bins, guiding and introductory signs as well as internal arrangement and interior design of the spaces.



Fig. 4.2 Table showing executive activities of MCHB within 1380/2001 to 1384/2005

Executive Activities	1380/2001	1381/2002	1382/2003	1383/2004	1384/2005	Total
Restoration and reconstruction of <i>Sarsoffeh</i>	5 Cases	6 Cases	6 Cases	30 Cases	9 Cases	56 Cases
Restoration and Covering the Roof's Hole	7 Cases	13 Cases	7 Cases	26 Cases	20 Cases	73 Cases
Building of <i>Toqol</i> , <i>Panāhbād</i> and Wall making	23 Cases	48 Cases	47 Cases	57 Cases	35 Cases	210 Cases
Restoration of <i>Owrīz</i>	16 Cases	67 Cases	4 Cases	4 Cases	3 Cases	94 Cases
Construction of <i>Kornū</i>	0	3 Cases	0	2 Cases	0	5 Cases
Restoration of <i>Dargāh</i>	0	4 Cases	13 Cases	29 Cases	8 Cases	54 Cases
Repairing and Making Doors	0	5 Cases	11 Cases	76 Cases	15 Cases	107 Cases
Cleansing of <i>Kīcheh</i> and Room	31 Cases	21 Cases	44 Cases	25 Cases	18 Cases	119 Cases
Cleansing of the Courtyard	7 Cases	2 Cases	10 Cases	0	0	19 Cases
Tree Planting	3 Trees	42 Trees	20 Trees	36 Trees	50 Trees	151 Trees
Construction of <i>Kapar</i> (Hut)	0	0	3 Cases	0	3 Cases	6 Cases



Fig.4.3 Table showing executive activities of the MCHB in troglodyte Maymand in 1385/2006

No.	Executive Activities	Number	Notes
1	Restoration and Construction of <i>Sarsoffeh</i>	9 Cases	
2	Restoration and Covering of the Roof's Hole	5 Cases	
3	Construction of <i>Toqol</i> , <i>Panāhbād</i> and Wall making	12 Cases	
4	Restoration of <i>Owriz</i>	4 Cases	
5	Restoration of <i>Dargāh</i>	11 Cases	
6	Repairing and Making Doors	118 Cases	In 8 months
7	Repairing and Making <i>Kelydūn</i>	59 Cases	In 8 months
8	Cleansing of the <i>Kīcheh</i> and Room	11 Cases	
9	Cleansing of the Courtyard		
10	Making Studs and Clasps	2500 Cases	
11	Making Almond-shape Nails	3250 Cases	
12	Destructing the Attachments	-	
13	Lighting	-	
14	Restoration of the Wall and Main Part using local mortar	2 Cases	
15	Water Flow Course	2 Cases	
16	Flattening an Area for Tourists' Settlement	3 Cases	
17	Flattening of the Room's Floor	5 Cases	
18	Revitalization of <i>Didān</i>	3 Cases	
19	Construction of <i>Kapar</i>	3 Cases	



Fig.4.4 Table showing executive activities of the MCHB in troglodyte Maymand in 1386/2007

No.	Executive Activities	Number	Notes
1	Restoration and Construction of <i>Sarsoffeh</i>	15 Cases	
2	Restoration and Covering of the Roof's Hole	12 Cases	
3	Construction of <i>Toqol</i> , <i>Panāhbād</i> and Wall making	5 Cases	
4	Restoration of <i>Owrīz</i>	4 Cases	
5	Restoration of <i>Dargāh</i>	10 Cases	
6	Repairing and Making Doors	52 Cases	In 3 months
7	Repairing and Making <i>Kelydūn</i>	12 Cases	In 3 months
8	Cleansing of the <i>Kīcheh</i> and Room	22 Cases	
9	Cleansing of the Courtyard	10 Cases	
10	Making Studs and Clasps	301	
11	Making Almond-shape Nails	1737	
12	Destructing the Attachments	1 Case	
13	Lighting	3 Cases	
14	Restoration of the Wall and Main Part using local mortar	3 Cases	
15	Installation of a Guiding Sign	10 Cases	
16	Village Introduction Sign	1 Cases	
17	Water Flow Course	6 Cases	
18	Flattening an Area in the Cemetery for Performance of Dead Praying	1 Cases	
19	Flattening an Area for Tourists' Settlement	1 Case with 30 square meter area	



Fig.4.5 Table showing executive activities of the MCHB in troglodyte Maymand
in 1387/2008

No.	Executive Activities	Number	Notes
1	Restoration and Construction of <i>Sarsoffeh</i>	8 Cases	
2	Restoration and Covering of the Roof's Hole	7 Cases	
3	Construction of <i>Toqol</i> , <i>Panāhbād</i> and Wall making	7 Cases	
4	Restoration of <i>Owrīz</i>	2 Cases	
5	Restoration of <i>Dargāh</i>	16 Cases	
6	Repairing and Making Doors	64 Cases	In 4months
7	Repairing and Making <i>Kelydūn</i>	23 Cases	
8	Cleansing of the <i>Kīcheh</i> and Room	18 Cases	
9	Cleansing of the Courtyard	8 Cases	
10	Making Studs and Clasps	160	
11	Making Almond-shape Nails	30	
12	Construction of Kids Playing Park	300 Square meters	
13	Construction of Wash Basins in the Public Parking Area	1 Case	
14	Restoration of the Wall and Main Part using Local Mortar	1 Case	
15	Installation of a Guiding Sign	15 Cases	
16	Construction of Car Parking for the Base	20 Square meters	



Fig.4.6 Table showing executive activities of the MCHB in troglodyte *Maymand* in 1389/2010 and 1390/2011

No.	Executive Activities
1	Reorganization of the village entrance: construction of walls alongside main routes of the village
2	Reorganization of the path ending in the hostel
3	Reorganization and expansion of public toilets
4	Reorganization and expansion of public toilets
5	Designing the Study and Assembly Center
6	Establishing half cooking calk kiln
7	Founding museum and Information Center
8	Construction of a new car park
9	Cleansing of the Courtyard
10	Complete executive operation and utilization children's play ground
11	Expansion of green space



Fig.4.7 Cleaning different spaces of troglodyte *Maymand* 1380/2001



Fig.4.8.a/b A part of troglodyte *Maymand* during and after cleaning in 1380/2001



Fig. 4.8.a



Fig. 4.8.b

Fig.4.9 Destructing inappropriate buildings, considering the integrity of troglodyte *Maymand*



Fig.4.10 Destructing inappropriate buildings, considering the integrity of troglodyte *Maymand*





Fig.4.11.a,b,c Different process of preparing local material (Barg Sang/ Leaf Stone) for conservation activities



Fig. 4.11.a



Fig. 4.11.b



Fig. 4.11.c

Fig.4.12 Consolidation damaged roofs 1380/2001



Fig.4.13.a,b Different process of restoration of damaged roof 1380/2001



Fig. 4.13.a



Fig. 4.13.b

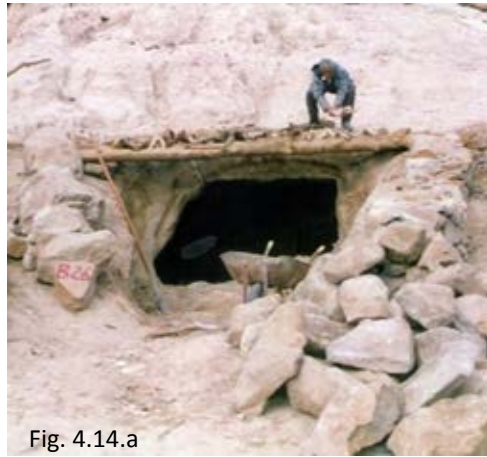


Fig. 4.14.a



Fig. 4.14.b



Fig. 4.14.c



Fig. 4.14.d

Fig. 4.14.a/g Different process of restoration of damaged Sarsoffeh 1380/2001



Fig. 4.14.e



Fig. 4.14.f



Fig. 4.14.g



Fig. 4.15.a



Fig. 4.15.b



Fig. 4.15.c

Fig.4.15a/e Different process of restoration of damaged roof 1381/2002



Fig. 4.15.d



Fig. 4.15.e



Fig.4.16.a/c Conservation and restoration activities in *Kīcheh-ye Dobandī* (fire temple) within 1381/2002 to 1383/2004



Fig. 4.16.a



Fig. 4.16.b



Fig. 4.16.c



Fig.4.17 Restoration of *Dargāh*

Fig.4.18 Restoration of interior space Of *Kīcheh*



Fig.4.19 Restoration of *Dīdān*





Fig. 4.20.a/b Entrance corridor of mosque before and after improving actions

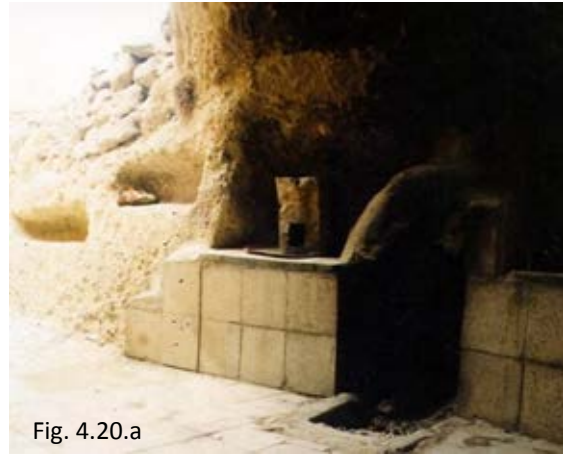


Fig. 4.20.a



Fig. 4.20.b

Fig. 4.21 Preparing and making doors for Kitchehs





Fig. 4.22.a



Fig. 4.22.b



Fig. 4.22.c

Fig.4.22.a/e Process of building new lavatory for MCHB within 1380/2001 to 1382/2003



Fig. 4.22.d



Fig. 4.22.e



Fig.4.22.f/i Interior space of MCHB's new lavatory



Fig. 4.22.f



Fig. 4.22.g



Fig. 4.22.h



Fig. 4.22.i



Fig. 4.23.a



Fig. 4.23.b

Fig.4.23.a/d Improving public toilets
near the mosque in troglodyte
Maymand



Fig. 4.23.c



Fig. 4.23.d



Fig.4.24.a/c Improving and organizing
new bath in troglodyte village



Fig. 4.24.a



Fig. 4.24.b



Fig. 4.24.c



Fig.4.25.a/b Improving and organizing
Public toilets in troglodyte village



Fig. 4.25.a



Fig. 4.25.b

Fig.4.26.a/b Improving and organizing
Public toilets in troglodyte village



Fig. 4.26.a



Fig. 4.26.b



Fig.4.27.a/d: Improving and organizing public toilets next of parking



Fig. 4.27.a



Fig. 4.27.b



Fig. 4.27.c



Fig. 4.27.d

Fig.4.28.a/c Process of Building of guards' room



Fig. 4.27.a



Fig. 4.28.b



Fig. 4.28.c



Fig.4.29.a/b Reorganization of the path ending in the hostel



Fig. 4.29.a



Fig. 4.29.b

Fig.4.30.a/b Reorganization of the village entrance



Fig. 4.30.a



Fig. 4.30.b



Fig.4.31.a/b Complete executive operation and utilization children's play ground



Fig. 4.31.a



Fig. 4.31.b



Fig.4.32.a/f Process of establishing half cooking calk kiln



Fig. 4.32.a



Fig. 4.32.b



Fig. 4.32.c



Fig. 4.32.d



Fig. 4.32.e



Fig. 4.32.f



Fig.4.33 Process of Building the temporary rest place for tourists

Fig.4.34 Process of construction of children playground

Fig.4.35 Designing and positioning the new buckets

Fig.4.36 Preparing the sing boards for different spaces



Fig. 4.33



Fig. 4.34



Fig. 4.35



Fig. 4.36

Fig.4.37 Sing board of MCHB

Fig.4.38 Illuminating surrounding spaces after conservation activities

Fig.4.39 Illuminating surrounding spaces after conservation activities

Fig.4. 40 Illuminating interior spaces after conservation activities



Fig. 4.37



Fig. 4.38



Fig. 4.39



Fig. 4.40



Fig.4.41 Interior space of one of the MCHB's room after conservation activities



Fig.4.42 Interior space of restaurant after conservation activities





○ *Hamlets (Ābādīs / Sar-e-Bāgh¹)*

Since architectural units at hamlets (*Ābādīs / Sar-e-Bāghs*) are getting restored organically if necessary by the local community during the residency periods in these units, no conservational activities have so far been conducted in them. Nevertheless, all hamlets (*Ābādīs / Sar-e-Bāghs*) are regularly visited by the cultural heritage experts. In general, a strong and good mutual relationship has been established between the villagers and MCHB in order to protect and preserve different aspects of Cultural Landscape of *Maymand*. Besides, in the short and mid-term management plans of the base, a different section has been allocated to the examination and conduction of required restoration and preservation activities in these parts. Plans of all inhabited hamlets (*Ābādīs / Sar-e-Bāghs*) have been made and are available in the presented maps file.

General conservational condition of the hamlets (*Ābādīs / Sar-e-Bāghs*) of the Cultural Landscape of *Maymand* based on the condition of their architectural units of *Kapar* and *Gombe*, is as follows:

- Lower *Pīsh Rūdkhāneh*: 0 intact architectural units, 2 semi-ruined units and 6 ruined and abandoned units.
- Upper *Pīsh Rūdkhāneh*: 6 intact architectural units, 3 semi-ruined units and 10 ruined units.
- *Pādezh*: 2 intact architectural units, 3 semi-ruined units and 7 ruined and abandoned units.
- *Kahnāmūr*: 2 intact architectural units, 4 semi-ruined units and 4 ruined and abandoned units.
- Lower *Mowreng*: 0 intact architectural units, 6 semi-ruined units and 5 ruined and abandoned units.
- Upper *Mowreng*: 5 intact architectural units, 12 semi-ruined units and 10 ruined and abandoned units.
- *Rezmalek*: 0 intact architectural units, 3 semi-ruined units and 6 ruined and abandoned units.
- *Poshtkor*: 4 intact architectural units, 5 semi-ruined units and 8 ruined and abandoned units.
- *Razar*: 0 intact architectural units, 3 semi-ruined units and 4 ruined and abandoned units.
- *Gharībān*: 3 intact architectural units, 3 semi-ruined units and 6 ruined and abandoned units.
- *Pūrāz*: 2 intact architectural units, 2 semi-ruined units and 7 ruined and abandoned units.
- *Kalmandūiyeh*: 6 intact architectural units, 3 semi-ruined units and 4 ruined and abandoned units.
- *Lākhorrīn*: 6 intact architectural units, 2 semi-ruined units and 4 ruined units.

¹ Temporary dwelling of the villagers in hamlets



- *Dargūīyeh*: 3 intact architectural units, 32 semi-ruined units and 2 ruined units.
- *Gozgestūn*: 4 intact architectural units, 3 semi-ruined units and 7 ruined units.
- *Bonelā*: 4 intact architectural units, 6 semi-ruined units and 6 ruined units.
- *Lelān*: 3 intact architectural units, 4 semi-ruined units and 2 ruined units.
- *Hadkonūīyeh*: 2 intact architectural units, 3 semi-ruined units and 2 ruined units.
- *Sarjang*: 1 intact architectural units, 3 semi-ruined units and 2 ruined units.
- *Lashkorgūīyeh*: 5 intact architectural units, 4 semi-ruined units and 3 ruined units.
- *Darebīd*: 8 intact architectural units, 4 semi-ruined units and 3 ruined units.
- *Edāntīt*: 0 intact architectural units, 0 semi-ruined units and 0 ruined units.
- *Bonedar*: 0 intact architectural units, 0 semi-ruined units and 0 ruined units.
- *Bīskeh Rezā*: 5 intact architectural units, 8 semi-ruined units and 6 ruined units.
- *Tilā*: 3 intact architectural units, 5 semi-ruined units and 3 ruined units.
- *Darbaneh*: 15 intact architectural units, 3 semi-ruined units and 0 ruined units.
- *Deh-e-shams*: 0 intact architectural units, 0 semi-ruined units and 0 ruined units.
- *Deh-e-zāher*: 1 intact architectural unit, 4 semi-ruined units and 2 ruined units.
- *Rūgazū*: 0 intact architectural units, 0 semi-ruined units and 0 ruined units.
- *Kal Hossein*: 0 intact architectural units, 2 semi-ruined units and 2 ruined units.
- *Kemūchak*: 0 intact architectural units, 0 semi-ruined units and 0 ruined units.
- *Lākhīs*: 0 intact architectural units, 8 semi-ruined units and 6 ruined units.

From the total number of 31 *Sar-e-Bāghs* in the *Maymand* cultural landscape, about 10 *Sar-e-Bāghs* have no resident and their architectural units are getting ruined gradually.



Fig.4.43 Distribution of Hamlets (*Abādīs*) in Cultural Landscape of *Maymand*

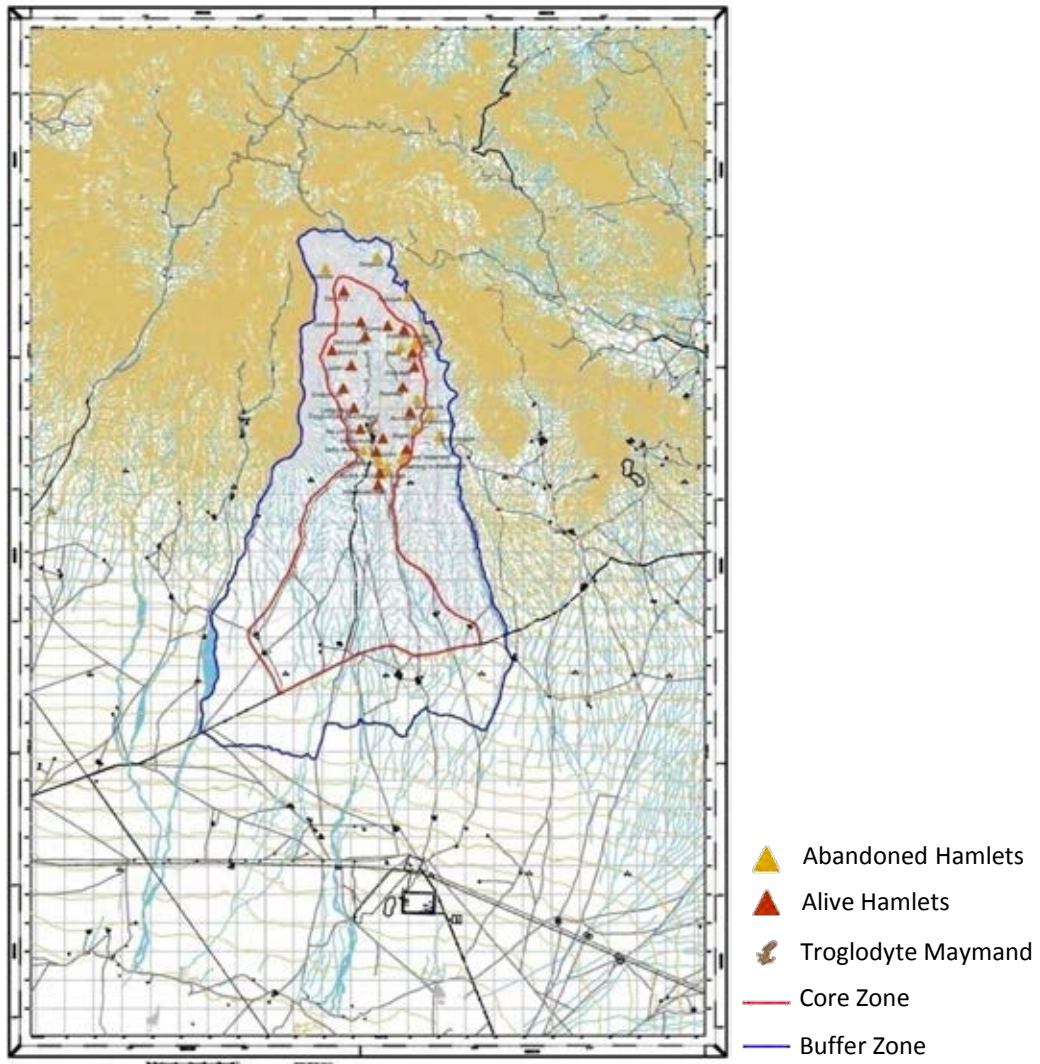




Fig.4.44 General view of Darebīd



Fig.4.45 General view of Pīshrūdākhāneh



Fig.4.46 An architectural unit in Darebīd



Fig.4.47 An architectural unit in Darebīd





○ *Folds (Sar-e-Āghols²)*

Like hamlets (*Ābādīs / Sar-e-Bāghs*), *Āghols* (folds) of Cultural Landscape of *Maymand* will be restored and reconstructed, if needed, by the local community during residing periods using local methods. During recent years the Cultural Heritage Base located at troglodyte village of *Maymand*, has undertaken several restoration and conservation activities in some of folds (*Āghols*) that are explained below.

Construction of one *Markhāneh* unit, making cover for one *Sūl* unit and wall making in *Darkhānī Āghol* in 1382/2003.

Overall, the general conservation condition of *Sar-e-Āghols* is as follows:

- *Darkhānīhā*: 49 intact architectural units including *Markhāneh*, *Kapar*, *Kūz*, *Darkūz*, *Jiredān* and *Talgard*, 16 semi-ruined architectural units, 12 ruined units.
- *Ṭālebīhā*: 43 intact architectural units, 14 semi-ruined units and 8 ruined units.
- *Loṭfīhā*: 46 intact architectural units, 21 semi-ruined units and 12 ruined units.
- *Mortezā*: 50 intact architectural units, 12 semi-ruined units and 7 ruined units.
- *Bakhshīhā*: 11 intact architectural units, 7 semi-ruined units and 4 ruined units.
- *Hājī Ebrahīm*: It is totally destroyed , only its foundation stone wall is remained.

² Temporary residence in Folds (*Āqols*) in plain



Fig.4.48 Distribution of folds (Āghols) in Cultural Landscape of Maymand

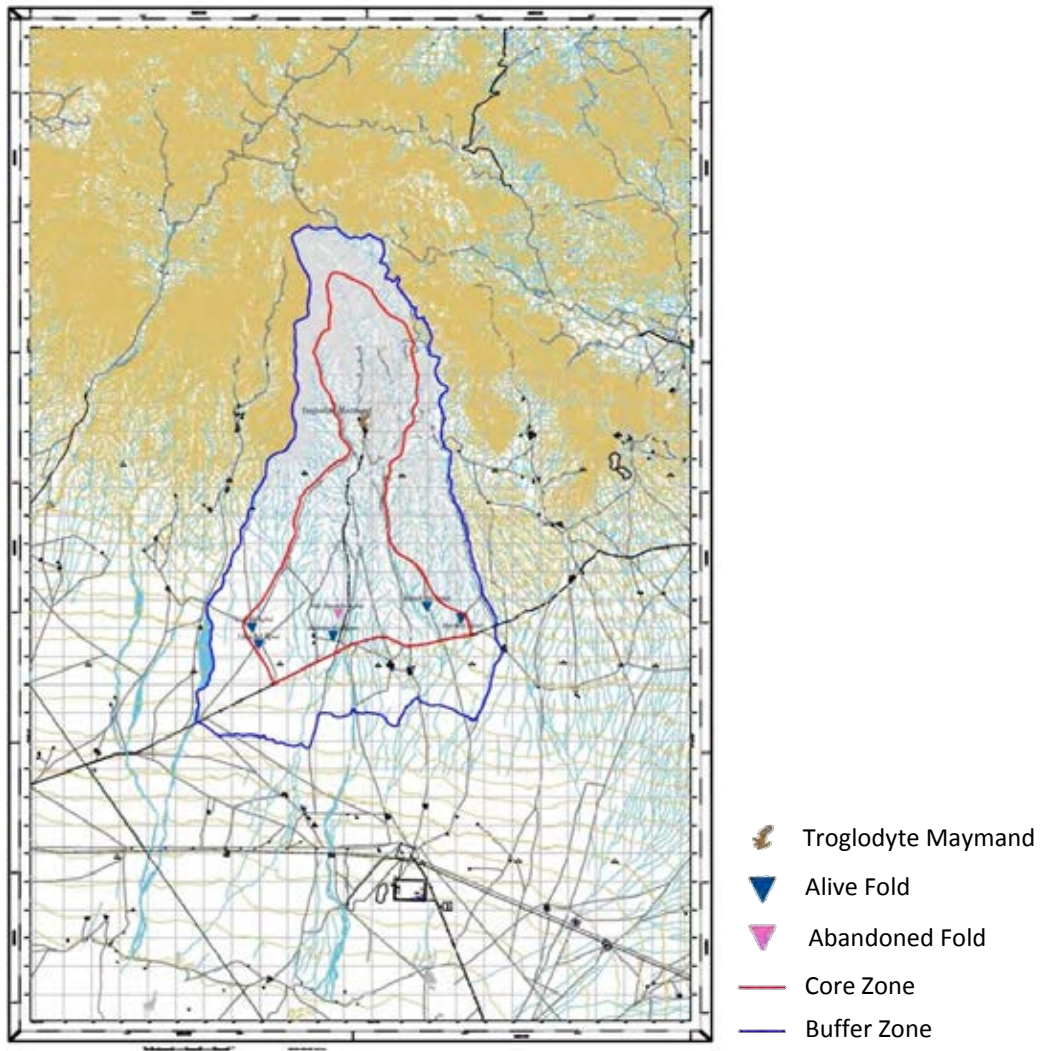




Fig. 4.49



Fig. 4.50

Fig.4.49 General view of Āghol-e Jālebīn
Fig.4.50 General view of Āghol-e Lotfīhā
Fig.4.51 General view of Āghol-e Darkhānī



Fig. 4.51



Fig.4.52 General view of Āghol-e Bakshīhā
Fig.4.53 General view of Āghol-e Morteżā
Fig.4.54 General view of Āghol-e Hāij Ebrahīm



Fig. 4.52



Fig. 4.53



Fig. 4.54



- **Miscellaneous Remains including: Water Mills, Pre-Islamic Graves, *Dezhs* (forts) and Petroglyphs/Pictographs**

Unfortunately due to the high disturbance of these properties in the region, their conservation and protection has been facing some challenges and difficulties. At the moment Cultural Heritage Base experts conduct periodical and regular visits of these remains and sites. Besides in order to have a better knowledge about them, required researches have been accomplished.

Conservation activities carried out on these sites and their current conservation condition is as follows:



- *Petroglyphs*
- Documentation of the Petroglyphs/Pictographs and studying their designs and motifs (research by Fariba Karimi).
- Periodical visits by the experts in order to control the status of the remains

Fig.4.55 Area of petroglyphs in Cultural Landscape of Maymand

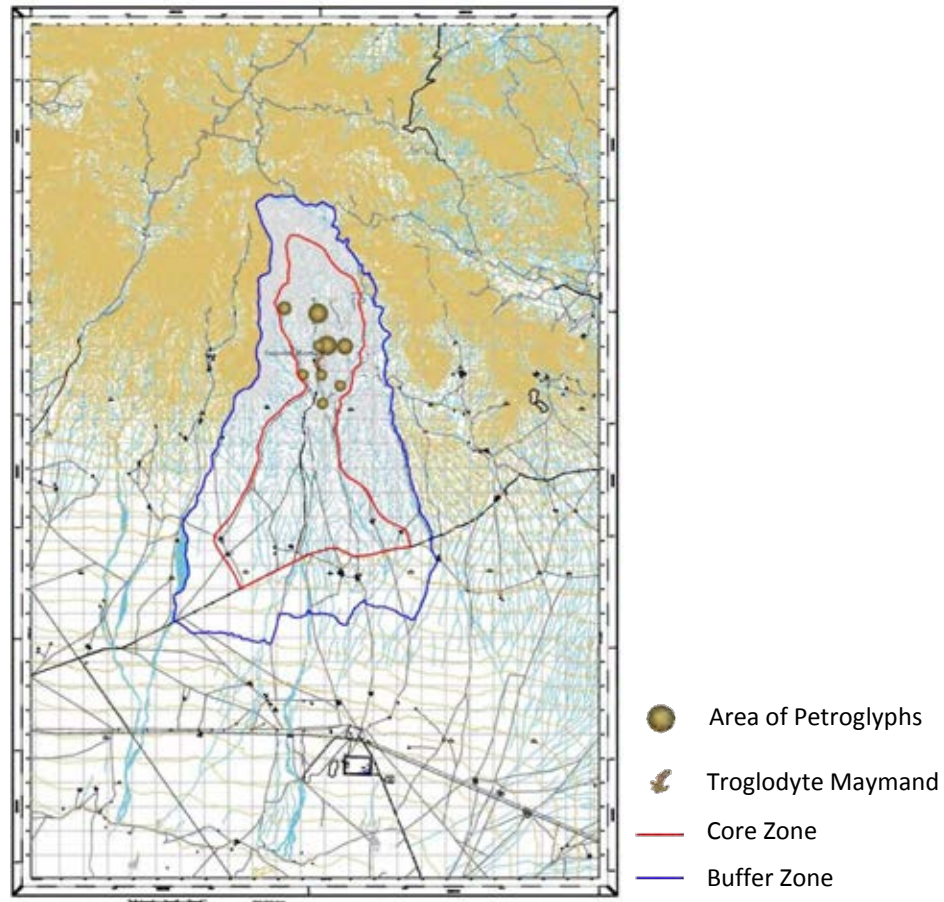




Fig. 4.56, 57, 58 An example of petroglyph in Cultural Landscape of *Maymand*



Fig. 4.56



Fig. 4.57



Fig. 4.58



- *Watermills*
- Investigation and studying of the *Maymand* watermills (two separate reports are available on the mills by Ehsan Zera'at and Sharareh Pur Mojdehi).
- *Rezmalek* watermill was restored and revitalized in 2007
- Periodical visits by the experts in order to control the status of the remains

At the moment *Maymand* water mills are in the following conditions:

- *Bādī* Watermill: Almost ruined
- *Chīl Ahmadī* Watermill: Almost undamaged
- *Alī Mehdī* Watermill: Almost ruined
- *Yūsof* Watermill: Semi-ruined
- Unnamed Watermill: totally ruined
- *Rezā* Watermill: Semi-ruined
- *Gedā* Watermill: Semi-ruined
- *Kamarī* Watermill: Almost ruined
- *Rezmalek* Watermill: Intact



Fig.4.59 Distribution of watermills in Cultural Landscape of *Maymand*

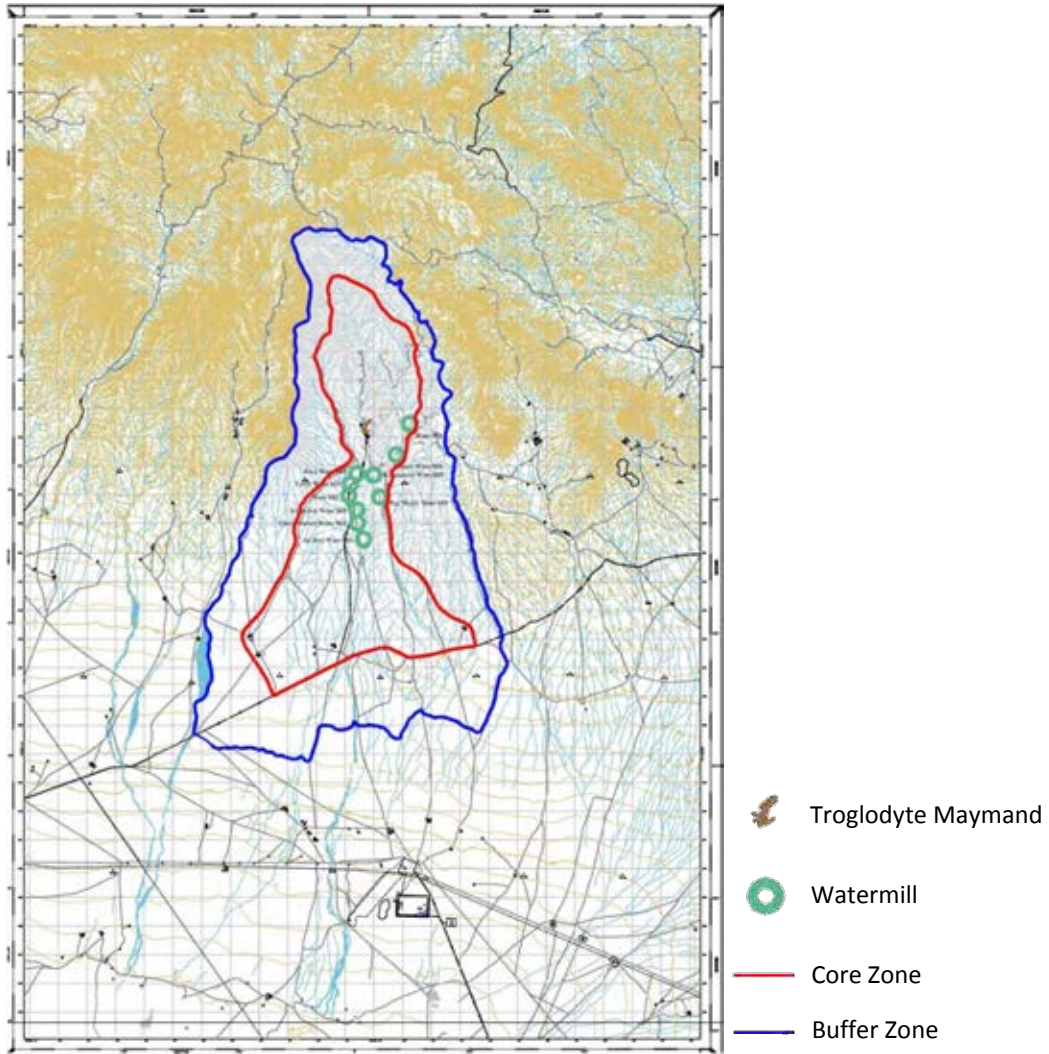




Fig. 4.60



Fig. 4.61



Fig. 4.62.a

Fig.4.60 A view of *Chīl Ahmadi* Watermill

Fig.4.61 A view of *Rezā* Watermill

Fig.4.62.a/b Repairing *Rezmalek* watermill

Fig.4.63 A Section of *Maymand's* watermill

Fig.4.64 Detail of *Maymand's* watermil



Fig. 4.62.b

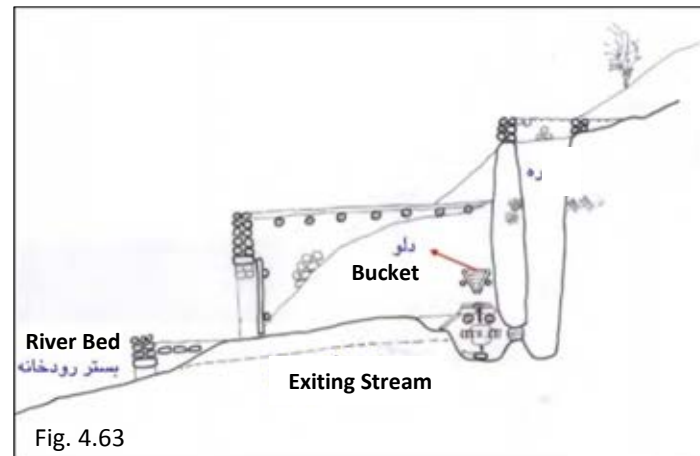


Fig. 4.63

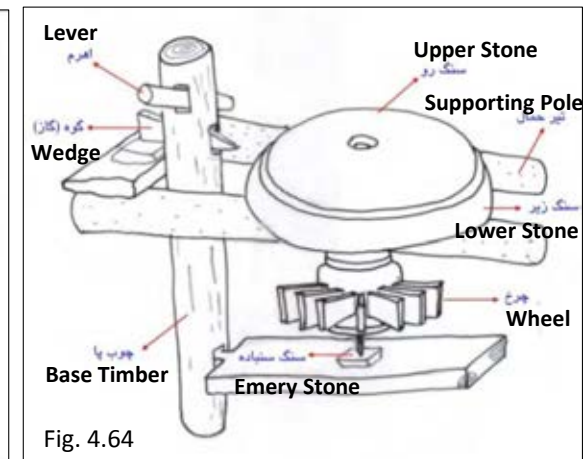


Fig. 4.64



- *Pre-Islamic Graves*

Pre-Islamic Graves are in a poor condition due to their particular use and conditions. Most of them are destroyed or are in a semi-destroyed condition. A particular conservation plan is required for the graves.

Most of the graves have been excavated by the thieves for valuables or their tomb stones were taken for other construction activities.

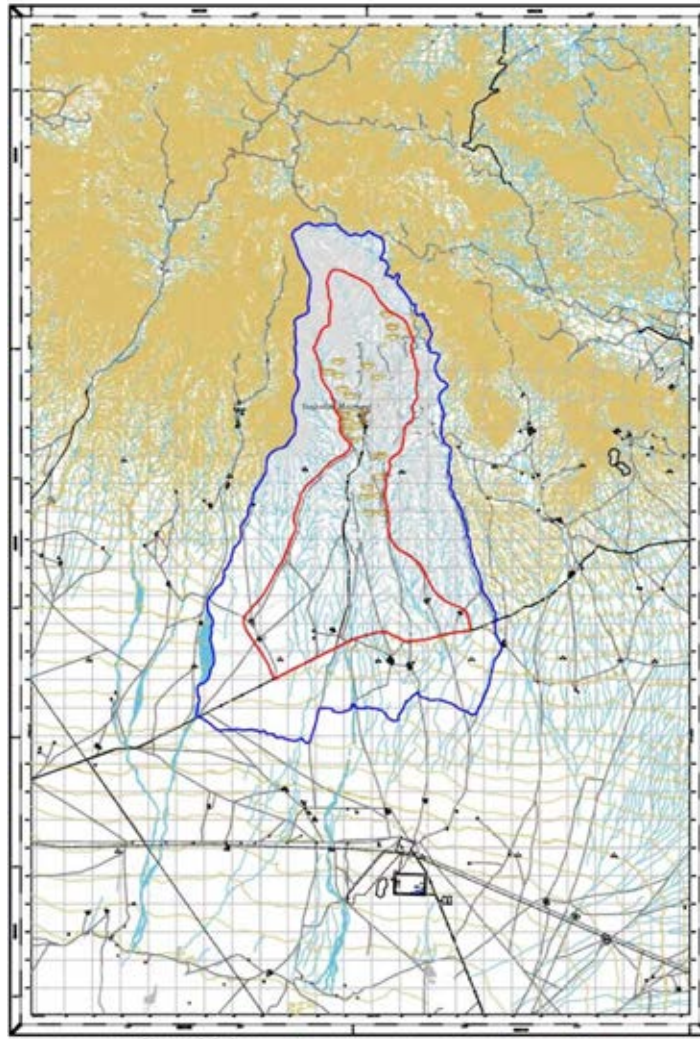
Pictures and sketch plans of these remains have been prepared. Periodical visits by the experts in order to control the status of these remains are also among undertaken conservational activities.

Fig.4.65 A part of area of Pre-Islamic Graves
in Cultural Landscape of *Maymand*
Fig.4.66,67 An example Pre-Islamic Graves
in Cultural Landscape of *Maymand*





Fig.4.68 Distribution of Pre-Islamic Graves in Cultural Landscape of *Maymand*



-  Troglodyte Maymand
-  Pre-Islamic Grave
-  Core Zone
-  Buffer Zone



○ *Dezhs* (Forts)

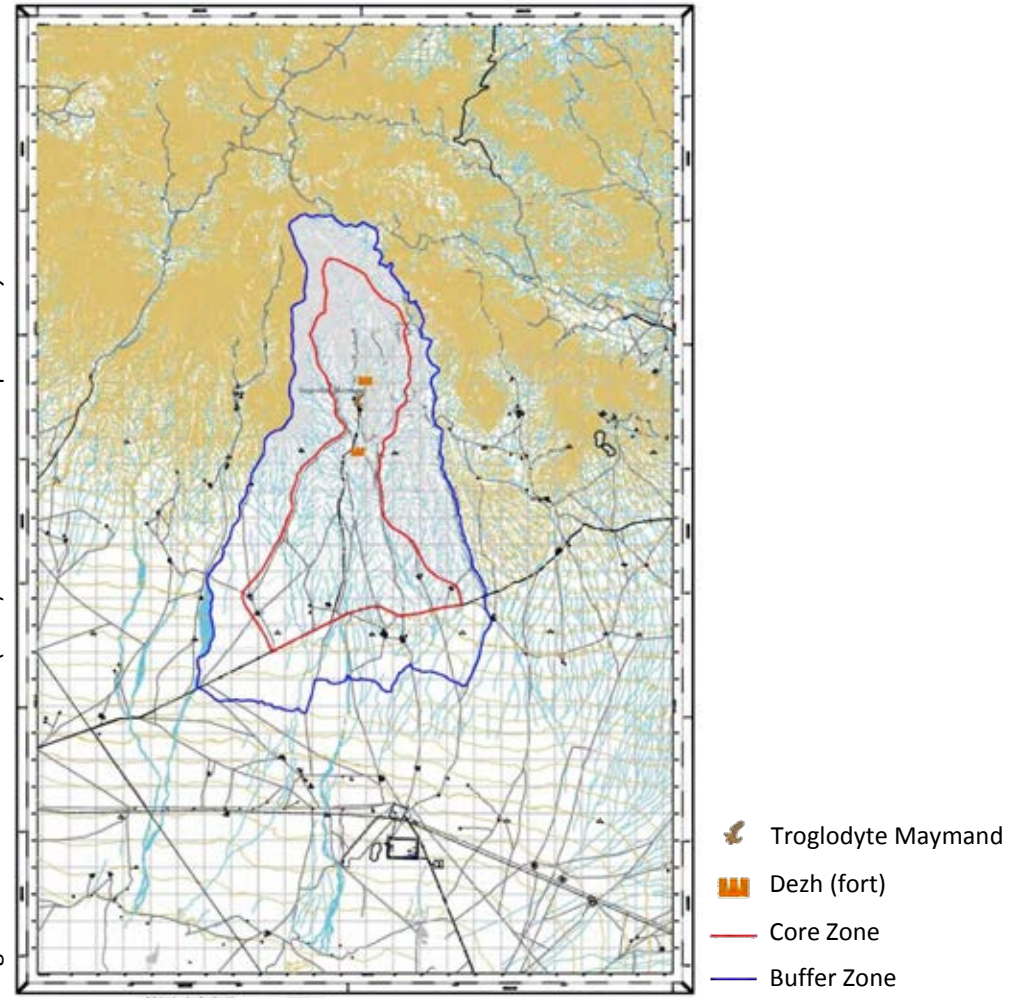
In order to conduct conservational activities on the forts in *Maymand* area, an identification survey has been accomplished that was followed by the registration of the forts. Related reports are available at MCHBarchives. At the moment, only stone foundations of the forts' have been remained.

The important factor regarding these cases is that any research and conservational action on them would endanger these as regards the threatening dangers of profiteer persons.

Fig.4.70 An example of *Dezhs* (forts) in Cultural Landscape of *Maymand*



Fig.4.69 Distribution of *Dezhs* (forts) in Cultural Landscape of *Maymand*





- **Movable, tangible, and man-made remains**

Changes in the life style and production of required tools and devices with new and different materials have caused older style tools to be almost abandoned and lose their use in all aspects of life. In past, in many cases, the local residents had sold these items to the antiquarians or other buyers, unaware about their real value or for other reasons.

To prevent further loss of these valuable items and to protect the man-made, transportable and perceptible remains, the Cultural Heritage Base at *Maymand* has undertaken various activities such as establishing a Museum and exhibiting old items in it (such as old books, documents, tools and devices, ...). Furthermore by increasing the awareness and knowledge of the local community about such items, it has prevented selling these old remains and their removal from *Maymand*. It has also encouraged the local community and also the Cultural Heritage experts of the Base to continue using these tools and items in their daily live.



- **Tangible Natural Heritage**

Cultural Heritage Base at *Maymand* has undertaken some actions in order to conserve and protect this part. These actions can be categorized into two sections:

- Research activities in the form of documentation and re-examination
- Practical actions for protection

Below is a list of examples from the above mentioned activities:

- Examination and identification of the region's fauna
- Examination and identification of the region's flora
- Geological and soil survey of the region
- Conducting correspondences with involved organizations regarding the improvement of copper factories and in particular the *Khatun Abad* Copper Factory.



- **Intangible Heritage**

Intangible heritage that includes different aspects of *Maymandi* people's life, have been in some cases changed, neglected or forgotten as a result of recent changes. The Cultural Heritage Base at *Maymand* has done some valuable actions in order to preserve these heritages including:

- Re-examination, registration and documenting various parts of the intangible heritage of *Maymand*.
- Revitalization and restoring these cases back to the daily lives of the local community as much as possible.

The results of these activities are available in the study and project reports of the *Maymand* Cultural Heritage Base. Following studies are some of the undertaken documenting projects:

- Re-examination and documenting the tools and handicrafts of *Maymand* (in fact these cases are the techniques and knowledge of *Maymand* i people that are reflected in their tools).
- Studying their food and diet
- Re-examination of the traditional medicine and related practices and healing methods
- Examination and studying of the *Maymand* i clothing
- Compilation of a dictionary on the local words and expressions

As regards the practical activities the following programs worth mentioning:

- Revitalization and reintroduction of local handicrafts such as felt making, *Saftū* weaving
- Highlighting the traditional ways of living (such as herding, gardening,...) and emphasis on their reintroduction in their original form.
- Application of local knowledge, skills and techniques in different parts especially in restoration and architectural activities and different aspects of daily life.
- Emphasis on self confidence of the local community and the value of being a *Maymand* i.



Fig. 4.71



Fig. 4.72



Fig. 4.73



Fig. 4.74

Fig. 4. 71,72,73,74,75,76,77
Due consideration has been given to protecting and encouraging living traditions in *Maymand* cultural landscape by the MCHB.



Fig. 4.75



Fig. 4.76



Fig. 4.77



4.B. Factors Affecting the Property

Several factors threaten the troglodyte village and other remains of the *Maymand* cultural landscape. The most important ones are referred to below:

The most affecting factor is the changing life style of the residents. Modern technology and developments have affected villagers' life to some extent. Building factories, road makings, new constructions and entry of tourists to the village along with natural factors such as climate and perspiration changes have all affected the property and in some cases even threaten its survival. Proposed solutions and plans as well as those actions that have been so far taken, have all tried to minimize and control these factors.

i: Development Pressures (e.g. encroachment, adaptation, agriculture, mining)

Effects of technological growth and development are in fact part of human factors affecting the site. These factors can be divided into two groups based on their direct and indirect effects on the case site. Consequences and outcomes of technological development can be categorized as factors that directly affect their environment, such as *Khātūn Ābād* Copper Factory. Factors such as life style changes that are themselves a result of new technologies and growth can be grouped under indirect consequences of development. In general, effects of technology and development in *Maymand* region can be categorized as follows:

- *Khātūn Ābād Copper Factory*: This factory is located to the south of *Maymand*. During last years, this factory has caused air pollution and soil and water contamination in the region. Currently installations of purifying filters have resulted in the controlling of the produced pollution.



Fig.4.78 Location of Khatun Abad cooper factory

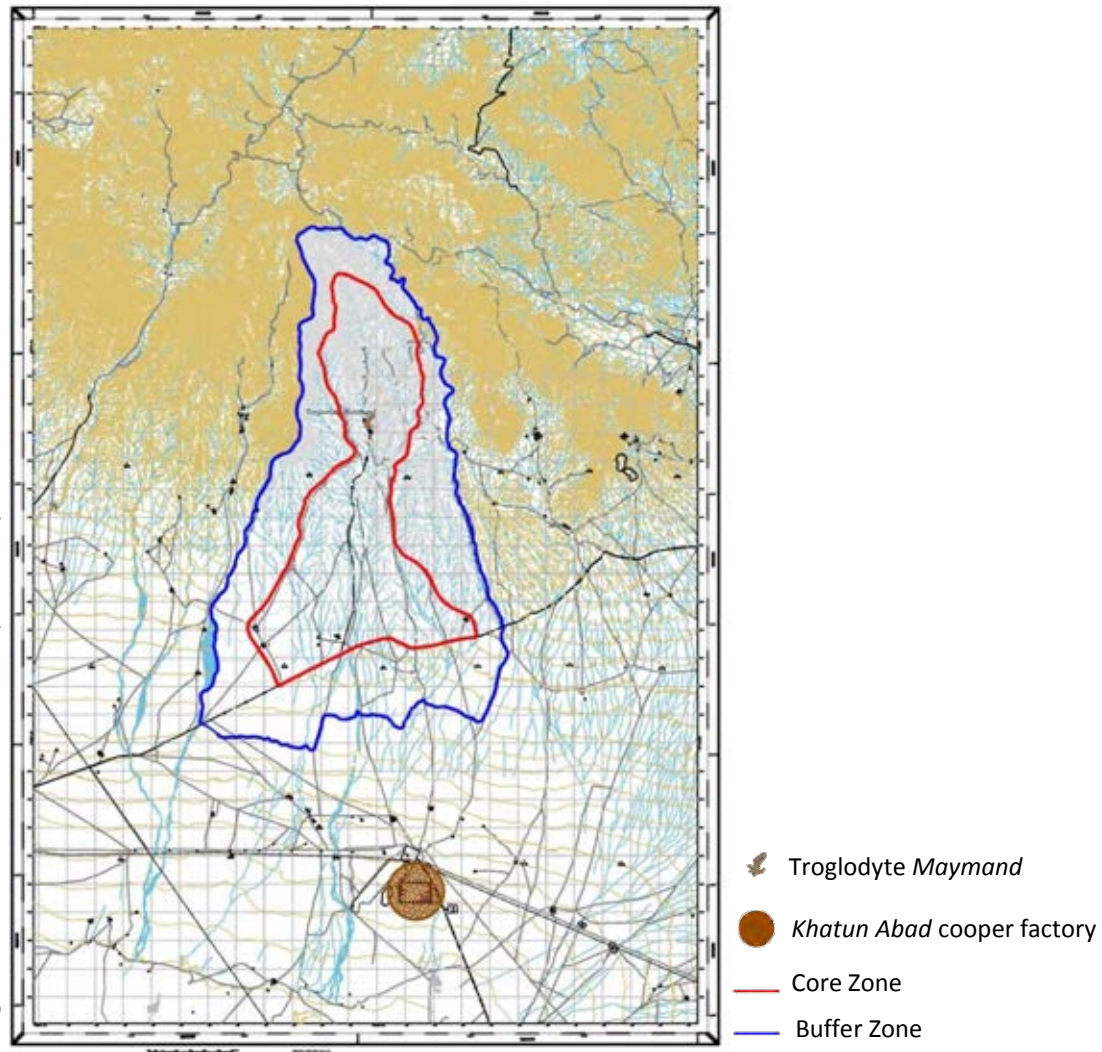


Fig.4.79 A view of Khatun Abad cooper factory





- *Change in the Agriculture System:* One other affecting result of development in this region is the change in the irrigation techniques of the agricultural lands from traditional to drop irrigation, which has both positive and negative effects. Among its positive result one can name controlled water usage; the negative effect can be unsightly visual view and not having the trees' grow naturally along the streams.
- *Road Making and Transportation:* Road making is another result of modern developments which has affected the region positively and negatively
- One of the negative effects of road making is crossing of a road from the roof of the old bath. In the long term, repetitive passage of heavy vehicles would cause serious damages to the bath. Currently by establishment of a guarding post to control the load of traffic during busy days, it has been tried to prevent and minimize the effects of this incident.
- Another negative effect of road making the natural environment unsecure for the region's wild life.
- Modified conditions and introduction of new transportation, has decreased the need to use animals as means to carry passengers and cargo.
- As apposite effect of road making, one can mention the easier access of the owners to their gardens and lands.

Fortunately, all the local access roads in the region (road makings of modern era) except for the *Maymand's* main road are dirt-roads and many of the older side tracks are remained and have been preserved.



- *Tourists Entry*: This is an indirect result of modern developments and changes in the social structures that in turn has some negative and positive effects on the case site. One of the results of tourists' entry to a region is change in the income level of the local community and its cultural structures. This will be discussed in detail later.

- *Change in the Living Structure*: As a result of new technologies introduction and modern developments, there has been changes in the living structures throughout the country. This change has different aspect, some of which are discussed below:

- *Life Style Change*: Changes in the life style and its related details such as dressing, cooking, living appliances are all results of the changes in the living structures that are caused by modern developments.

Fortunately the effects of these changes were not very strong in the *Maymand* cultural landscape and many parts of the traditional way of living have been survived. For example food and medicine in *Maymand* are mostly traditional and original but the local clothing has changed with the traditional dresses being less used. Tools and devices were also very affected by modern appliances and plastic and nylon products are now common materials.

- *Abandoning older architectural spaces and environments*: Traditional way of living (semi-nomadism) is still practiced almost in its original form in *Maymand* cultural landscape. But for many reasons such as modern developments and changes in life styles, older architectural spaces/units are now less used and in some cases are abandoned and ruined. For instance one can named some of *Sar-e-Āghols* like *Mehdīhā* and *Mashhadīhā Sar-e-Āghols* or some of the architectural units like *Rezmalek* and *Razar Sar-e-Bāghs*. Many of the residential units at troglodyte have been abandoned during recent years, which has in turn lead to destruction and more damage to these units.

- *Change in jobs and subsistence economy*: Due to different circumstances such as climatic changes and modern developments, jobs and subsistence economy of the local community of *Maymand* has changed. For instance no barley cultivation is currently taking place and gardening is also affected. Handicraft production has been declined and in some cases like felt making it is completely neglected. Fortunately by the recent activities of the Cultural Heritage Base of *Maymand*, some of these have been reintroduced.

- *Changes in building constructions and using new and different material and stuff*: With the introduction of new materials in the architecture and construction business, numerous changes have taken place as regards the traditional architecture and construction practices. This phenomenon, however, has affected *Maymand* less than other parts of Iran and today local traditional material and techniques are employed in the architecture at *Maymand* with the minimum amount of modification.

It worth noting that recent activities of MCHHTB had great positive effects on this issue.



It should be noted that the introduction of the modern life style to *Maymand* , in spite of its threats, has made the continuity of life possible by making synchronization with the widespread course of global and country's modern ways of living.

Fig.4.80 An inappropriate construction with troglodyte fabric of *Maymand*



Fig.4.81 An inappropriate construction with troglodyte fabric of *Maymand*



Fig.4.82 The construction of post office which is inappropriate with troglodyte fabric of *Maymand*



Fig.4.83 The construction of school which is inappropriate with troglodyte fabric of *Maymand*



Fig.4.84: The construction of health center which is inappropriate with troglodyte fabric of *Maymand*





Fig.4.85: An inappropriate construction with troglodyte fabric of *Maymand*



Fig.4.86: An inappropriate construction with troglodyte fabric of *Maymand*



Fig.4.87: An inappropriate construction with troglodyte fabric of *Maymand*



Fig.4.88: An inappropriate structure with troglodyte fabric of *Maymand*



Fig.4.89: An unsuitable structure with troglodyte fabric of *Maymand*





Fig.4.90 The water supply place which is considering the integrity of troglodyte *Maymand*



Fig.4.91 The water supply place which is considering the integrity of troglodyte *Maymand*



Fig.4.92 Some Items does not meet the visual integrity conditions of troglodyte *Maymand*



Fig.4.93 Inappropriate pole with the visual integrity of troglodyte *Maymand*



Fig.4.94 Inappropriate pole with the visual integrity of troglodyte *Maymand*





Fig.4.95 Using of new and unsuitable instruments instead of traditional and local instruments in daily



Fig.4.96 Using of new and unsuitable instruments instead of traditional and local instruments in daily life





ii. Environmental Pressures (e.g. pollution, climate change, desertification)

Among the environmental effects in the region the following points can be named:

- Decline of perspiration and decrease in the agricultural products as its consequence.
- Change in the climatic balance (such as the premature arrival of spring followed by a cold period afterwards which leads to damages as regards the fruit gardens and agricultural products)
- An increase in the number of wild boar population in the region and its negative consequences on gardens and agricultural products. It should be noted that the region's Environment Office does not easily issue the hunting permission for this animal.

iii. Natural Disasters and Risk Preparedness

Following natural disasters have so far taken place and caused damages in *Maymand* :

- *Flood*

According the local community, there has been two big floods in *Maymand* , both with no major human victim. The first one had taken place about 170 years ago and the second one had happened in the 1980's, about 20 years ago.

- *Earthquake*

There is no written or oral document about the occurrence of an earthquake in *Maymand* .

- Thunderbolt and lightning

One of the natural disasters affecting *Maymand* according to local oral narrations has been thunderbolt and lightning. Local community has attributed the removal of rocks from their bed in *Kalāghūn* neighborhood to this phenomenon.

- *Strong winds*

This is a very frequent event. The flowing of strong wind gradually and in the long term will cause erosion in the rock bed of *Kamar*.



- *Heavy rainfalls*

In the second half of the year, from December to February, heavy rain falls in this region. In the long term this can also affect and cause erosion in the rock bed of *Kamar*.

- *Heavy snowfall- Snow year-(national) calendar*

According to the local community reports, in about 1950' a heavy snow fall happened in *Maymand* so much so that only wild pistachio (*Beneh*) trees' top ends were visible. During recent years no such incident has been reported.

- *Drought (National) probably 1320s/1940s*

Memory of one draught is still alive in the mind of the local community. It was so severe that people had to mill wild pistachio (*Beneh*) seeds and make bread out of it.

- *Grasshopper invasion:*

In 1928/1307 invasion of grasshoppers caused a huge damage to the agriculture fields and gardens.³

- *Plague:*

In 1918 plague epidemic became in *Maymand* and this year is a reminder of sadness among the elderly residence.⁴

³ Ebrahimi, K (2007).

⁴ Ebrahimi, K (2007).



iv. Tourism and Visitors Pressures

Damages caused by tourists and visitors can be listed as follows:

- Gradual erosion of the rock bed

It is clear that the rock bed (*Kamar*) will be eroded as a result of frequent passage of people in the long term. Therefore it is necessary to control the number of visitors and to make or specify their passage routes.

- Environmental contamination by rubbish

Unfortunately one of the negative effects of tourists' arrival is the environmental issues and littering. This problem can be completely solved through educating and constant surveillance of the tourists and visitors by the Base experts, local guides and local community.

- Damages to gardens and existing spaces

Another negative effect of tourist arrival –in particular those who come for picnic or to pass their leisure time- is the damage caused by them to the gardens and trees such as breaking trees, making fire and so on. This problem has been solved to some extent through educating and surveillance of the tourists and visitors by the Base experts, local guides and local community as well as by creation of designate camping areas is another solution.

- Change in the villagers subsistence economy and their income source:

Another negative aspect of tourist arrival is its effect on the subsistence economy of the local community and creation of a profit-based dealing mood among them.

- breaking the peace and quiet of the villagers

Unlimited arrival of tourists especially during the eventful days can break the peace and tranquility of the local community. This will be increased when visitors allow themselves to enter every space and location.

- Ignoring local community's values and beliefs

As a result of arrival of tourists and visitors with different backgrounds and a diverse range of beliefs who have no or little familiarity with the local traditions, values and beliefs enter the region, the local culture will be damaged and in some cases disrespected. During the long term the local original culture will be faded and decline.



Suggestions to prevent the aforementioned problems:

- Tourists Selection Policy: through efficient introduction and education, suitable protection, quality of the provided facilities and services and via application of echo tourism approach the tourist selection policy can be performed.
- Tourists De-concentration Policy: Since *Maymand* is a distinctive site in the region and will be more and more known in the national and international scale, there exists a concern about the increasing number of visiting tourists and its side effects. To prevent this, tourists with less interests in the local and traditional cultures can be led to other interesting sites/parts of the country with less conservational concerns through the improvement of other attractions in the region and in the country and also by transferring the non-local attractions to the outside of the region.
- Providing information and educational programs through national media such as radio and television network.
- Guidance and education of the tourists prior to their entry to the site by the expert guides.
- Providing tourists with a schedule and program before their visit begins in the village and the whole complex: This means program a suitable and efficient timing for the presence of tourists at the village and using their intellectual and physical capabilities.
- Taking the private limits of the residents and tourists into consideration by marking specific walking paths through the village.
- Finding executive and technical solutions in order to preserve the current structure of the site.
- Introducing *Maymand* with cultural and educational agendas rather than a tourism designation.
- Educating and involvement of the local community
- Protecting signs and personnel



v: Number of Inhabitants within the Property and the Buffer Zone

The population size in troglodyte, hamlets (*Ābādīs*, *Sar-e-Bāghs*) and folds (*Āghols*) is diverse and dissimilar during different seasons due to the semi-nomadic living style of the population of *Maymand* cultural landscape. Based on the present census figures, during the first four months of the year (from about 4th of April to 4th of July) the population size is 320 persons in *Āghols*, 16 persons in troglodyte village, no resident in the villages. During the second 4 months of the year this figures change to 426 persons in the villages, 18 persons in the *Āghol* and 16 persons in troglodyte. During the rest of year (December, January, February and March) 130 persons reside in troglodyte and 18 persons (shepherds) reside in the *Āghol*. During these months the villages have no resident.

According to the report of Dr. Sarfaraz, in 1344/1965 the troglodyte *Maymand* had a population of 2500 to 3000.⁵

An important point as regards the local population is the connection between migrant population of *Maymand* to the nearby towns and *Maymand* local residents, which affects conservation and protection of *Maymand* cultural landscape. In fact the foundation of MCHHT attitude has been based on direct cooperation and involvement of the local residents. It has always tried to employ and use local work force as much as possible to reinforce the abilities and maintain region's stability. Currently most of the executive and development programs as well as internal administration affairs at *Maymand* are run by local community. *Maymand* residents play a vital role in managing their living environment and have a close cooperation with MCHB.

Population of each *Ābādī* and *Āghol* is separately attached.

⁵ This report is available in MCHB



Fig.4.97 Table showing population size of

Cultural Landscape of Maymand during a calendar

Residency Period Location	First 4 months of the year (April-July)	Second 4 months of the year (August-November)	Third 4 months of the year (December-March)
<i>Sar-e Bāgh</i>	0	426	0
<i>Sar-e Āghol</i>	320	18	100
<i>Troglodyte</i>	16	16	130



Fig. 98 Some people of Cultural Landscape of Maymand



Chapter 5



Protection and
Management of
the Property





5.a Ownership

At the moment, in the Cultural Landscape of *Maymand* the village is owned by the local community and they have full ownership rights of their own estates and properties. But in general terms, Iranian Cultural Heritage and Tourism Organization supervises all activities in the complex through the MCHB¹. In other words, residential units, watermills, *Qanats*, and gardens are privately owned by one or more person. But Forts(*Dezhs*), grottos, pre-Islamic graves and petroglyphs are considered public property and are under supervision and protection of governmental organizations.

As regards the pasture lands, there exist two forms of ownership: public ownership and traditional local ownership. According to the formal Iranian law, all pasture lands are public properties but in local traditional way of ownership, local community has usually divided the exploitation right of the pasture lands among families.

Organizations that have a form of supervision over the complex include: Environment and Natural Resources Organization, Police Forces, Government Office, Roads and Communication Authority, Water and Sewage, Electricity, Public Health, Communication and Education organizations and ministries. These organizations however, cannot conduct any project in the core zone and buffer zone of this cultural landscape without consulting with and acceptance of MCHB and receiving required permissions.

¹ MCHB is abbreviation of *Maymand* Cultural Heritage Base



Name		Private Ownership	Public Ownership	State Ownership	vaqf ²	
Troglodyte Maymand	<i>Kīcheh</i>					
	<i>Kāshkor</i>					
	Mosque					
	Hosseinieh					
	MCHB's <i>Kīcheh</i>					
	Old Bath					
	New Bath					
	Local toilets(<i>Owrīz</i>)					
	New Public toilets					
	Parking					
	New School, Post office, Health center					
	<i>Ābadī</i>					
<i>Āghol</i> , Plains of <i>Āghol</i>						
Watermills						
<i>Qanāts</i>	<i>Maymand's Qanat</i>					
	All Other <i>Qanats</i>					
<i>Dezhs</i> (Fort), Petroglyphs, Pre-Islamic Graves, Grottoes						
Springs	<i>Bon-e Maymand</i> , <i>la-NīrūzŪ</i> Springs					
	All Other Springs					
Roads						

Fig. 5.1 Ownership table of Cultural Landscape of Maymand

² The Islamic Endowment and Charity



5.b Protective Designation

The national and international laws, regulations and constitutions to preserve and support the property:

✚ Registration of *Maymand* troglodyte Village in the National Heritage List

In **1380/2001**, *Maymand* Troglodyte Village was registered in the National Heritage List with registration number of **4513**. As the result, this site was protected under the “Historical Monuments’ Protection and Conservation Law”.

✚ Identification and Approval of the Site’s Buffer Zone

In December 2001 (*Āzar* 1380), for the first time the conservational buffer zone of the *Maymand* troglodyte village was identified and hence, the village became under protection of related official protective laws and was considered a historically valuable site. Gaining a better understanding of the complex and its unique characteristics, led to revision of the defined buffer zone in 1381/2002 and some alterations were made. This second buffer zone was also changed and reviewed in 1388/2009. In this final revision, all the *Sar-e-Āghols*, *Sar-e-Bāghs* were also included in the core zone of the site and therefore became subjected to the supervision and conservational programs.

✚ Establishment of the *Maymand* Cultural Heritage Base

Due to the distance between the site and the Cultural Heritage Office of the Kerman province and the importance and extent of the *Maymand* cultural landscape, the provincial Cultural Heritage Office could not have a full suitable control and supervision on this site.



Threats posed by a hotel construction on the hills overlooking *Maymand* were another motivation for the high authorities of the ICHHTO to issue the necessary permission for establishment of a local cultural heritage base at *Maymand*. The local base could undertake the conservational and revitalization activities in a more sufficient way through a better understanding of the site resulted by its physical existence in the area.

✚ **Conservational Programs of the MCHB**

Since the establishment of MCHB in December 2001, various activities have been undertaken in order to examine, protect, conserve and revitalize man-made and natural perceptible and imperceptible heritages of *Maymand* troglodyte village and its connected complex. A comprehensive description of such activities are given in the annual reports of the MCHB in form of restoration, conservation and revitalization programs and documentations, and compilation of the restoration guidelines. The conservation issue in the *Maymand* cultural landscape contains a collection of man-made and natural, perceptible and imperceptible and live and lifeless heritages.

✚ **Cultural and Natural Heritage Laws in Iran:**

There are different laws and regulations for protection and conservation of cultural heritage in Iran. These are in the following broad categories:

- Legislation governing general cases in the country, including cultural heritage;
- Legislation specifically concerning cultural heritage;
- Legislation specifically concerning natural heritage;
- International legal instruments, recommendations and guidelines that are integrated within the national legislation.

- **General Regulation :**

Samples of the general laws and regulations relevant to cultural heritage include, inter alia:



1. Article 83 of the Constitution Law of Islamic Republic of Iran (1920) recognizes the importance of cultural properties. Transferring the ownership of public monuments and properties considered to be part of the national heritage is forbidden, unless approved by the Parliament. However, transfer of ownership of monuments and cultural properties officially recognized as insignificant is possible.
2. Article (26) of the Iranian Civil Law (1939) prohibits private ownership of significant cultural property.
3. The Islamic Penal Law is an effective law for practical protection of cultural heritage. A full chapter deals with crimes regarding cultural heritage (from Article 588-569) in the Islamic Penal Law, (1996). This law recognizes the following as a crime subject to punishment:
 - Damaging, theft, selling or buying stolen historical property (Article 559);
 - Violation of the regulations of ICHHTO resulting in deterioration, defect, or damage in the heritage property (Article 560);
 - Illicit export or smuggle of heritage property (Article 561);
 - Any unauthorized excavation in an effort to find historical properties (Article 562.1);
 - Selling or buying properties discovered from unauthorized excavations (Article 562.2);
 - Encroachment on historical or religious land, property or sites registered on the National Heritage List with no private ownership (Article 563);
 - Restoration, repair, converting, renovation and extension of cultural or historical monuments or their decoration, registered on the National Heritage List without the ICHHTO approval (Article 564);
 - Transferring parts of immovable properties registered on the National Heritage List without the ICHHTO consent (Article 565).
 - Converting the functions of monuments and sites registered on the National Heritage List denigrating the identity of the property and/or without ICHHTO consent.
4. The Law for Punishment of Those Interfering in the National Economic System (1991), article (I), paragraph d, considers any effort towards export of national property , even though not successful, a crime. All such property intended for export is confiscated.



5. Property acquisition law for implementing public development and military projects of the Government (1979) allows the acquisition of any historic property, in case a project is prepared for this property. This law has a streamlined procedure, which also guarantees the rights of the private owners.

- **Specific Regulation for Cultural Heritage:**

Samples of the regulations specifically dealing with cultural heritage are explained below:

1. The Law for Protection of National Heritage (1930) is the first comprehensive law concerning various aspects cultural heritage. This Law defines the procedure for identification of cultural heritage property (Article 1). It further mandates the Government to prepare a National Heritage List (Article 2), sets the criteria and legal protection for properties on this List, and stipulates legal provisions for archaeological excavations.
2. The Bylaw Concerning Prevention of Unauthorized Excavation (1980) stipulates punishments for excavation and/or purchase of excavated historic objects. The provisions of this Law are further elaborated in the Islamic Penal Law mentioned above. There is further regulation limiting production, purchase, use or advertisement of metal detectors.
3. The Law Concerning Acquisition of Land, Building and Premises for Protection of Historic Properties (1969) stipulates further regulations for acquiring property with historic or cultural significance.
4. The Law for Establishing Iranian Cultural Heritage Organization (1979) is another powerful legal instrument depicting a comprehensive picture for managing cultural heritage of the country.
5. The Law for Establishing the Higher Council for Architecture and Urban Planning (1987), which concerns with both cultural and natural heritage.

International Legal Instruments :

In the I.R. of Iran, the requirements of any international convention are integrated with the national legislation, upon accession to that international convention. Thereafter, it will be compulsory to abide with the requirements of these conventions. The I. R. of Iran has acceded to several *UNESCO* conventions concerning the conservation and protection of cultural heritage, as well as other conventions and charters. Some of important conventions which are acceded by the I. R. Iran include, inter alia:



1. Convention Concerning the Protection of the World Cultural and Natural Heritage (1972)
2. Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (1954) and its Protocol I (1954) and Protocol II (1999)
3. Convention for the Safeguarding of the Intangible Cultural Heritage (2003)
4. The Florence charter about historic gardens (1981)

✚ **Other Regulations :**

In addition to the legal instruments mentioned above, there are other types of regulations for protection and conservation of cultural and historic property in the I. R. of Iran. For example, according to a cabinet decision adopted in 2001, all public organizations must conduct studies to assess the cultural/historic impacts of major development projects at the earliest feasibility study stage and to comply with the recommendations of such studies during design and implementation.

✚ **Regulations of the Core zone and Buffer Zone of the Cultural Landscape of *Maymand***

- **Regulation of Core Zone**

1. Any action leading to any damage or destruction property is prohibited.
2. Any developing and organizing activity that results damage to the landscape and natural setting of the site such as stone, pebble and sand mining, mountain cutting and digging, erecting electricity, telephone and communication, satellite and TV towers, advertising boards and so on is prohibited.
3. Any conservation plans, development plans, organizing and landscaping activity, as well as establishment of tourism and service facilities is only permitted after preparation of the related plan and its final approval by the ICHHTO and its execution according to the approved plan in order to preserve cultural, historical and natural characteristics of the region.



4. In order to preserve natural resources and landscape of the area, any damage to the natural appearance of the region located within the buffer zone of the property like changes in the land topography, soil, gardens and fields, rivers direction, *qanats*, springs and vegetation is prohibited.
5. Preserving gardens and agriculture lands use is mandatory and agricultural activities are allowed.
6. All historical monuments located within the core zone such as towers, forts, pre-Islamic graves, old cemeteries, watermills and other valuable sites that have some relation with the core zone need to be preserved, protected and restored in their current status.
7. Any construction activity, building new structures and pathways is prohibited in the core zone of the property. Restoration, alteration and widening of old pathways (especially in troglodyte village) is only permitted after preparing and presenting its plan and final approval of ICHHTO.
8. Fundamental, service and facility providing activities such as gas and water piping, electricity networking, water and sewage management, telephone lining and so on is only executable after preparing related plans and its final approval by the ICHHTO.
9. No public and heavy vehicle is allowed to enter the troglodyte village.
10. It should be once more noted (especially in troglodyte village) that newly established buildings like education organization camp building, telecommunication and health center buildings, bath and school are going to be removed or improved.

- **Regulation of Buffer Zone**



- Large scale plans include industrial complexes and development projects such as highways, railways, agricultural must be agreed by ICHHTO (MCHB) in the feasibility study stage.



5.c Means of Implementing Protective Measures

The Cultural Heritage, Handicrafts, and Tourism Organization has the authority of conservation and protection of all the artistic, historical and cultural monuments, Sites and Gardens according to civil law.

According to law, all the governmental and nongovernmental organizations as well as all the citizens in all parts of the country must obey the law and follow the regulations related to all kinds of movable and immovable properties presented by the Cultural Heritage Organization.

Since the entire nominated property is under legal protection of ICHHTO, all interventions related to it needs to be approved by ICHHTO.

MCHB under the supervision of Kerman province Cultural Heritage Organization and Cultural Heritage Bases Administration Office is responsible for the execution and supervision of legal and approved regulations in the property.

Defined conservation regulations and policies of the site have been implemented in different ways and the MCHB has been supervising this process.

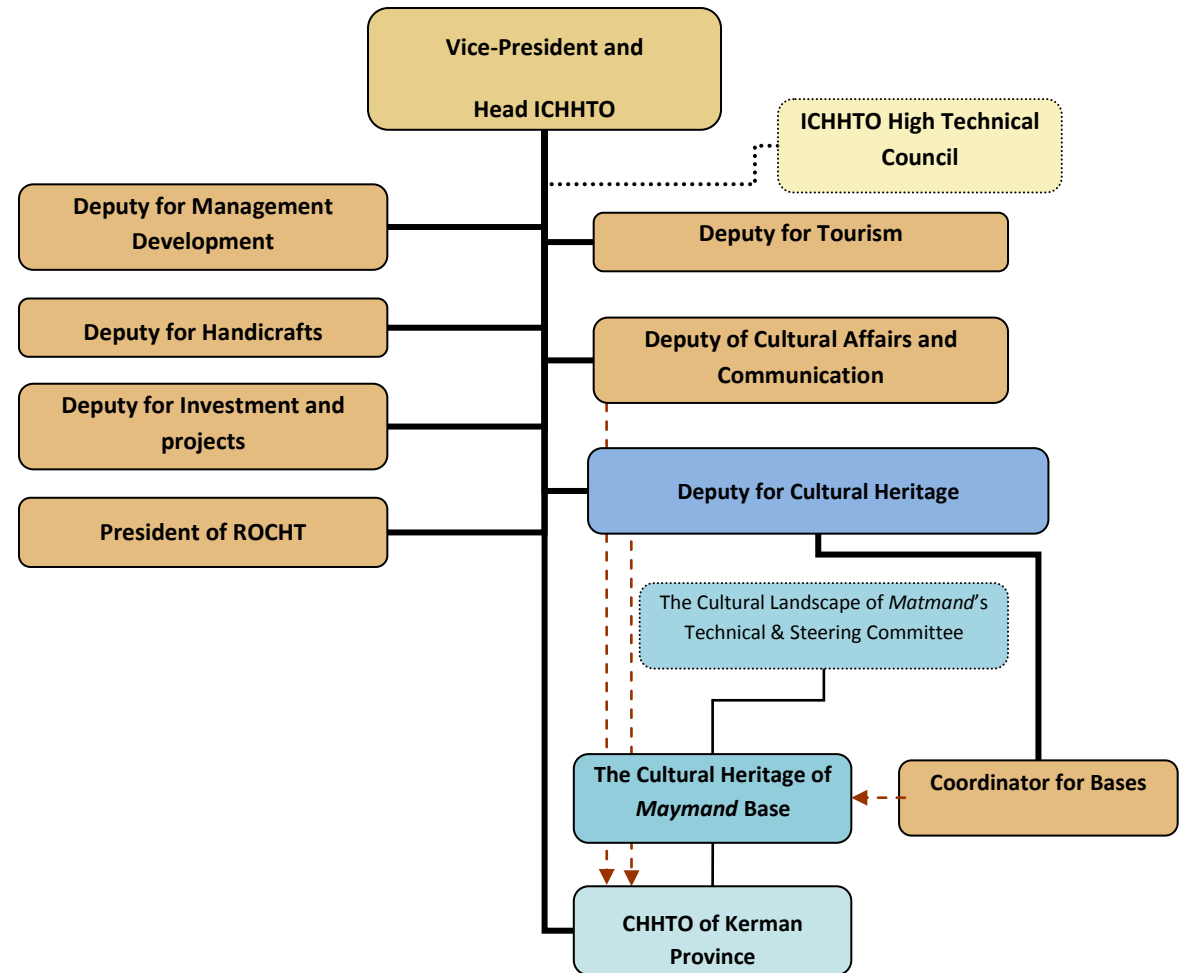
- Registration of a site in the National Heritage List is the first step in its protection and conservation which is conducted through implementation of legal regulations and policies regarding the cultural heritage conservation.
- Definition of the site's buffer zone according to ICHTO-approved regulations along with ICHTO supervising on its correct execution is set as the executive guarantee of the application of the regulations in the defined buffer zone.



- Conservation plans of the sites that were programmed since the establishment of the MCHB were executed in the study area by the same office. Organizational, local and resident experts supervise the accurate execution of these plans.

The chart shows the position of this base in the ICHHTO.

Fig. 5.2 Position of *Maymand* Cultural Heritage Base in ICHHTO





Responsibilities of the Base of Cultural Landscape of *Maymand* are to:

- Supervise, Evaluate and control the management system of the whole property.
- Ensure and encourage participation of stakeholders.
- Distribute sources of national and provincial finance to base.
- Observe existing and new development plans that influence the property.
- Prepare guidelines for research about property
- Support the providing of expert consultations for the provincial bases.
- Support collecting existing information about rock (*Dastkand*) architecture of Iran.
- Support regular documentation.
- Support Equipping tourism route of Cultural Landscape of *Maymand*.
- Support the presentation and promotion activities.
- Create a database for the Cultural Landscape of *Maymand*.
- Support the base to Collaborate with universities and research institutes.
- Support Publication of experiences in conservation and management fields.
- Specify relevant strategies for managing the tourism impacts.
- Support holding discussion sessions with all stakeholders.



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- Ms. Zohre Bozorgmehri, M.A, Architecture
- Ms. Mahnaz Ashrafi, PhD., Architecture

³ Kerman CHHTO is abbreviation of Kerman Cultural Heritage, Handicrafts and Tourism Organization



5.d Existing Plans Related to Municipality and Region in which the Proposed Property Is Located

In Iran, in order to develop cities, comprehensive plans are prepared first. These plans should be approved by the High Commission of Architecture and Urban Planning. In order to develop villages and rural area, Master Plans are prepared, which should be approved by the related committee in the Housing Foundation. Following this step development activities are conducted in the villages by the Housing Foundation and Agriculture Organization in the Iranian villages. No Master Plan has been so far prepared for *Maymand* village. However, this village is considered as one of the important tourism attractions of Kerman province and *Shahr-e Bābak* Township due to its strong cultural and landscape potentials and has been included in the *Shahr-e Bābak* comprehensive plan. Besides, different development plans have been so far performed in the cultural landscape of *Maymand*.

Examples of such development projects and plans are given below:



✚ Executed projects and plans conducted by governmental organizations and institutions other than ICHHTO:

- **Master Plan of *Shahr-e Bābak*.**

Prepared by *Sharmand* Consulting Engineers in 1379/1998 and approved in 1380 / 1999 by the Higher Council of urban planning. The overall approach of this master plan to *Maymand* is as a tourist destination of *Shahr-e Bābak* Township.

- **Providing water facilities in the *Maymand* village project.**

Started 1381/2002 and finished May1388 /2009. Responsible organization: Water Organization. Total budget: 9,500,000,000 Riyals . It should be noted that this projects was accomplished by cooperation of MCHB.

- **Establishment of village's communication network project .**

Started 1385/2006 and finished March 1387/2008. Responsible organization: Communication Organization. Total budget: 2,500,000,000 Riyals for setting up W.L.L. and BTS systems. This project was accomplished by cooperation of MCHB.

- **Foresting project .**

Started since1383/2004 and continues each year. Total annual budget: 100,000,000 Riyals. This project was accomplished by cooperation of MCHB.

- ***Qanats'* sediment removal project.**

This project has been conducted every year for several years and an annual budget of 300,000,000 Riyals is dedicated to it.

- **Village council projects.**

Such as removing surface waters and rubbish and so on in the village area. These projects were accomplished by cooperation of MCHHTB.

- **Road Organization projects.**

Collaborated with the MCHB in lining the roads, and installation of the guiding sign for the village.



✚ MCHB Projects and Plans

Since the establishment of the Base in 2001, various plans and projects were accepted and executed in the area and in particular in the troglodyte village of *Maymand*. These plans and projects had different themes such as revitalization, organizing, creation of service and entertaining facilities and so on. A number of such activities are named below:

- Protection, conservation and restoration plans, as mentioned in the previous section.
- Revitalizing and assignment of new functions to some of currently deserted spaces.
- Accomplished plans such as establishment of MCHB office, restaurant, tourism base, document center and museum, designing the furniture for the revitalized *Kichehs*.

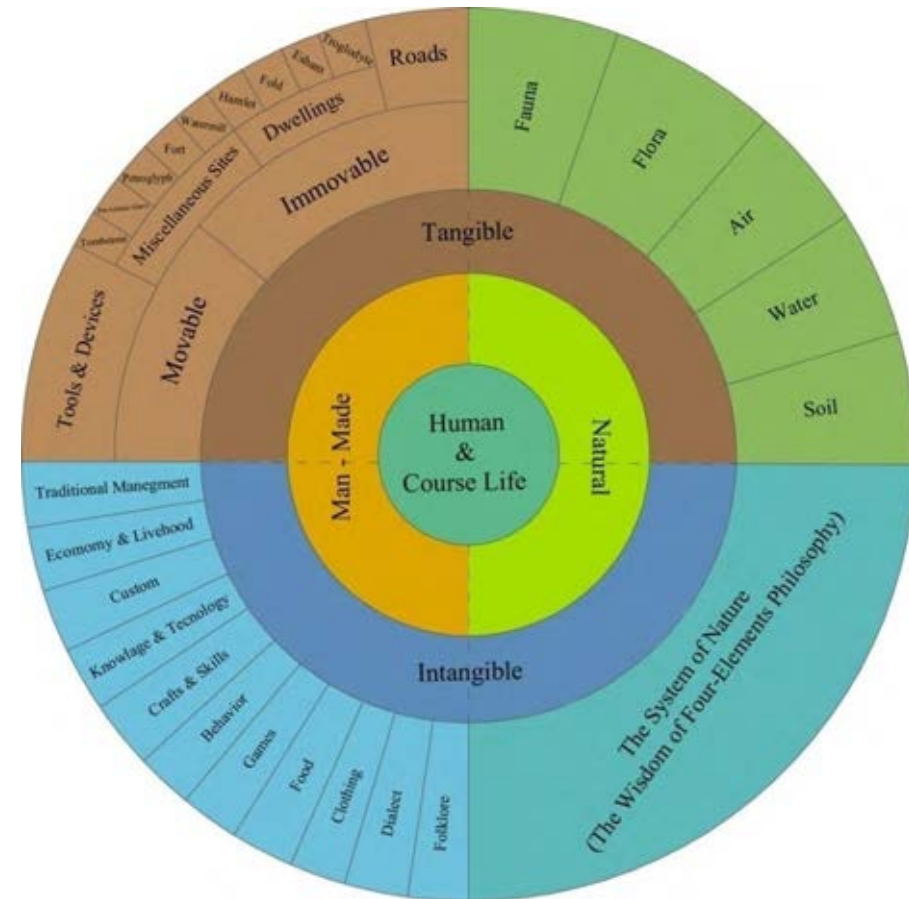


5.e Property Management Plan or Other Management System

✚ Cultural Landscape of *Maymand*

The Cultural Landscape of *Maymand* is reflection of transformations happened in the human societies through time. It is affected by limitations and chances that have been created by its surrounding natural context as well as social, natural, cultural, economic, internal and external factors. Opposite graph shows different aspects of this cultural landscape.

Its forming core is human and his course of life which has been ongoing for years in the novel natural context of the area. Other phenomena of the *Maymand* cultural landscape are divided into two natural and man-made general categories. Each of these categories is in turn divided into perceptible and imperceptible groups, whose details are presented in the graph.



The Cultural Landscape of Maymand

Fig. 5.3 Different aspects of the Cultural Landscape of *Maymand*



Management Administration Structure

Structure and administrative-management chart of Cultural Landscape of *Maymand* is presented in front:

According to the presented chart, the MCHT Base at *Maymand* troglodyte village has been appointed by the Iranian Cultural Heritage, Handicraft and Tourism Organization as the main programmer and executive agent for the policies, plans and programs of this cultural landscape and acts within the administrative hierarchical order of ICHHTO (as shown in the chart).

MCHT Base has direct and close collaborations with the *Maymand* Village Council and *Maymand* Village Administration Office and connects to the township governmental organizations through them.

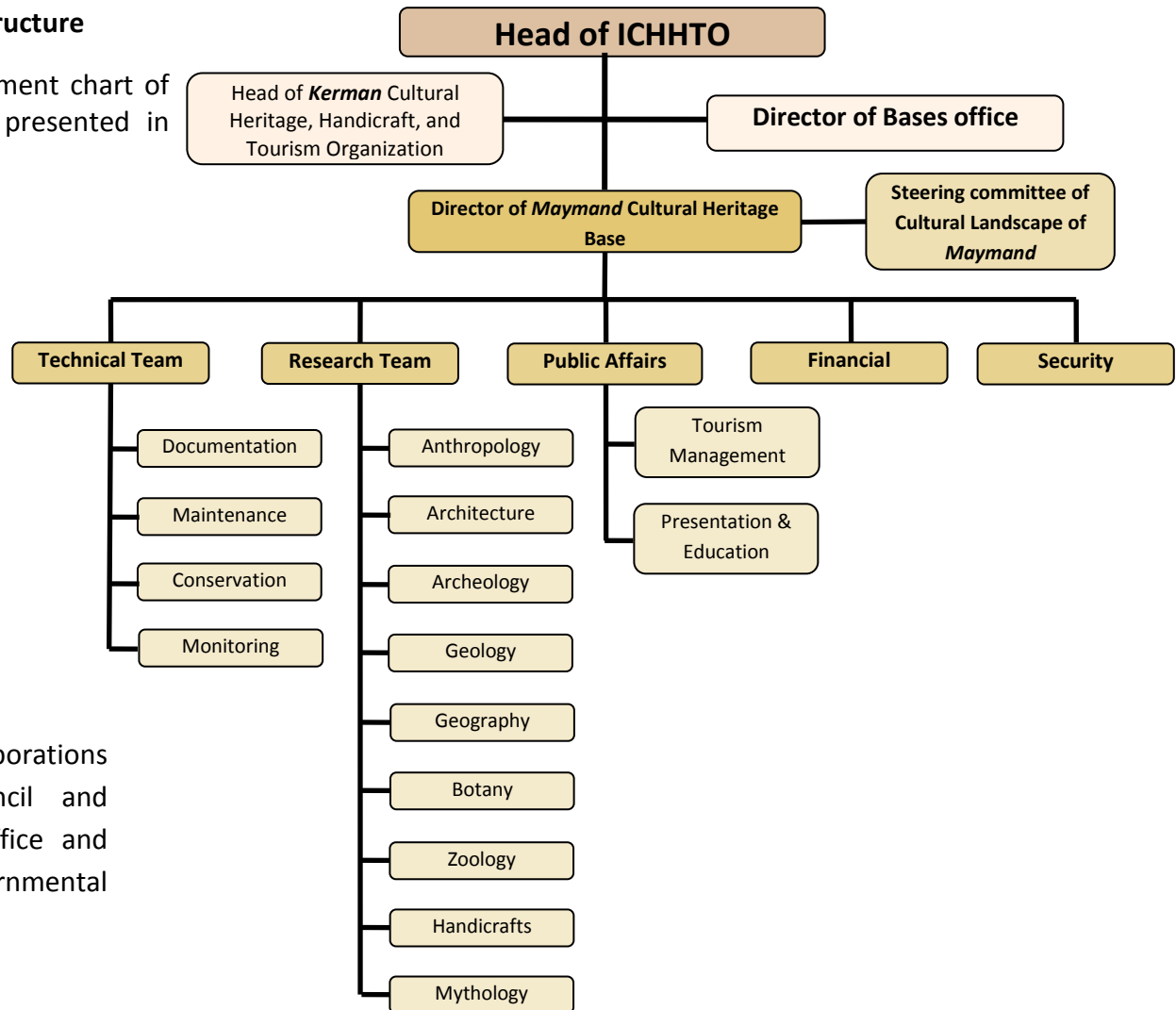


Fig. 5.4 Organizations chart of Maymand Cultural Heritage Base (MCHB)



These organizations can play an important and effective role in different organizing and developing programs of the *Maymand* cultural landscape. Some of the major plans executed by such organizations were described earlier.

An important part of executive and administrative structure of *Maymand* cultural landscape regards the local community and is performed through relations and collaborations with the owners, Village Council as well as village's Mosque and *Hosseiniyeh* Foundation Committee.

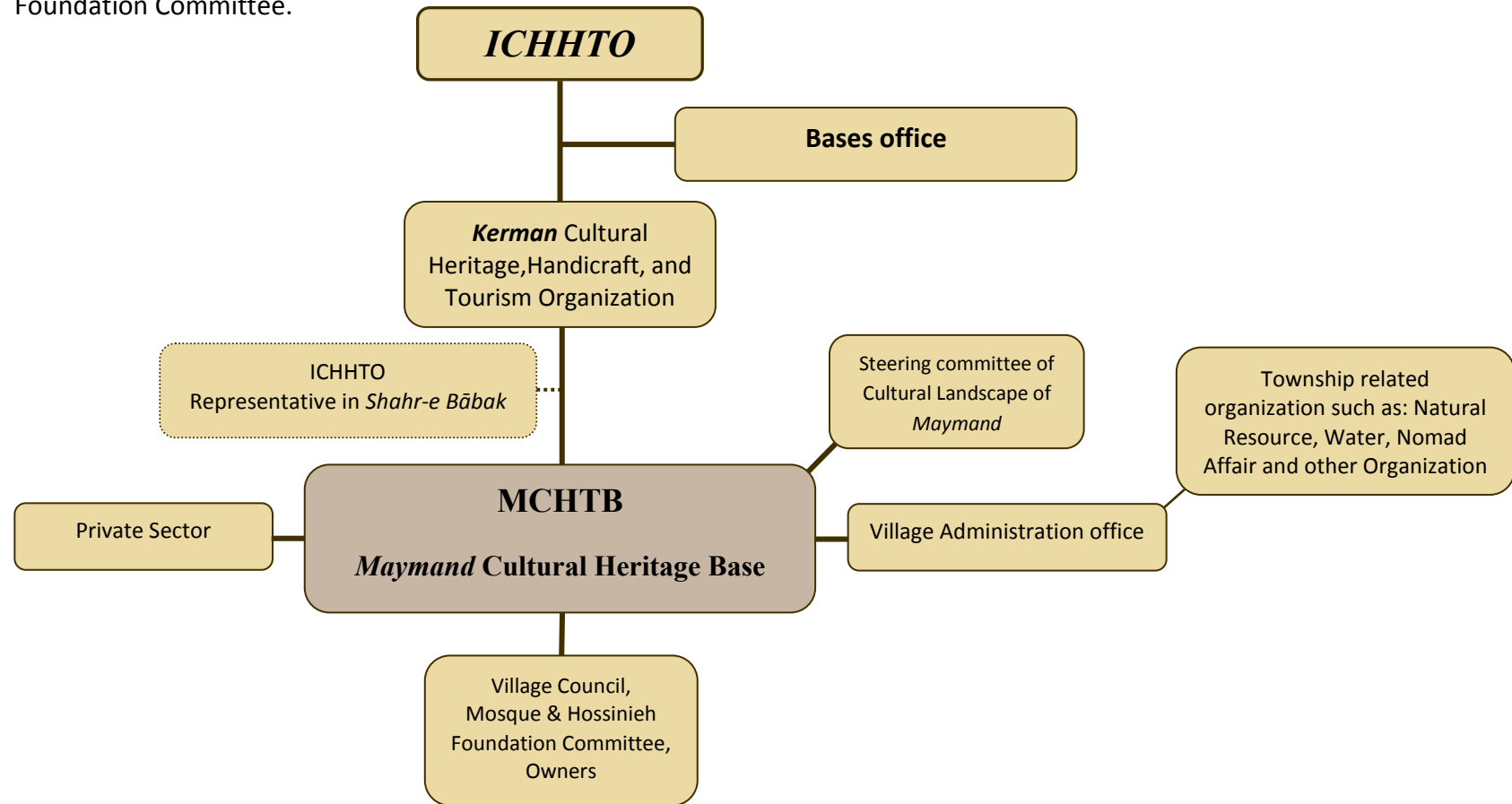


Fig. 5.5 Stakeholders of Cultural Landscape of *Maymand* conservation



Future Perspective

Our future perspective from *Maymand* and its cultural landscape is a village that has preserved its perceptible heritage, has the highest rate of continuation and originality in its imperceptible heritage, has ability to provide energy required for its continuation, connects its residents' lives with the modern course of life, has the ability to make connections with other geographical spans at a suitable level and a village that provides the means of knowing and experiencing such life for non-local community as well.

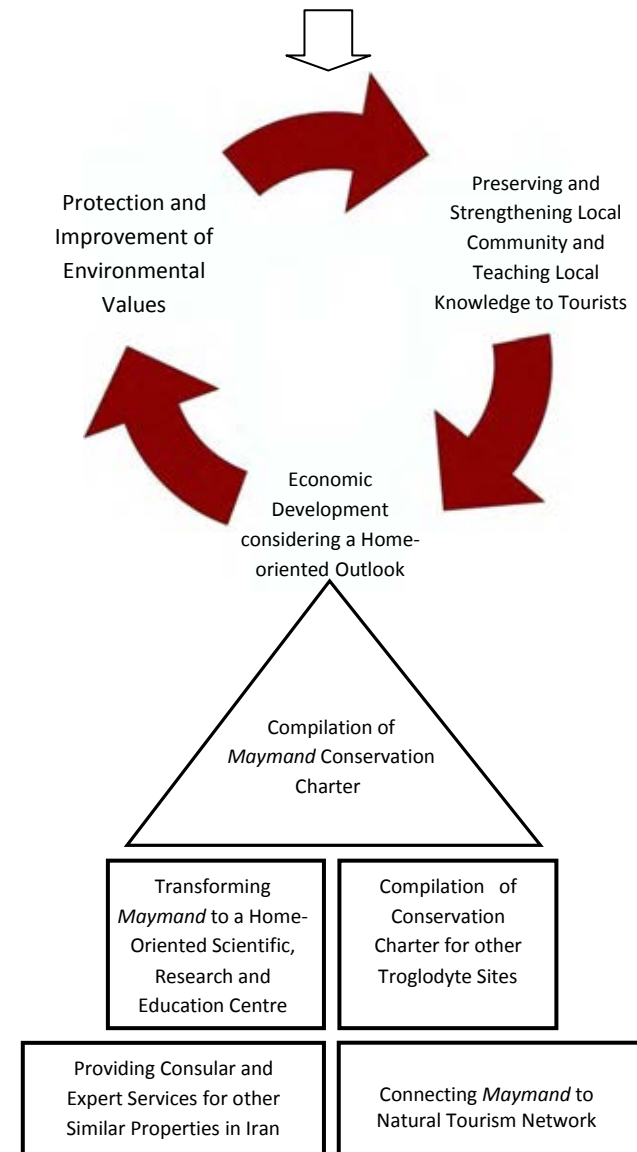


Fig. 5.6 Future Perspective of The Cultural Landscape of *Maymand*



✚ Main Goal

The main goal is conservation and stable dynamic and continuation of life tradition with all its novel aspects in the Cultural Landscape of Maymand.

In fact, the main goal of MCHHTB is “Conservation and Sustainable Local Development”. By conservation, we mean protection and maintenance of both physical and spiritual of this valuable cultural property and its local sustainable development. In other words, village’s development should take place while maintaining the traditional life style of the village - that has been present for centuries-. It should also attempt to reinforce existing values while taking new needs of the village residents into consideration in order to prevent rapid and hasty changes in the social and economic structure of the village, a sad experience that happened in many other cultural sites.

What makes *Maymand* historical village a unique site is the living spirit that exists within its body. In other words, the significance of this property is not just its distinguishing architecture. *Maymand’s* existing and live traditional life style and its antiquity adds much to the value of the property. The goal is to protect and preserve this living style and to provide an example for other villages. And this goal is obtainable if *Maymand* residents know and become aware of the values of this life style so that they can continue to live in modern society on the basis of an active economy and application of traditional living methods. Achieving project’s aims also requires that these values be presented to the tourists visiting the property in the best way.

Maymandis knowledge about agriculture, herding, using local medicinal plants, and more importantly their friendly interactions with nature is so deep and vast.

Educating younger generation with these knowledge and information as well as teaching them the values of these inheritance, can help protecting and preserving this valuable heritage. Encouraging master artists and craftsmen to pass their knowledge to their students and



youngsters as well as encouraging the latter group to learn traditional knowledge and techniques of their ancestors are among main goals that project attempts to implant.

What is known as sustainable local development can be defined as development in property's social, economical and environmental aspects while trying to preserve fundamental basis of traditional life and the surrounding environment.

Today, residents of *Maymand* are living with thousands of year's old traditions while utilizing and applying modern knowledge and facilities in that traditional atmosphere and with a close and friendly relationship with the nature; this provides a great model for modern industrial urban societies who are no longer associate with the nature.

The project will attempt to institutionalize this traditional life style and applies new methods and technologies in this regard as far as they don't affect that living system.

Intellectual Foundations

Since the foundation of MCHB, growing harmonization with the local life pattern has formed the fundamental intellectual basis for management activities; which has strengthen during the recent years as the result of the managing section's expansion of knowledge and experience about this cultural landscape and its current living course.



✚ Strategy

Taking the intellectual foundations, goal and management perspective of the cultural landscape of *Maymand* into consideration, important management topics at *Maymand* would be programmed according to the following basis:

- Benefiting from support and sponsorship of high ranked responsible and related organizations as well as *Maymand* residents in order to implant management plan.
- Compilation and preparation of the strategic management deed and preserving all characteristics of the cultural landscape of *Maymand*.
- Documentation and registration of all existing potentials and chances at the cultural landscape of *Maymand* and identifying factors that endanger them.
- Interpretation, introduction of and emphasis on the exceptional global values of *Maymand* through correct introduction of the property and attempt to protect and preserve its genuine features by attracting general public's attention, education and research.



❏ Policies

The most important parts and headlines of management programs and policies of the Cultural Landscape of *Maymand* include recognition, conservation, revitalization and suitable utilization of existing resources as well as providing requires energies. Executive and restoration activities, preserving and protecting borders and zones, monitoring different aspects of Cultural Landscape of *Maymand* (Fig. 5.3), its introduction and providing capacities in order to train and experience the novel life style of *Maymand* in its original context form other parts of this management plan.

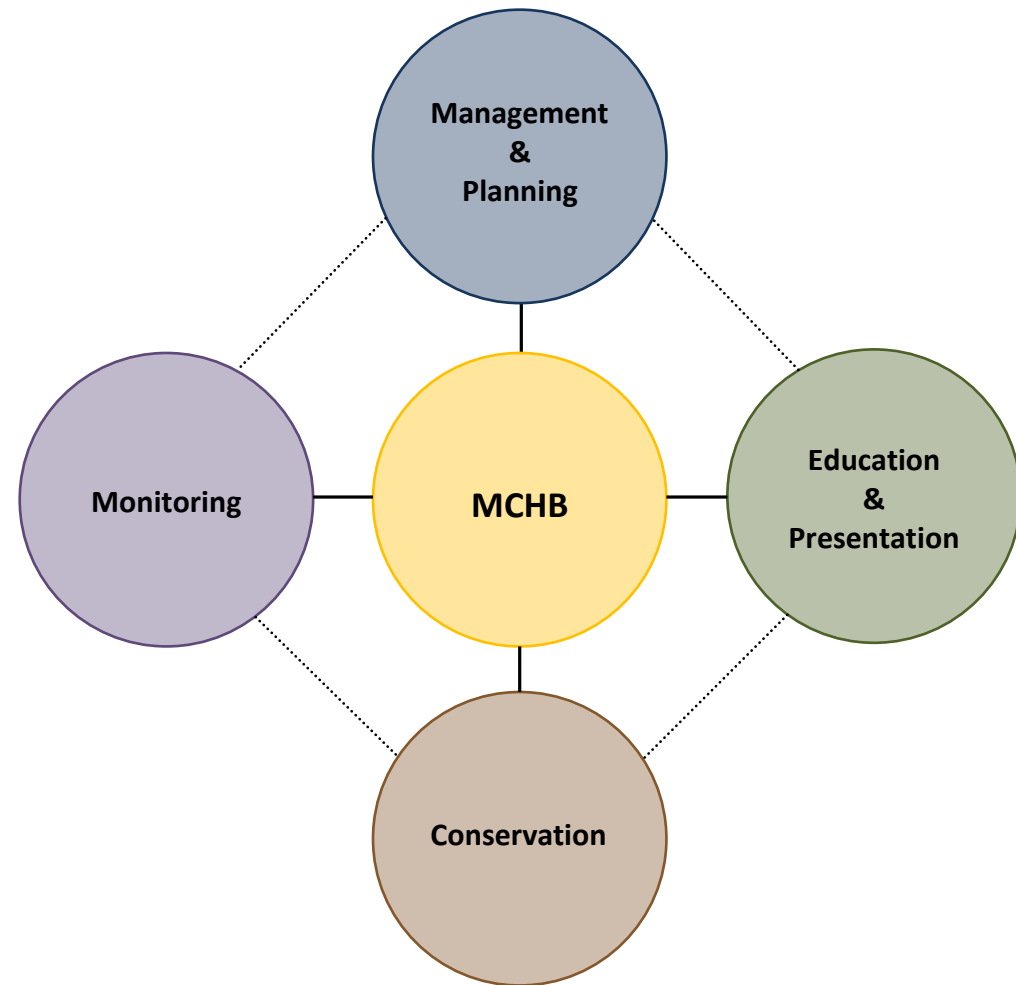


Fig. 5.7 *Maymand* Cultural Heritage Base Policies



✚ Objectives of Management Plan

Short-term (2 years), mid-term (5 years) and long-term (10 years) objectives of *Maymand* Cultural Heritage Base are as follows:

It should be noted first that execution of the management plan and the present compiled structure, requires legal and administrative supports at a national level; such requirement can be maintained through introduced management-administrative structure.

✚ Short Term Plans

Considering proposed plans of 1389/2010, prospected plans will be executed and accomplished, should the defined budget and other necessary arrangements are maintained.

MCHB is currently trying to accomplish and complete half-done plans and programs, modification of children playground, organizing primary arrangements in order to design the first phase of village's main pathway as well as emergency restorations and other executive issues. Since the accomplishment of prospected plans require financial and administrative cooperation of many other organizations and institutions, a great amount of time and energy is spent to hold necessary justification meetings with them.

MCHB short term plans are categorized into four main groups of Research, Conservation and Restoration, Introduction and Education and Tourism, each consisting of different sub-divisions named below:

- *Research*
 - Geology
 - Archaeology
 - Digging Techniques



- Mines and Slags
- Tales and Legends
- *Maymand* and Children
- *Conservation and Restoration*
 - Restoration of *Sarsoffehs* and Ceilings
 - Repairing and Developing Public Restroom Services
 - Changing and Making Wooden Doors
 - Removing Rubbish, Herds, Pest and unsightly Extensions
 - Starting the 1st Phase of Organizing Village's Main pathway
 - Conducting the 1st Phase of Electricity Networking
 - Performing Buffer Zone Marking
 - Improving Handicrafts production and Distribution System
 - Construction of Children Playground
 - Construction of Parking
 - Improvement and Equipping the Guesthouse
 - Starting to organize *Āghols* and *Āādīs*



- *Introduction and Education*
 - Launching *Maymand* Website
 - Connecting with Other National and International Sites and Properties
 - Organizing Festivals, Congresses and Fairs
 - Preparing Plans regarding the Spiritual Heritage (esp. for Children and Teenagers)
 - Publication of books, brochures and CD
 - Organizing Educational meetings and Courses for General Public and Staff

- *Tourism*
 - Correction of and proposing a new tourist pathway
 - Initiating the comprehensive tourism plan
 - Recovering older pathways that lead to *Āghols* and *Āādīs*
 - Designation and Equipping *Shahr-e Bābak* Base

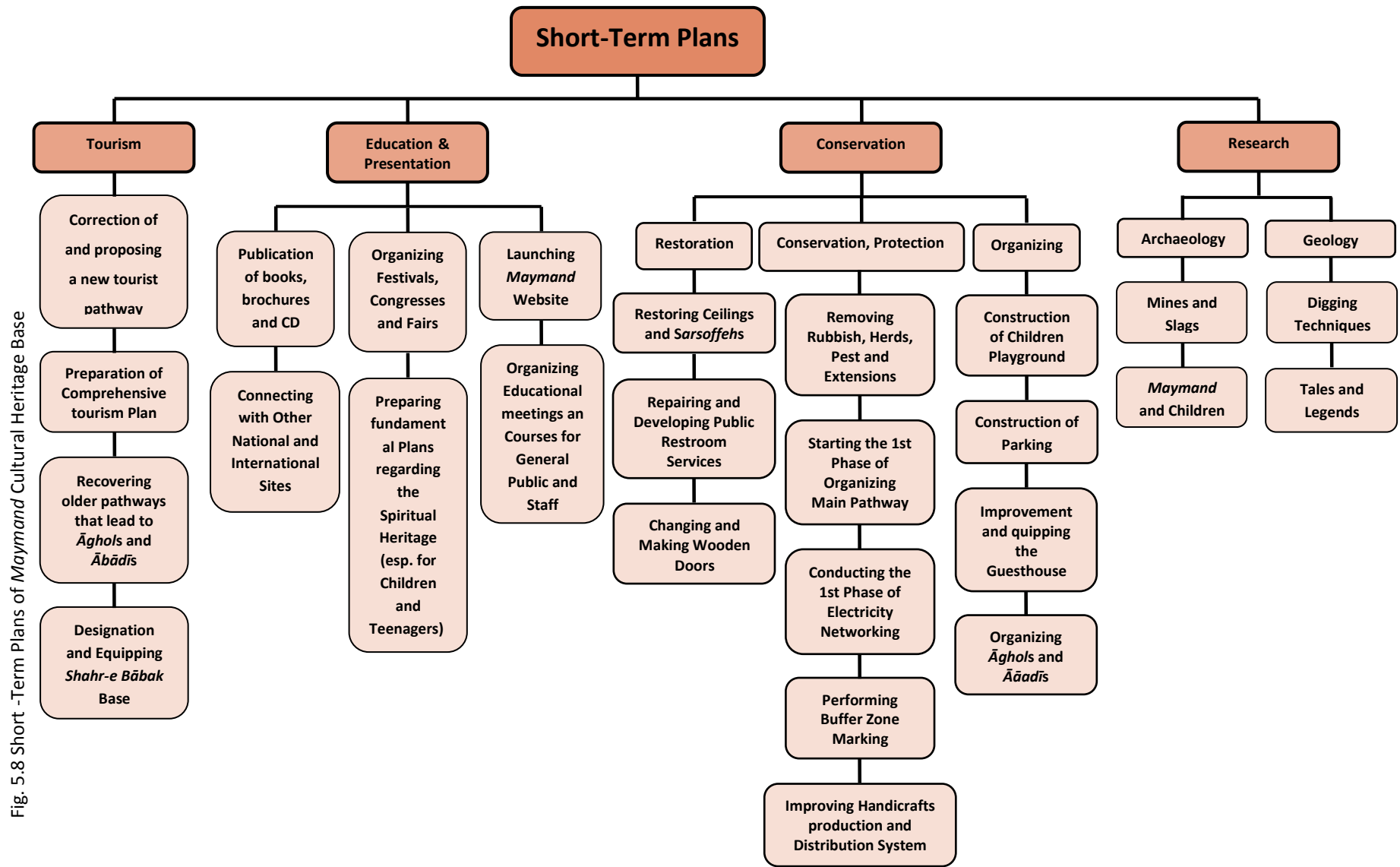


Fig. 5.8 Short -Term Plans of Maymand Cultural Heritage Base



▣ Mid Term Plans

MCHB mid term plans are categorized into three main groups of Conservation, Research and Introduction, Education and Tourism, each consisting of different sub-divisions named below:

- *Research*
 - Completing research on Digging Methods
 - Identifying and studying stone tools
 - Completing archaeological Research

- *Conservation*
 - Restoring *Sarsoffehs* and Ceilings
 - Improving Public Bathrooms
 - Changing and Making Wooden Doors
 - Conducting Suitable Electricity Networking
 - Injecting Necessary Functions based on plans
 - Reorganizing *Āghols* and *Ābādīs* and other structure like *Qanat* System, Watermills, Petroglyphs, Pre-Islamic Graves and supporting different aspects of seasonal migration and intangible heritage
 - Paving and Organizing the Main Pathway
 - Designing and Making of Guiding boards and Rustic Furniture



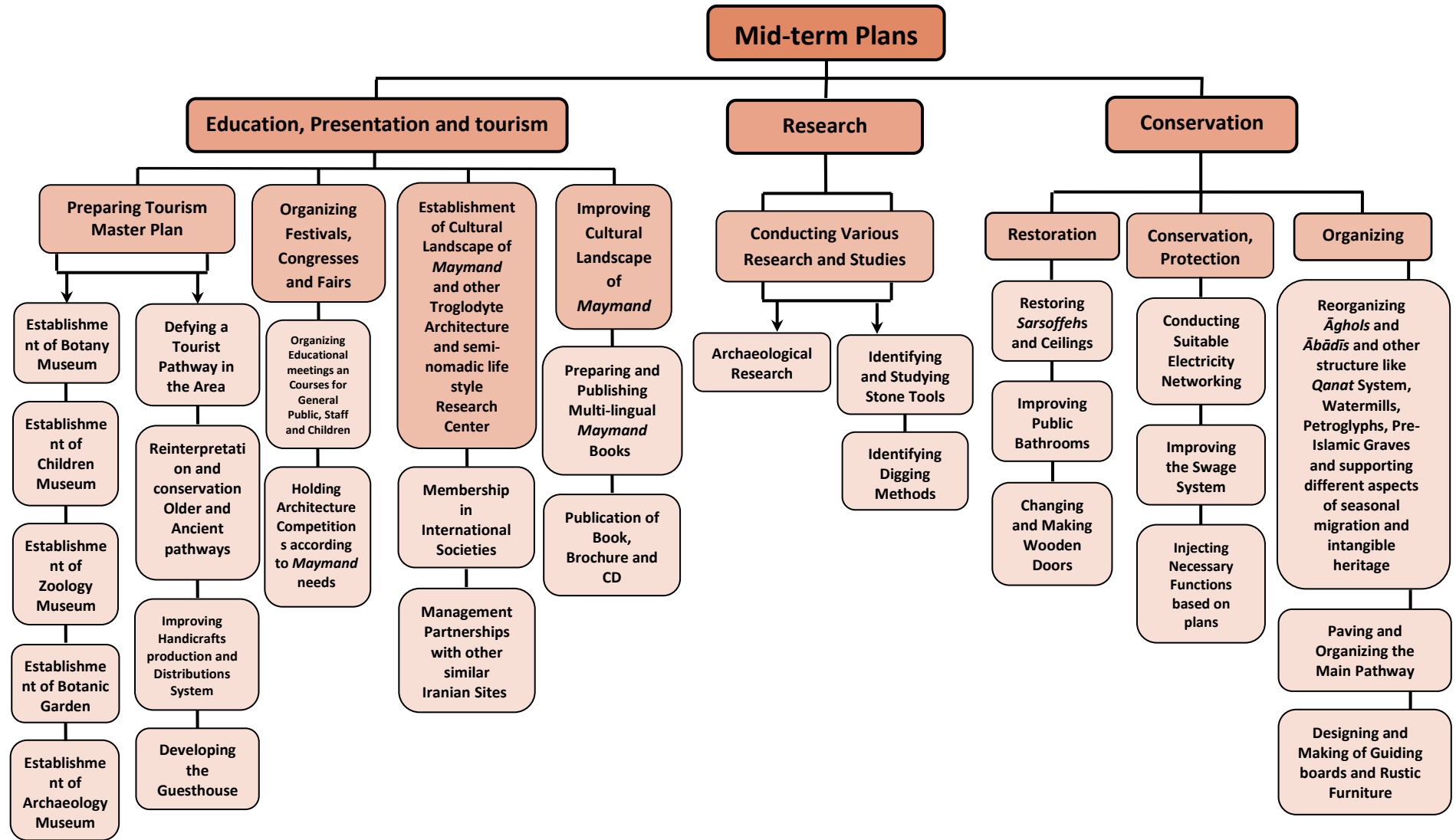
- *Introduction, Education and Tourism*
 - Improving the Cultural Landscape of *Maymand* website
 - Preparation and publication of a multi-lingual book
 - Publication of book, brochure and CD
 - Establishment of The Cultural Landscape of *Maymand* and other Troglodyte Architecture and Semi-Nomadic life style Research Center
 - Membership in International Societies-
 - Management Partnerships with other similar properties in Iran
 - Organizing Festivals, Congresses and Fairs
 - Organizing Educational Meetings an Courses for General Public and Staff
 - Holding Architecture Competitions according to *Maymand* needs
 - Preparing Tourism Comprehensive Plan
 - Establishment of Botany Museum
 - Establishment of Children Museum
 - Establishment of Zoology Museum
 - Establishment of Botanic Garden



- Establishment of Archaeology Museum
- Defying a Tourist Pathway in the Area
- Reinterpretation and Conservation Older and Ancient pathways
- Developing the Guesthouse
- Improving Handicrafts production and Distribution system



Fig. 5.9 Mid -Term Plans of *Maymand* Cultural Heritage Base





❏ Long Term Plans

According to the defined perspective for *Maymand*, MCHB long term plans for the cultural landscape of *Maymand* include:

- Economic Development considering a Home-oriented Outlook
- Protection and Improvement of Environmental Value
- Preserving and Strengthening Local Community and Teaching Local Knowledge to Tourists
- Compilation of the Cultural Landscape of *Maymand* Conservation Charter
- Transforming the Cultural Landscape of *Maymand* to a Home-Oriented Scientific, Research and Education Centre
- Connecting *Maymand* to Natural Tourism Network
- Providing Consular and Expert Services for other Similar Properties in Iran



5.f Sources and Level Financial

Sources of finance that MCHB benefits from are governmental (national-ICHHTO- and provincial-Kerman CHHTO- and other organizations such as village council water organization, telecommunication organization, natural resource, governor), income of tourism, and gardens, livestock and handicrafts products. These funds are utilized in the different categories such as research, maintenance, administration in Cultural Landscape of *Maymand*.

Fig. 5.10 Budget of MCHB in Different Years

Year	National Budget ICHHTO (in million Riyals)	Province Budget Kerman CHHTO (in million Riyals)	Other Organization (in million Riyals)	Other Incomes (in million Riyals)				Sum
				Tourism	Handicrafts	Garden Products	Livestock Products	
1381/ 2001	120	350	-	-	-	-	-	470
1381/2002	900	100	1,400	-	-	-	-	2,400
1382/2003	850	100	1,600	-	-	-	-	2,550
1383/2004	600	960	1,400	-	-	-	-	2,960
1384/2005	1,310	400	2,400	43.6	63	2,500	3,508	10,224.6
1385/2006	900	680	2,400	45	76	2,750	3,670	10,521
1386/2007	965	850	2,400	48	97	3,000	3,920	11,280
1387/2008	1,022	200	2,500	60.4	109	2,850	3,800	10,541.4
1388/2009	500	250	1,850	56.2	106	2,800	3,950	9,512.2
1389/2010	2,280	1,000	1,400	58.4	110	2,860	3,900	11,608.4
1390/2011	3,836	2,000	1,600	60.2(utill November)	120	2,780	3,935	14,331.2
Sum	13,283	6,890	18,950	371.8	681	19,540	26,683	86,398.8



Fig. 5.11 Allocated Budget By Different Organization to cultural Landscape of Maymand

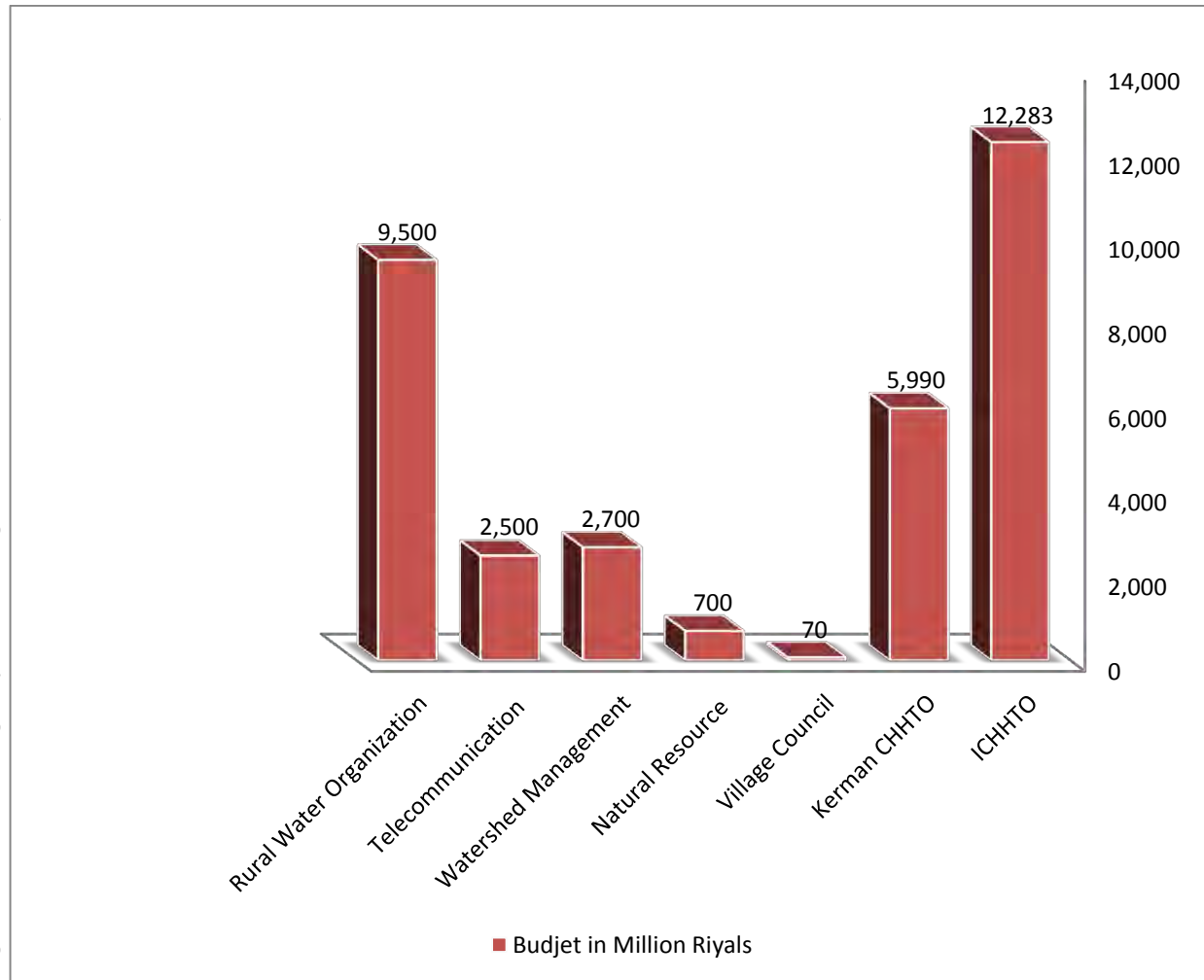




Fig. 5.12 ICHHTO Budget to MCHB from 1380/2001 to 1380/2011

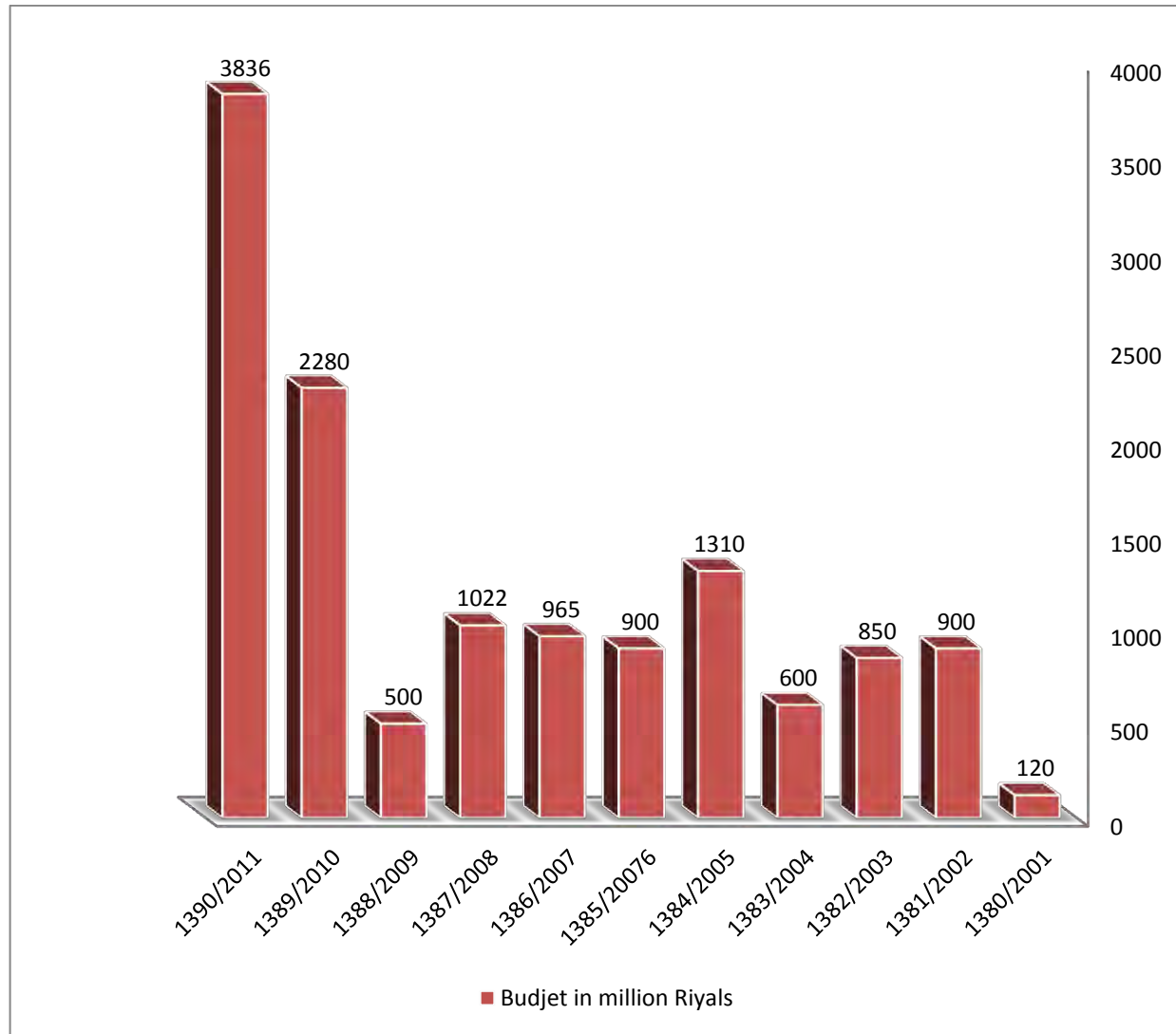
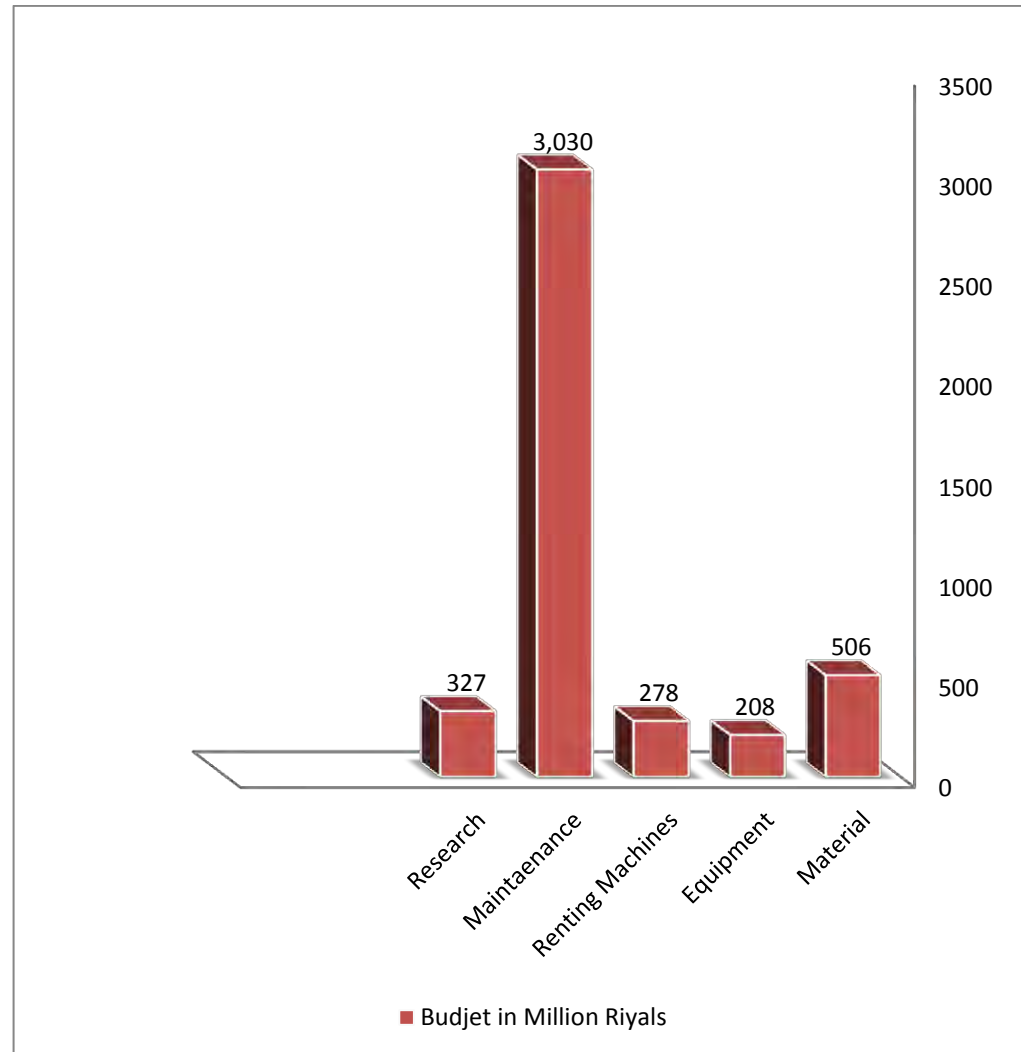




Fig. 5.13 Different Category of MCHB's Budget between 1385/2006 and 1388/2009





5.g Sources of Expertise and Training in Conservation and Management Techniques

Management and conservation professional resources of *Maymand* can be summarized as follows:

- ICHHTO and other organization experts
ROCHT of is responsible for multidisciplinary researches and training of young experts of ICHHTO. Also members of the technical & steering committee of MCHB.
- University lecturers and professors and students
- Individual researchers who are interested in different issues of Cultural Heritage of *Maymand*
- Local people and craftsman
One of the most important sources of expertise and training in conservation and management technique is applying the traditional craftsmen and masons. Fortunately, this kind of training is in practice in Cultural Landscape of *Maymand* yet.

It should be noted that MCHB has welcomed student projects and theses in all subjects of architecture, conservation and restoration, archaeology, ethnography, geology, botany, traditional medicine and ... of *Maymand* at bachelor, master and PhD levels.

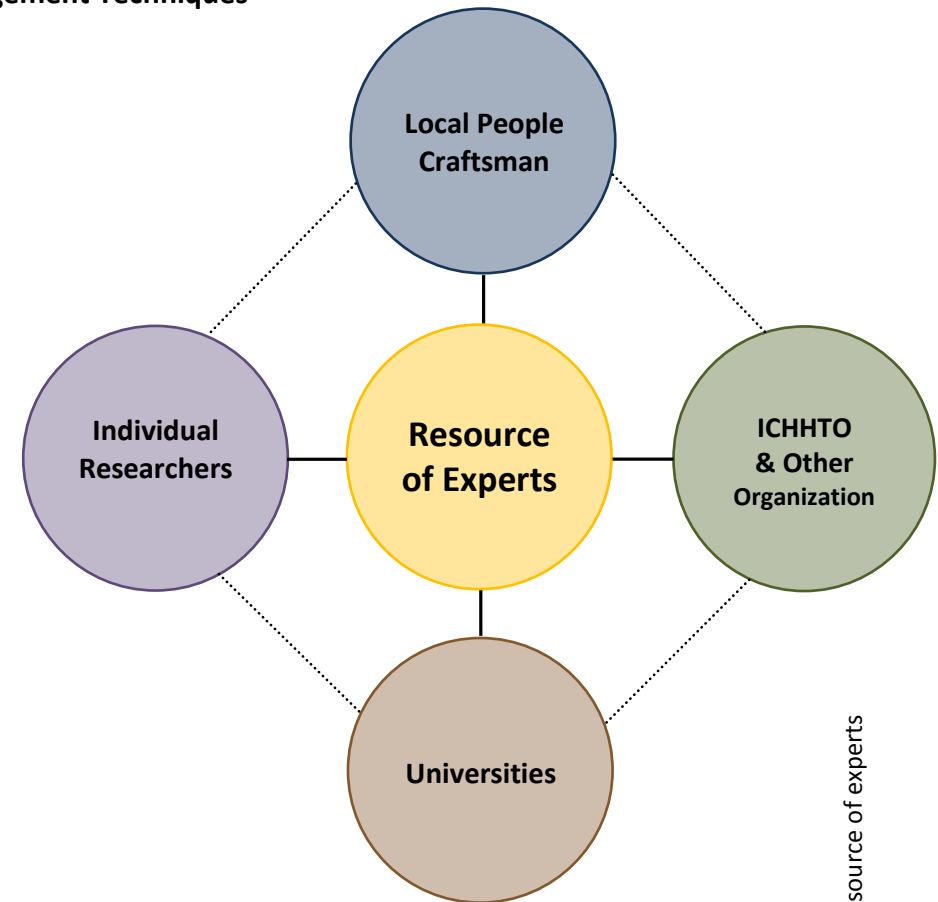


Fig. 5.14 Resource of experts



Different universities such as Shahid Beheshti, Isfahan Art University, Tehran University, Kerman Bahonar University, Science and Technology University, Cultural Heritage High Education Center, *Sabzevār* Teachers College, and many other are among the educational institutions that have established close academic relationship with MCHB and many theses and research were accomplished in them about *Maymand*. Many individual and group students spend their field work trainings in *Maymand* as well. Besides, many educational visits and trips are organized every year on behalf of educational institutions.



5.h Visitor Facilities and Statistics

The Cultural Landscape of *Maymand* has provided sufficient visitor facilities and in the management plan improvement and expansion of these facilities have been considered among the most important priorities.

✚ Facilities Provided for the Visitors

- Currently following facilities exist in *Maymand* for tourists and visitors:
 - Handicraft store and native sellers
 - Children playground
 - Restaurant (Traditional eating place)
 - Newly-established public restrooms in front of the mosque and next to the public bath and parking
 - A guest house for accommodating visitors
 - Library and document center for visiting scholars
 - *Maymand* introductory *Kīcheh* that houses maps, posters and models of *Maymand* dwellings and undertaken activities.
 - Village mosque for praying
 - Public troglodyte spaces such as the ethnography museum and photo gallery in *Dobandī Kīcheh*, old bath, *Hosseinīyeh*, and the old school which provided scholars and enthusiasts with more professional information
 - Unoccupied and prepared rooms in the houses of *Maymandi* residents
 - ICT office
 - A designated area prepared using local and traditional material and methods for temporary residence of the visitors next to the old bath and in the riverside (including sitting areas, barbeques, wash basins and children playground)
 - Walking paths that provide access to natural attractions of the area such as springs, grottos, peaks and other geological features, fauna and flora, historical sites like castles, pre-Islamic graves, rock reliefs, *Sar-e-Bāghs* and



Sar-e-Āghols and other interesting spots around the village like *Pīshestā*, *korom*, *Qal'eh Marj* and *Ayyūb Cave*. Jeep can be driven in some of these paths but some are just for animal and human crossing.

- Preparing suitable sport and entertainment facilities appropriate to the site is currently ongoing.
- Watching or participating in producing of local products (like handicrafts, agricultural activities, herding, bread baking, cooking, ...)
- Local guides in a diverse range of abilities and information on various subjects in different ages.

Maymand is also connected to a network known as Eco-tourism *Khūshesār* which is a complex consisted of private Eco-tourism centers in different parts of the county. These are independent centers with a common idea that is interest in different aspects of local and native life styles and introducing them to tourists.

- Those parts of visitors facilities that are currently ongoing projects or their proposals have been prepared include:
 - Our perspective for the future of *Maymand* is a sort of authentic eco-museum site which not only introduces the different features of the Cultural landscape, but also provides the visitor with actual experience of traditional life.
In this regard, all aspects of cultural Landscape of *Maymand* in its geographical levels hierarchy will be taken into consideration.
 - Clarification of the walking pathways between the dwellings
 - Defining tourism directions



Visitors' statistics during recent years since the foundation of MCHB is presented below:

Fig. 5.15 Statistics of Maymand's Visitors

Year	Number of visitors in <i>Nowrūz</i> /March-April (Person)	Number of visitors in other month of year (Person)	Foreign visitors (Person)	Sum
1383/2004	2000	7000	110	9000
1384/2005	1500	8300	85	9800
1385/2006	5000	9670	157	14670
1386/2007	14018	20800	385	34818
1387/2008	21300	35200	300	56500
1388/2009	14472	25000	642	39472
1389/2010	16400	15588	102	32090
1390/2011	27600	15435(until November)	112	43147
Sum	102290	136993	1893	241176



Fig. 5.16 Statistics of *Maymand's* Visitors from different provinces of Iran in Nowrūz 1388/2009

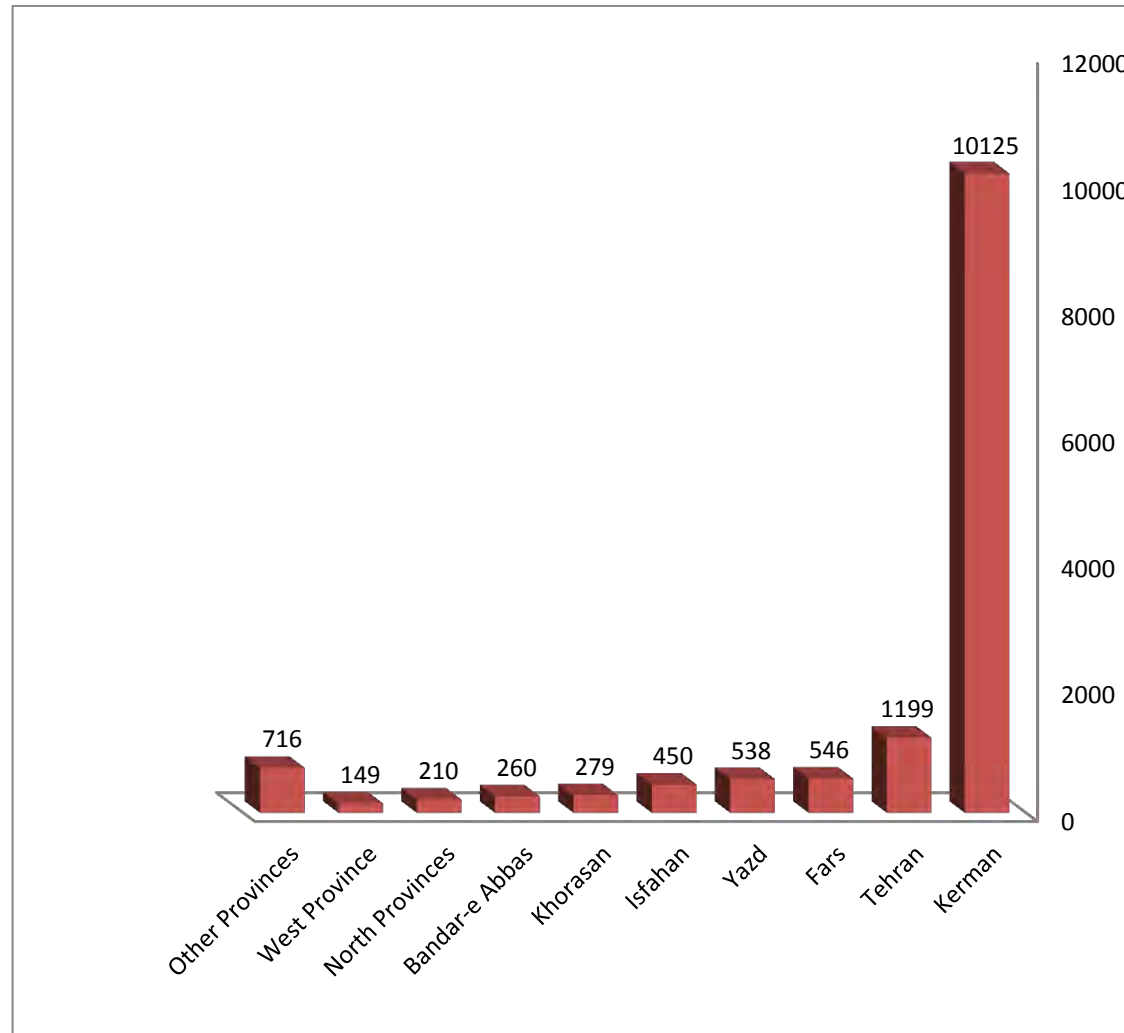




Fig. 5.17. Statistics of Cultural Landscape of Maymand's Visitors in Nowruz from 1384/2005 to 1390/2011

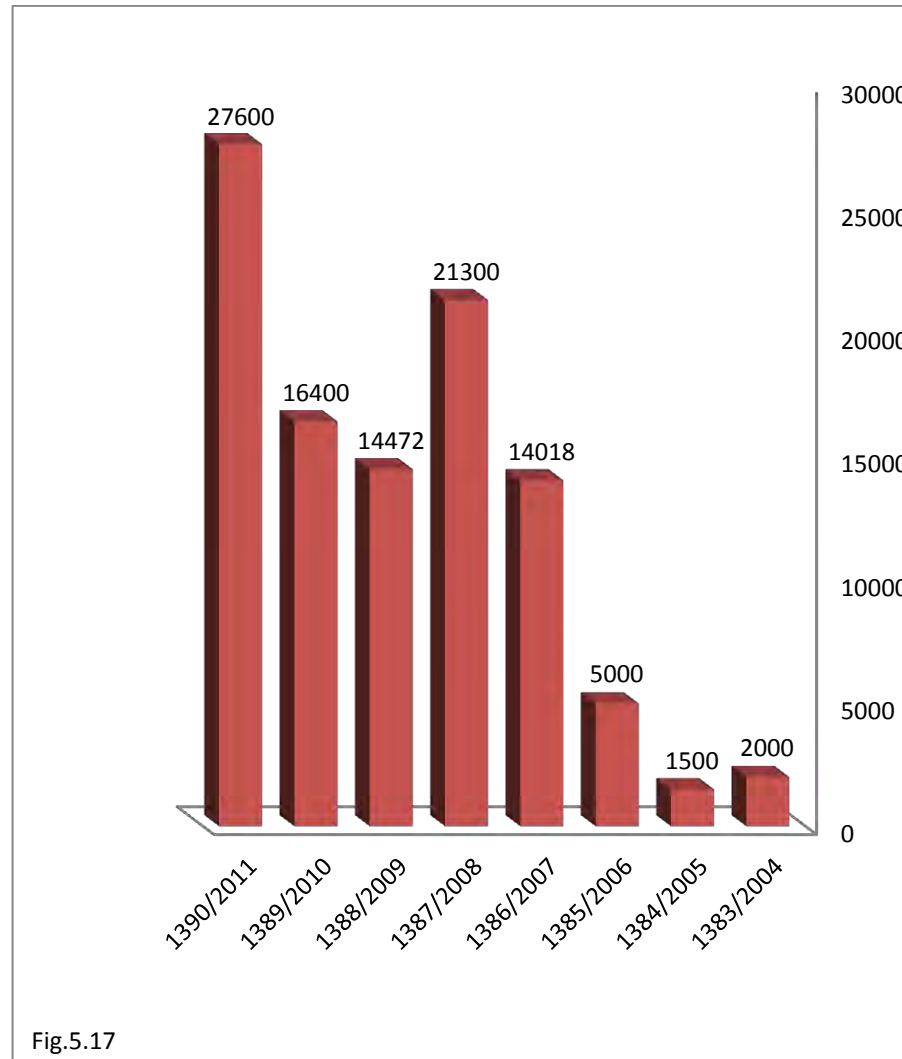


Fig.5.17



Fig. 5.18.a Statistics of Maymand's Visitors age

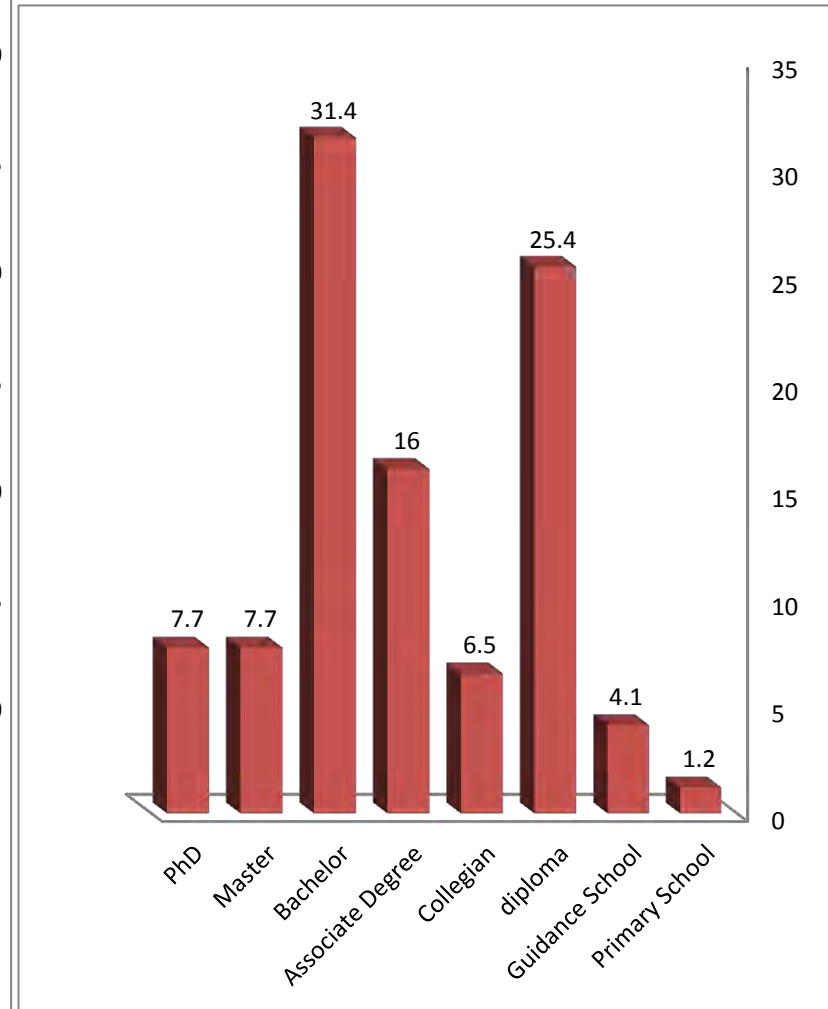
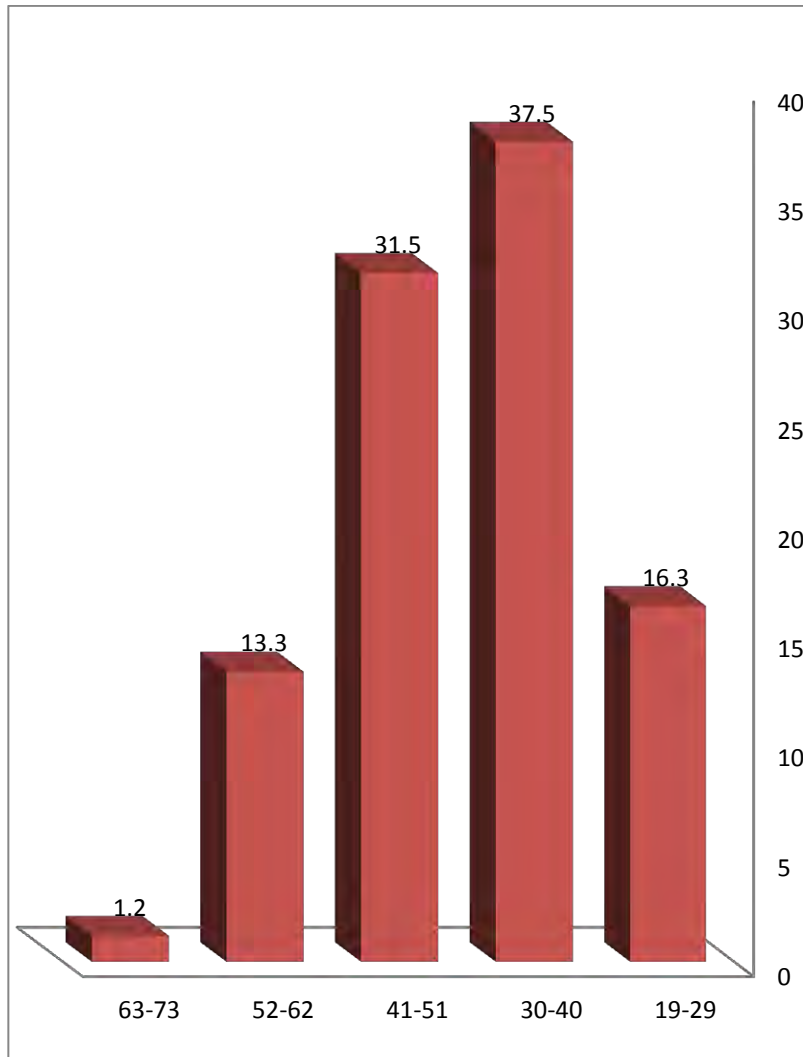


Fig. 5.18.b Statistics of Maymand's Visitors' education



Fig. 5.19 Troglodyte Maymand's Tourist Map



Fig. 5.19.c

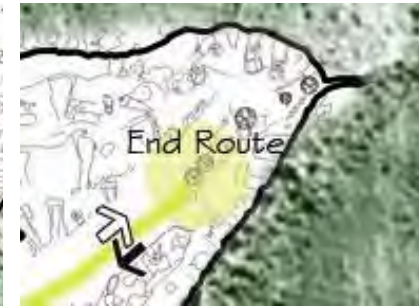


Fig. 5.19.d



Fig. 5.19.b

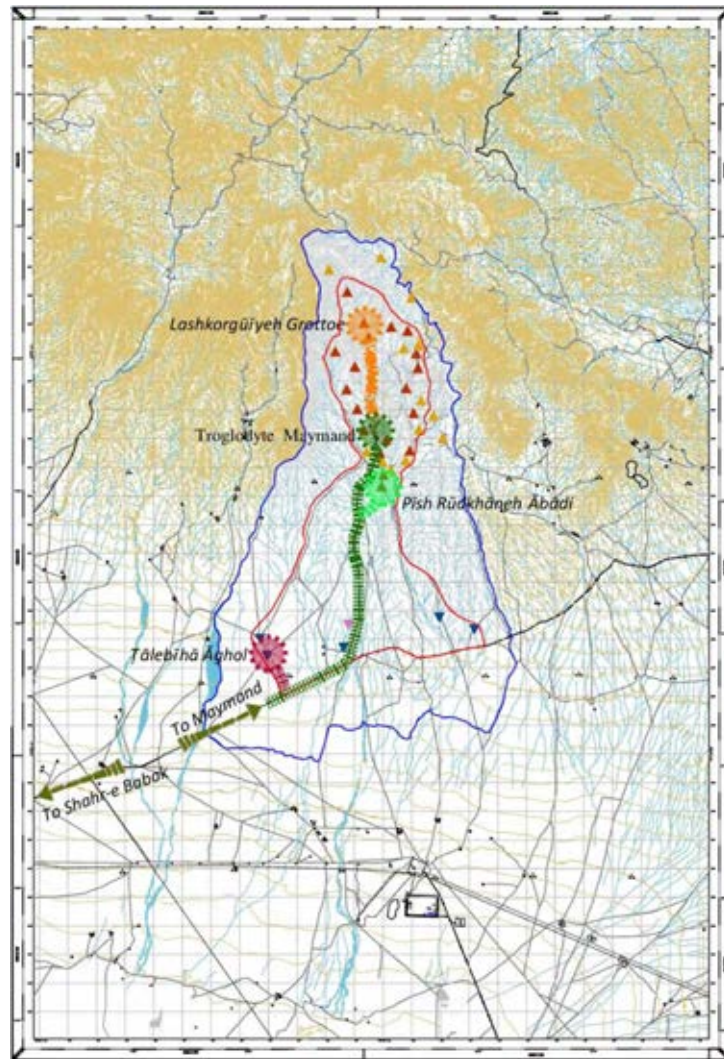


Fig. 5.19.a

- A** Tourist Information Center
- B** Children Park
- C** Old Bath
- D** Ethnology Museum
- E** Hostel
- F** Lavatory
- G** Mosque
- H** Hosseinie
- I** Restaurant



Fig. 5.20 The cultural Landscape of *Maymand*'s Tourist Map







-  Route to Visit of Troglodyte *Maymand*
-  Route to Visit of *Tālebīhā Āghol*
-  Route to Visit of *Pish Rūdkhāneh Ābādī*
-  Route to Visit of *Lāshkorgūyeh* grottoe



Fig. 5.21 Handicraft shop in troglodyte village



Fig. 5.22 Native seller



Fig. 5.23, 24 Handicraft for selling in troglodyte village



Fig. 5.23

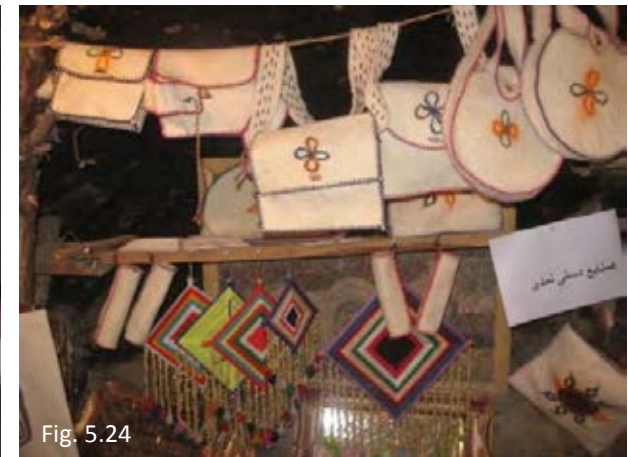


Fig. 5.24



Fig. 5.25,26 Guest house in troglodyte village



Fig. 5.25



Fig. 5.26

Fig. 5.27 Ethnology museum





Fig. 5.28 The mosque for prayer



Fig. 5.29,30 Educated local tourist guide



Fig. 5.29



Fig. 5.30



Fig. 5.31 MCHB's library for tourists

Fig. 5.32 MCHB's expert give some information to tourists

Fig. 5.33 One of the reorganized public toilets in troglodyte village

Fig.5.34,35 Restaurant in troglodyte village



Fig. 5.31



Fig. 5.32



Fig. 5.33



Fig. 5.34



Fig. 5.35



Fig. 5.36 Play ground of children



Fig. 5.37/41 Temporary residence of the visitors next of old bath

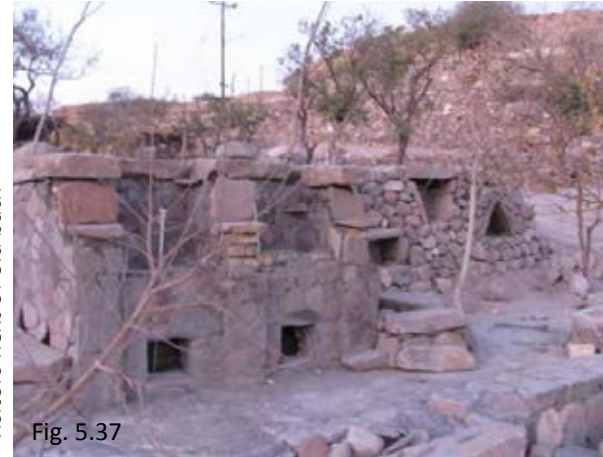


Fig. 5.37



Fig. 5.38



Fig. 5.39



Fig. 5. 40

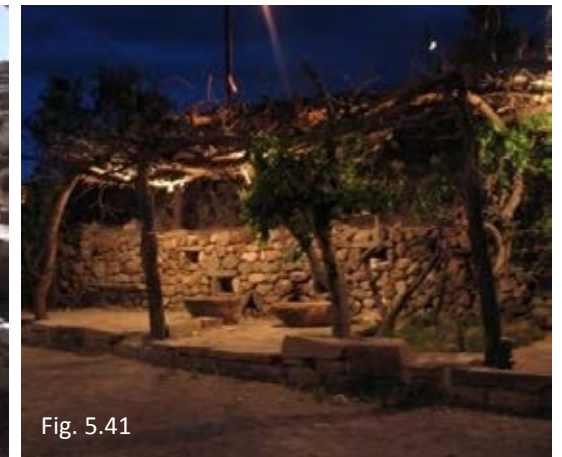


Fig. 5.41



Fig. 5.42



Fig. 5.43



Fig. 5.44



Fig. 5.45



Fig. 5.46



Fig. 5.47/54 Sing boards in troglodyte Maymand



Fig. 5.47



Fig. 5.48



Fig. 5.49



Fig. 5.50



Fig. 5.51



Fig. 5.52



Fig. 5.53



Fig. 5.54



5.i Policies and Programs Related to the Presentation and Promotion of the Property

Programs and policies regarding the introduction of the Cultural Landscape of *Maymand* can be divided into two main categories:

- ✚ Programs that have been conducted so far (up to 1389/2010) including:
 - Creation of an introduction terminal in the site (museum, gallery, library, introductory unit, guiding signs, guides)
 - Cultural products (brochure, poster, postal card, CDs, films and video clips)
 - Local productions
 - Preparation of professional research reports on various subjects
 - Introducing *Maymand* via different media
 - Introducing *Maymand* via educational centers
 - Organizing festivals and congresses for *Maymand* village
 - Kermanology festival
 - Melina Mercury Prize festival with participation of a large number of ICHHTO experts. All the entertaining, accommodation, and services were provided by the village local community.
 - *Maymand* martyrs memorial
 - Attending congresses, exhibitions, workshops and university meetings
 - Attending international competitions (Melina Mercury, Aqa Khan and photography competitions)
 - Tourism as a Way for Live introduction
 - Making connection between the MCHT Base experts and staffs with similar centers inside and outside the country
 - Introducing *Maymand* via art works
 - Provision and distribution of a trilingual brochure on *Meymand*
 - Setting up the *Meymand* website
 - Providing a three dimensional picture of *Meymand*
 - Holding the conference on troglodyte architecture



- ⊕ Future policies and programs for introducing *Maymand* are as follows:
- Introducing *Maymand* through publications including:
 - Short introductory reports about *Maymand* cultural landscape
 - *Maymand* book
 - New brochures and postal cards
 - Making a data bank about *Maymand* including all the related information and preparing comprehensive map of *Maymand* cultural landscape
 - Improving the electronic site of *Maymand* and uploading up to date information
 - Expanding activities for introducing *Maymand* via educational centers
 - Expanding activities for introducing *Maymand* via media
 - Introducing *Maymand* through tourism
 - Improving *Maymand* Eco-Museum
 - Expanding activities for introducing *Maymand* via art works

Fig. 5.55 Meeting of high authorities And MCHB's director and experts in Troglodyte *Maymand* in 1382/2003



Fig. 5.56 Visiting of ICOMOS doyen members of *Maymand* in 1382/2003



Fig. 5.57 Meeting ICOMOS doyen with *Shahr-e Bābak* governs





Fig. 5.58 Meeting of *Shahr-e Bābak*
Governors in troglodyte *Maymand*
1384/2005



Fig. 5.59 Visiting of ICHHTO high experts
of *Maymand* 1383/2004



Fig. 5.60 Visiting of Kerman governor
Of *Maymand* 1389/2010





Fig. 5.61,62 Revitalization and introducing of traditional games of *Maymand* by MCHB



Fig. 5.61



Fig. 5.62

Fig. 5.63,64,65 Education of *Maymandis* children (by MCHB)



Fig. 5.63



Fig. 5.64



Fig. 5.65



Fig. 5.66 Document Center in troglodyte Maymand



Fig. 5.67 meeting of MCHB director with Maymandis women



Fig. 5.68 Education of traditional Handicrafts to MCHB's staffs



Fig. 5.69,70 Education of traditional Handicrafts to visitors of Maymand



Fig. 5.69



Fig. 5.70



Fig. 5.71,72 Three dimensional picture of troglodyte *Meymand*





Fig. 5.73,74 Haft sin in Nowruz ceremony in Troglodyte Maymand



Fig. 5.73



Fig. 5.74

Fig. 5.75 Main page of Maymand website





5.j Staffing Levels (professional, technical and maintenance)

Maymand Cultural Heritage Base staff levels can be divided on the basis of following aspects:

Fig. 5.78 Categorizing of staffing levels of MCHB

Working Area	Staff Nationality	Geographical Level of Co-operation	Contract Type and period
Research	Local	Site	Permanent and employed
Administration	Not local	Township	Temporary and contract-based
Maintenance		Province	
Public Relations		Country	
		World	

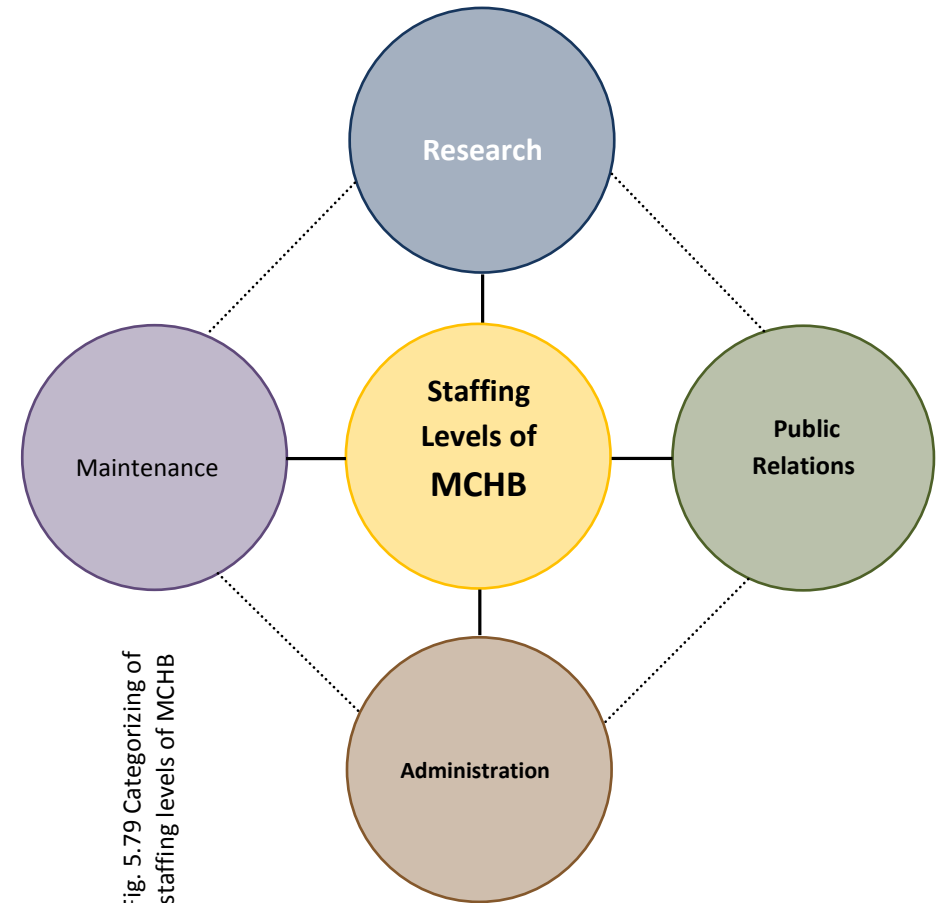


Fig. 5.79 Categorizing of staffing levels of MCHB



Names and titles of all staffs, experts and master workmen of *Maymand* are presented in the following list:

Fig. 5.80 MCHB's current staffs

No.	Name	Academic Background	Occupation
1	Mahnaz Ashrafi	PhD. in Architecture	Director
2	Gholamhossein Purmehrhab	M.A. in Architecture	Engineer Supervisor
3	Reza Qorbanzadeh	B.A. in Economics	Responsible for Financial Affairs
4	Amin Keyvanloo	M.A. in Conservation	Architect Conservation Expert (Temporary co-operation)
5	Hassan Ebrahimi	B.A. in Urban Geography	Regional studies Expert, Responsible for Financial Affairs
6	Hossein Mahmudi	B.A. in Urban Geography	Regional studies Expert, Responsible for Executive operation
7	Nader Zaker Soltani	M.A. in Conservation	Architect Conservation Expert
8	Lili Sadeqi	Anthropology Diploma	Indigenous Expert
9	Azar Eyvazi Nasab	B.S English Language	Responsible for Hostel and Tourism Affairs
10	Mahbube Fathi	Diploma	Head of Kitchen



No.	Name	Occupation
1	Mohammad Zeyn-Aldini Maymand	Skillful / Felt-Maker
2	Taqi Cheraghi	Skillful
3	Mohammad Mahmudi	Skillful
4	Sirus Zeyn-Aldini	Skillful
5	Mohammad Fathi	Labor Force
6	Hossein Ebrahimi	Labor Force
7	Hassan Ebrahimi	Labor Force / Felt-Maker/ Saftū-Waver
8	Moslem Ebrahimi	Labor Force
9	Ruh-Allah Ebrahimi	Labor Force
10	Yaser Ebrahimi	Labor Force
11	Soleyman Zeyn-Aldini	Labor Force
12	Yadollah Shahhosseini	Labor Force
13	Yaser Shahhosseini	Labor Force/ Felt-Maker
14	Ali Shams-Aldini	Labor Force/ Felt-Maker
15	Mohammad Mahmudi	Labor Force
16	Habibollah Ebrahimi	Skillful / Carpenter
17	Hassan Shams-Aldini	Tourist Guide
18	Yaser Ebrahimi	Tourist Guide
19	Hossein Ebrahimi	Stonecutter
20	Safar Zeyn-Aldini	Cleaner

Fig. 5. 81 MCHB's skillful and labors

Chapter 6



Monitoring





6.a Key Indicators for Measuring State of Conservation

Necessity of Monitoring and Maintenance:

The main aim of the monitoring program and the maintenance system in the Cultural Landscape of *Maymand* is: preserving their values while respecting integrity and authenticity. The goal of monitoring system is gathering data within an integrated plan. Based on the results of this process, conservation activities can be evaluated.

There are several indicators in relation with conservation of significant elements in The Cultural Landscape of *Maymand*, which must be regularly controlled by the monitoring system.

In order to better conduct monitoring activities in the Cultural Landscape of *Maymand*, this complex has been divided into few major sections, each have separate indicators for control. First the general division of the Cultural Landscape of *Maymand* is presented below followed by individual description of indicators for each part.

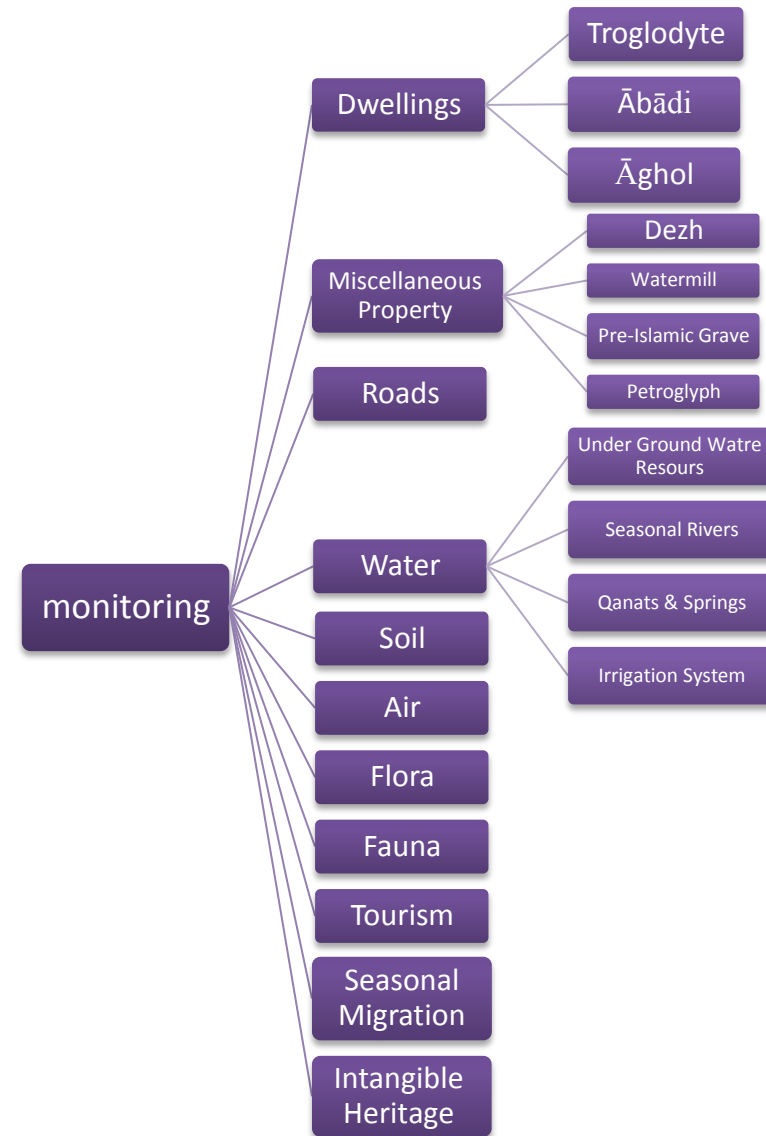


Fig. 6.1 Different aspects of monitoring of Cultural Landscape of *Maymand*



As regards the assessment of the conservation status of the property, following points can be named as major indicators. It should be noted that all these information are available in the MCHB archives and in order to conduct such investigations, these are accessible by the related organizations and institutions if needed.

Fig. 6.2 Indicators of monitoring in Cultural Landscape of Maymand

Category		Indicators	Monitoring Period	Annual Time Frame
Dwellings	Troglodyte Maymand	Number of restored and intact <i>Kichehs</i>	By Case (Seasonal or Two Times in Year)	Whole the Year
		Number of <i>Kichehs</i> that are used by the villagers	Annually	February
		Number of <i>Kichehs</i> with newly-assigned function	Annually	February
		Structural condition of <i>Kichehs</i>	By Case (Seasonal or Two Times in Year)	Whole the Year
		Quality and success rate of organizing plans at the village	Annually	February
		Number and age of locals living in the villages	Annually	February
		Number of students in troglodyte village	Annually	February
	<i>Āghol</i>	Number of inhabited <i>Āghols</i>	Annually	May
		Number of architectural units in each <i>Āghols</i>	Annually	May
		Conservational status of architecture units	Annually	May
		Number and age of residents in each <i>Āghol</i>	Annually	May
		Number of herds in each <i>Āghol</i>	Annually	May



Fig. 6.2 Indicators of monitoring in Cultural Landscape of Maymand

Category		Indicators	Monitoring Period	Annual Time Frame
Dwellings	Ābādī	Number of architectural units in each <i>Ābādī</i>	Annually	September
		Conservational status of architectural units	Annually	September
		Number and age of residents in each <i>Ābādī</i>	Annually	September
		Structural condition of <i>Kichehs</i>	Annually	September
		Quality and success rate of organizing plans at the village	Annually	September
		Number and age of locals living in the villages	Annually	September
Routes		Conservational status of routes and access pathways (especially the seasonal migration routes)	Three Times in Year	February, May, September
Miscellaneous Property	Watermill	Conservational status of watermills	Two Times in Year	May, November
	Petroglyph	Conservational status of Pictographs and petroglyphs	Two Times in Year	May, November
	Pre-Islamic Grave	Conservational status of pre-Islamic graves	Two Times in Year	May, November
	Dezh	Conservational status of <i>Dezhs</i>	Two Times in Year	May, November
Water	Qanat	Conservational status of Qanats	Two Times in Year	May, November
	Underground Water Resource	Level of underground water resources	Annually	May
		Water's contamination rate	Annually	May



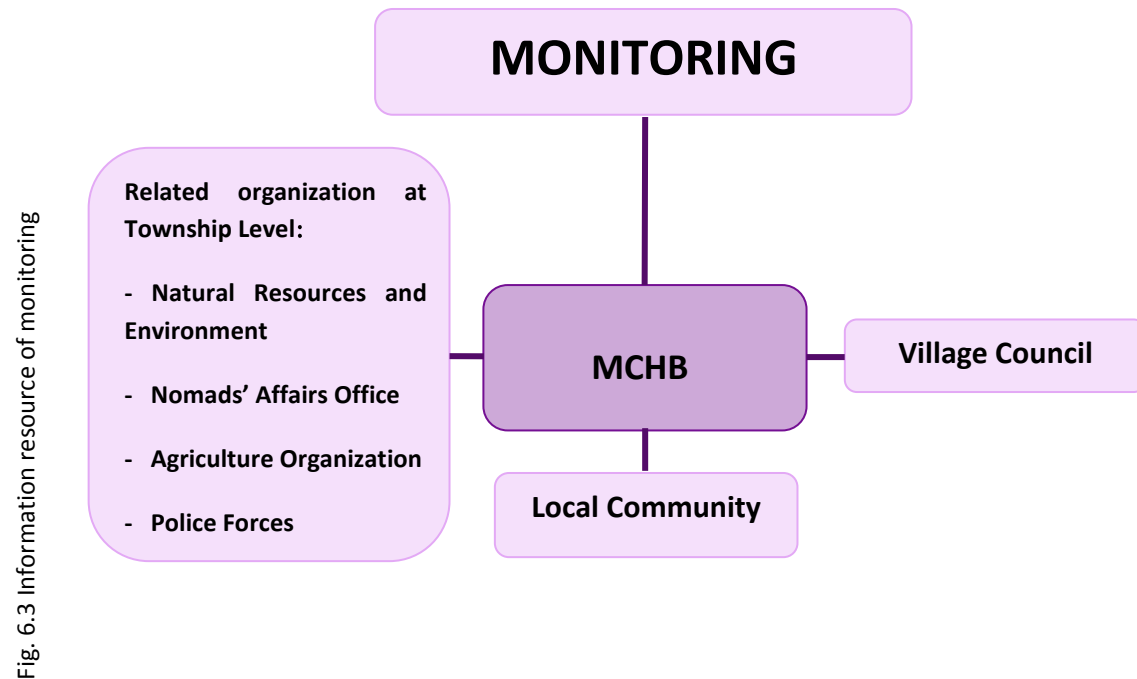
Fig. 6.2 Indicators of monitoring in Cultural Landscape of Maymand

Category	Indicators	Monitoring Period	Annual Time Frame
Flora	Conservational status of characteristic natural elements	Annually	September
	Number and greenery of the trees located in the region	Annually	September
	Status of region's flora	Annually	September
	plants' contamination rate		
Fauna	Status of region's fauna	Annually	September
Soil	Soil's contamination rate	Three Times in Year	February, May, September
Air	Rate of air pollution	Two Times in Year	May, November
Tourism	Number of Tourists	Two Times in Year	April, February
	Status of tourism facilities	Annually	November
	Amount of income gained through tourism	Two Times in Year	May, November
Seasonal Migration	status of seasonal migration and semi-nomadic life style	Three Times in Year	February, May, September
Intangible Heritage	Status of <i>Maymand</i> handicrafts	Annually	November
	Amount of income gained through Handicrafts' Sale	Annually	November



6.b Administrative Arrangement for Monitoring Property

MCHB located in the *Maymand* village is responsible for the monitoring and protecting different parts of the Cultural Landscape of *Maymand*.



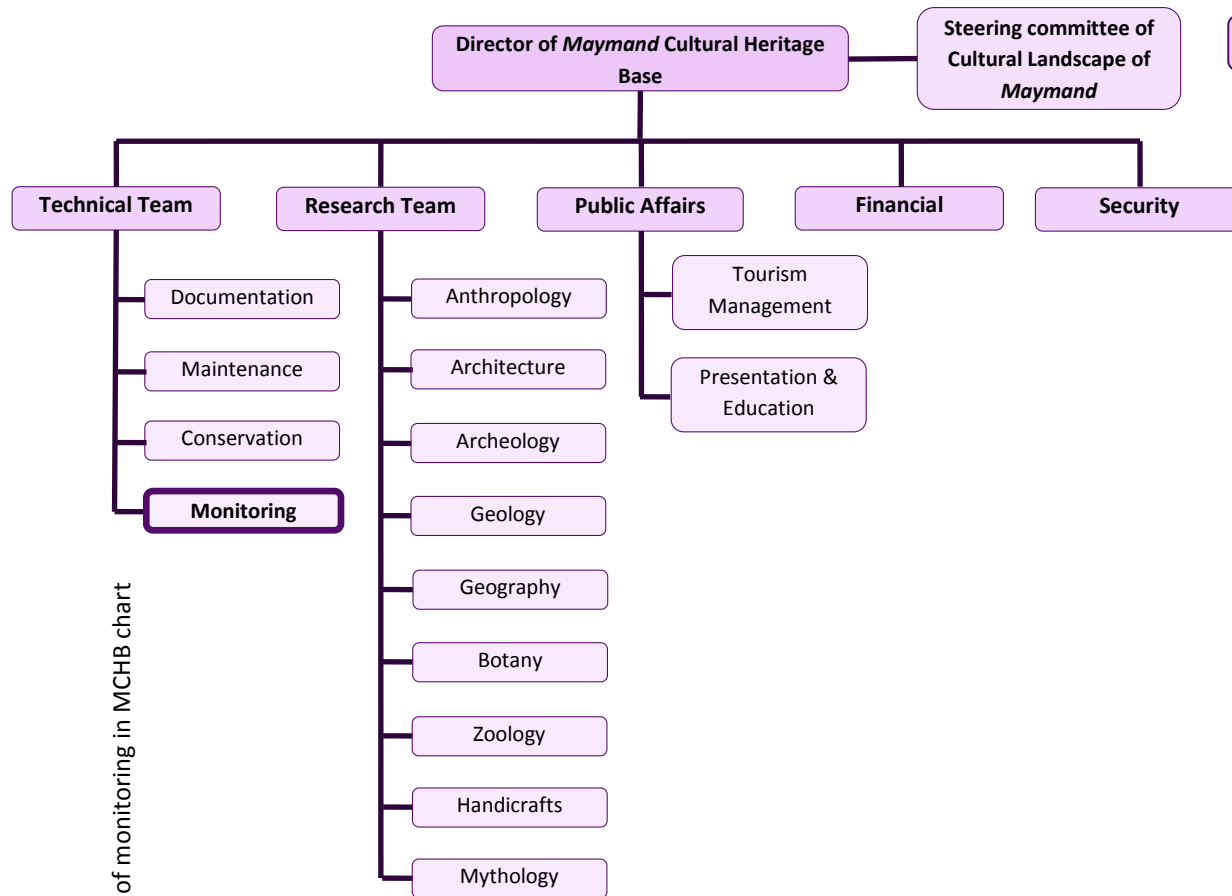


Fig. 6.4 Position of monitoring in MCHB chart

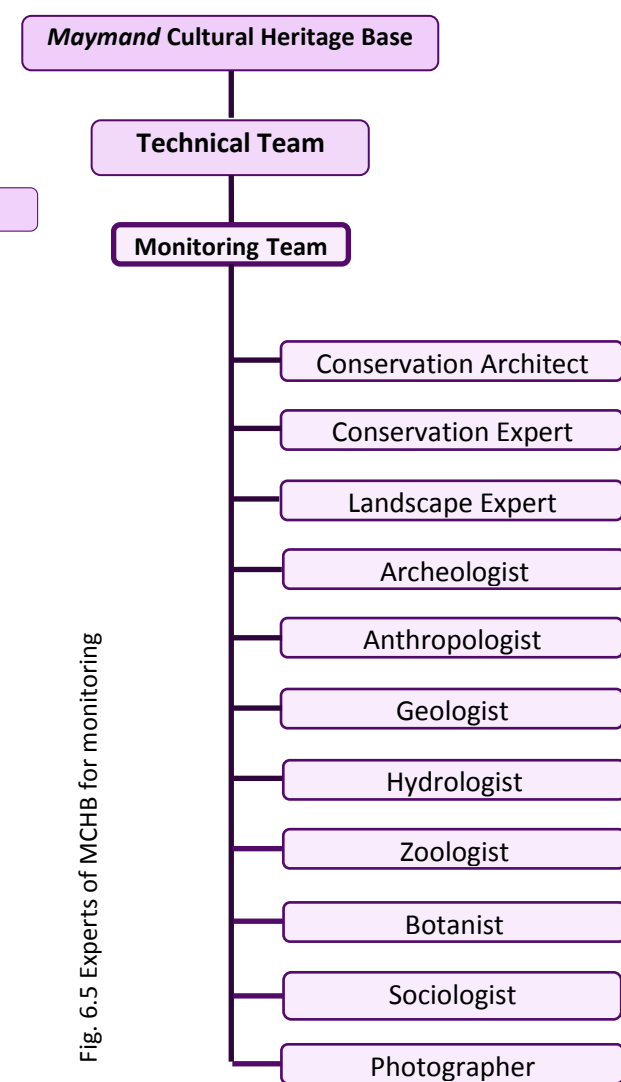


Fig. 6.5 Experts of MCHB for monitoring



Names and contacts of the responsible authorities for monitoring of MCHB:

MCHB	Name	Education	Contact	
			Tell	Mail
	Hossein Purmehrab	M.A. Architecture	(+98) 935 788 2145	poormehrab@yahoo.com
	Hassan Ebrahimi	B.A. Urban Geography	(+98) 913 393 1477	fbagherymeymand@yahoo.com
	Hossein Mahmudi	B.A. Urban Geography	(+98) 913 393 2576	-
	Nader Zaker Soltani	M.A. Conservation Expert	(+98) 9177135850	-

Fig. 6.6 Contact information of MCHB's experts for monitoring



6.c Results of Previous Reporting Exercises

Since the establishment of MCHB in 2001 in troglodyte *maymand* in annual and periodic records, all last result of researches, executive conservation operations and all education and preservation activities which have done in *Maymand* send to ICHHTO. Also a version of these records would be archived in MCHB. Following is Outline of conservation activities in Cultural Landscape of *Maymand* according to the monitoring reports¹:

All Conservation activities in this site can be introduced under three phases:

First Phase: 2002-2004 (1381-1383Š)

This phase, which was in fact the beginning point of conservation activities in Cultural Landscape of *Maymand* in a systematic and serious way, coincided with the establishment of MCHB. Serious conservation and restoration projects were initiated and accomplished in *Maymand* during this phase including:

Clearing up and organizing village area, clearing up of *Kichehs*, case-restoration of *Kichehs*, reinforcement of *Kichehs'* bodies, restoration of architectural elements and parts such as *Sarsoffeh* and *Dargāh*, revitalization of some *Kichehs* and defining new function for them like changing *Kicheh Mehdiha* into MCHB, establishment of public restrooms (in *Kicheh-ye Medīha*), and so on.

Different research activities were also accomplished during this phase including botany, zoology and archaeology studies as well as site's buffer zone identification, studies on *Maymand's* architecture, studying other similar sites in Iran and the world, organizing festivals and congresses in order to introduce *Maymand* and so on.

It should be noted that *Maymand* was participated in **Melina Mercury** competition during this phase and could win the 2005 prize., the report of which was also prepared and is available.

¹ For comprehensive information see chapter 4, section 4 a. of this document



Second Phase: 2005 to 2009 (1384-1388Š)

Maymand village had reached a level of stability and balance during this phase as the result of activities undertaken during the first phase, and had been recognized as a valuable national site. Most of the activities during this second phase concentrated on revitalizing the weakened aspect of *Maymand*'s life cycle and creating a connection between *Maymand* and other cultural tourism-related sites in Iran. Reproduction of *Maymand* handicrafts such as felt making and *Saftübāfī* were among these actions. In addition, restoration activities like restoring *Sarsoffehs* and *Dargāh* and other architectural elements were carried out at this phase as well.

Third Phase: 2010 until Now (1389- ...)

In addition to continuing regular conservation and monitoring activities in this phase it is sought to focus the management and conservation activities on enhancing and reinterpreting the cultural values and potentials of the cultural landscape. Moreover, improving public education and cultural tourism facilities is among the managerial priorities in this phase.

List of conservation activities accomplished by MCHB since its establishment until 2011 is presented in coming pages.

Activities accomplished during these years by MCHB in *Maymand*:

- Research
 - Designing the botanical garden of *Meymand*
 - Planning preliminary investigations about the Children Museum
 - Studying and researching similar troglodyte sites and architecture identified around *Meymand* and in Iran and the world.



- General understanding of the village (collecting available documents and other available data about the village and preparing maps).
- Geographical study of *Maymand* and its surrounding environment.
- Ethnographic studies (such as their migration issue, beliefs, traditions, social organization, living practices, rituals and religious customs, slogans and legends).
- Studying and documentation pictographs and petroglyphs discovered in the region.
- Terminology studies.
- Studying medicinal plants and their usage in the village.
- Studying traditional medicine and health condition of the village.
- Foundation of a traditional arts workshop and conducting relevant research about them.
- Research about villagers nutrition and foods, food preserving methods and food-related tools.
- Studying different animal species of the village and in particular the insects.
- Preliminary arrangements to conduct geology studies.
- Research about traditional custom of the village like wedding ceremony customs.



- Conservation and Restoration
- Emergencies pathology and executive solutions.
- Establishment of the document center.
- Establishment of the office of MCHB.
- Planning and construction of bathrooms near the base.
- Equipping the base kitchen.
- Planning and construction of Swage system.
- Restoration of the watermill located near the village.
- Revitalization a *Kicheh as the* handicraft shop.
- Modification a newly-established bath of the village and its opening.
- Organizing the area around the mosque and *Hosseineh*.
- Organizing of the village.
- Organizing herds.
- Organizing public restrooms including those located in front of the mosque and those located next to the village public bath.
- Parking planning.



- Construction of guards' room.
- Preparation of village guesthouse.
- Organizing and restoring the old bath.
- Preparation and starting up the ethnography museum.
- Deconstructing the amendments.
- Improving and extending village's green area.
- Designing and construction of public garbage bins.
- Leveling and gravel paving of the area in front of the *Hosseinieh* and both sides of the road.
- Holding of traditional arts workshop.
- Reorganization of the village entrance: construction of walls alongside main routes of the village.
- Reorganization of the path ending in the hostel.
- Reorganization and expansion of public toilets.
- Demolition or making indigenous (homogenization of) the new constructions.
- Designing the Study and Assembly Center.
- Founding museum and Information Center.
- Construction of a new car park.



- Construction children's play ground.
- Expansion of green space.
- Establishing half cooking calk kiln.
 - Introduction and Education
- Holding *Maymand* photograph exhibition.
- Designing and launching *Maymand* website (www.Maymand.org.ir)
- Production of *Maymand* bags.
- Publication of undertaken activities reports and media releasing.
- Participation in ICTO conservation and revitalization seminar and presenting accomplished activities reports
- Holding different meeting with *Kerman* province authorities at *Maymand*.
- Holding the opening of *Kermanology* festival in *Maymand* village.
- Designing and erecting guiding and introductory signs.
- Making a video clip and a short film about village.
- Presenting the report on the accomplished activities both at the village and at other national and international gatherings.



- Provision and distribution of a trilingual brochure on *Meymand*
- Holding educational sessions with the participation of handicraft makers in order to improve the system of provision, distribution and presentation of handicrafts
- Forming a team for training Nowruz tourist guides
- Providing a three dimensional picture of *Meymand*
- Holding the conference on handmade architecture
- Inspecting operations conducted in rural areas of *Kurdistan*

Last Conservation State of Troglodyte Village

In troglodyte village, due to the restoration and conservation activities of the existent Cultural Heritage Base of the village during recent years, almost most of the residential, public, service and ... units have a stable and suitable condition. However, because of the abandonment of some units (with no residents and no function), there exist some supporting and conservational needs. Major required activities are as follows:

- Cleansing and collecting the rubbish, restoration of damages parts like *Sarsoffehs*, other complementary activities such as installation of door, restoration of *Dīdān* and other necessary tasks, revitalization of and utilizing the units, establishment of entertainment and service facilities needed in the village.

In general, from a total number of 400 *Troglodyte Kicheh* units in the *Maymand* village:



- 123 units are intact and are used currently. Their functions include residential, public, religious and administrative purposes. In most of these units, different conservation and restoration activities have been undertaken by the Cultural Heritage Base at *Maymand* .
- From the remaining number of *Kīchehs*, 3 units are considered semi-complete.
- 44 units are considered non-harmonic attachments that have been constructed after the 1960s with mud brick and brick. Cultural Heritage base of *Maymand* has included these in the list of eliminated buildings as regards the conservation issues.
- Two troglodyte units are currently ready for preparation and revitalization. This indicates that they are in an intact condition and merely need a new function.
- 1 *Kīcheh* unit is in a poor condition and is considered ruined with an urgent need for strengthening restoration activities.
- The rest of troglodyte units are in a secure condition as regards their stability. They mainly require basic conservation jobs such as cleansing or installation of door and *Dargāh*. Units need restoration of *Sarsoffeh* and cases need their roof holes to be repaired. After these, they can be given new functions.



Fig. 6.7 Air photo of troglodyte *Maymand* in 1363/1984



Fig. 6.8 Air photo of troglodyte *Maymand* in 1384/2005





Fig. 6.9 Troglodyte Maymand in 1344/1965

Fig. 6.10 Troglodyte Maymand in 1384/2005



Fig. 6.11 Troglodyte Maymand in 1344/1965

Fig. 6.12 Troglodyte Maymand in 1384/2005





Fig. 6.13 Troglodyte *Maymand* before conservation activities in 1380/2001
Fig. 6.14 Troglodyte *Maymand* after conservation activities in 1384/2005



Fig. 6.13

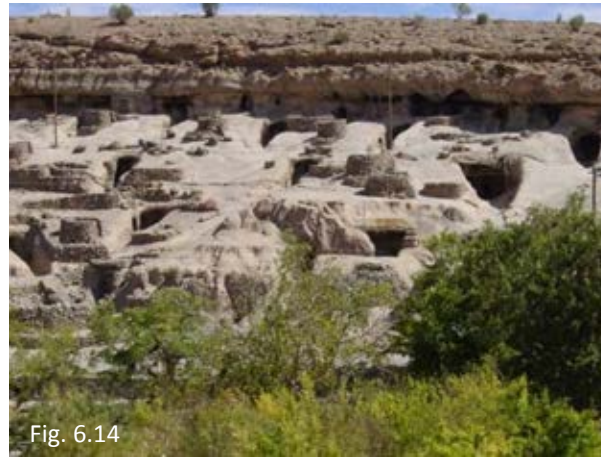


Fig. 6.14

Fig. 6.15 Troglodyte *Maymand* before conservation activities in 1380/2001
Fig. 6.16 Troglodyte *Maymand* after conservation activities in 1384/2005



Fig. 6.15



Fig. 6.16



Fig. 6.17 Troglodyte *Maymand* before conservation activities in 1380/2001
Fig. 6.18 Troglodyte *Maymand* after conservation activities in 1384/2005



Fig. 6.17

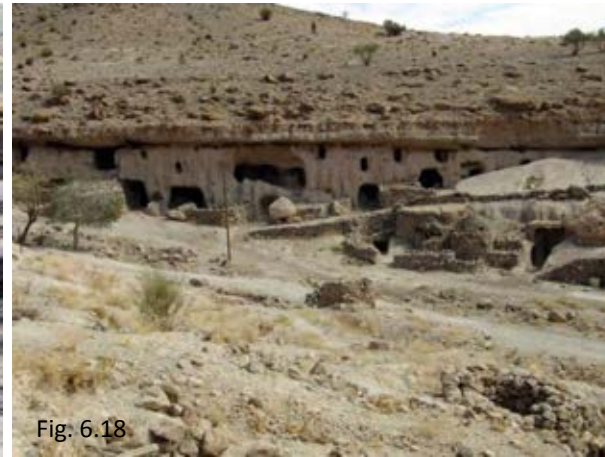


Fig. 6.18

Fig. 6.19 Troglodyte *Maymand* before conservation activities in 1380/2001
Fig. 6.20 Troglodyte *Maymand* after conservation activities in 1384/2005



Fig. 6.19



Fig. 6.20



Fig. 6.21 The area front of Hosseinieh before conservation activities in 1381/2002

Fig. 6.22 The area front of Hosseinieh after conservation activities in 1383/2004



Fig. 6.21



Fig. 6.22

Fig. 6.23 The area front of Hosseinieh before conservation activities in 1381/2002

Fig. 6.24 The area front of Hosseinieh after conservation activities in 1383/2004



Fig. 6.23



Fig. 6.24

Fig. 6.25 The door of Hosseinieh before conservation activities in 1381/2002

Fig. 6.26 The door of Hosseinieh after conservation activities in 1383/2004



Fig. 6.25



Fig. 6.26



Fig. 6.29 The door of mosque before conservation activities in 1381/2002
 Fig. 6.30 The door of mosque after conservation activities in 1383/2004



Fig. 6.29



Fig. 6.30

Fig. 6.31 Entrance of mosque before conservation activities in 1381/2002
 Fig. 6.32 Entrance of mosque after conservation activities in 1383/2004



Fig. 6.31



Fig. 6.32

Fig. 6.27 Interior space of mosque during conservation activities in 1381/2002

Fig. 6.28 Interior space of mosque after conservation activities in 1384/2005



Fig. 6.27

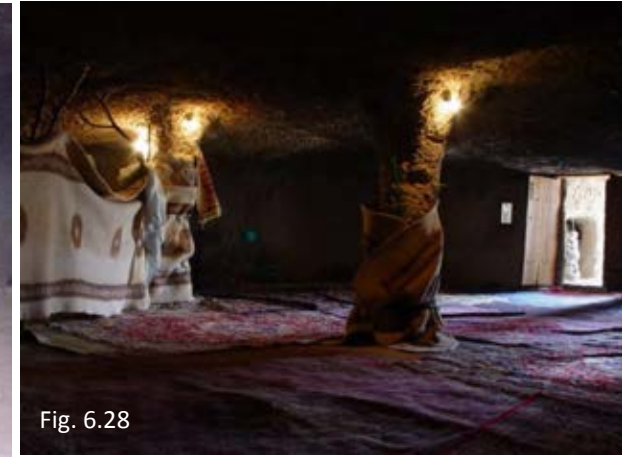


Fig. 6.28



Fig. 6.33 Inner space of fire temple before conservation activities in 1381/2002



Fig. 6.33

Fig. 6.34 Inner space of fire temple after conservation activities in 1383/2004



Fig. 6.34

Fig. 6.35 Altars inside of fire temple before conservation activities in 1381/2002



Fig. 6.35

Fig. 6.36 Altars inside of fire temple after conservation activities in 1383/2004

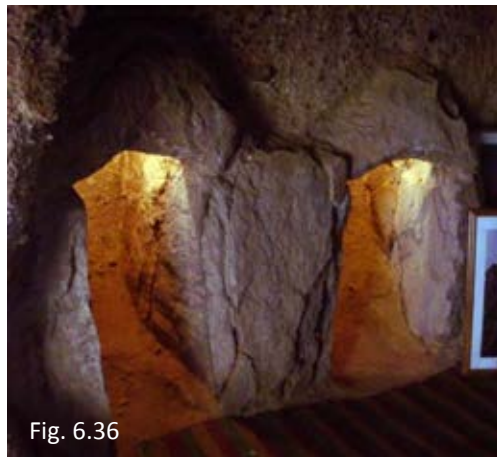


Fig. 6.36

Fig. 6.37 Altars inside of fire temple before conservation activities in 1381/2002



Fig. 6.37

Fig. 6.38 Altars inside of fire temple after conservation activities in 1383/2004

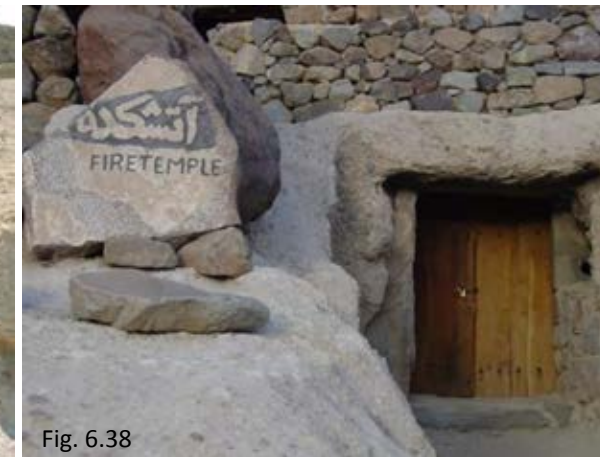


Fig. 6.38



Fig. 6.39/44 Different spaces of *Kīcheh-ye Mahdīhā* (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005



Fig. 6.39/ before



Fig. 6.40/ after

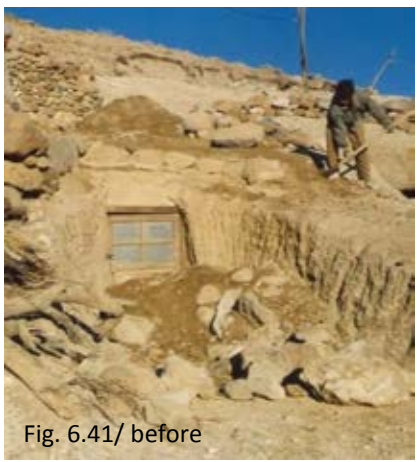


Fig. 6.41/ before



Fig. 6.42/ after



Fig. 6.43/ before



Fig. 6.44/ after



Fig. 6.45/50 Different interior spaces of Kīcheh-ye Mahāthā (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005



Fig. 6.45/ before



Fig. 6.46/ after



Fig. 6.47/ before



Fig. 6.48/ after



Fig. 6.49/ before



Fig. 6.50/ after



Fig. 6.51,52 Area above the old bath before and after conservation activities (collecting inappropriate structure) within 1381/2002 and 1383/2004



Fig. 6.51



Fig. 6.52

Fig. 6.53/56 Area next of old bath before and after conservation activities within 1381/2002 and 1384/2005



Fig. 6.53/ before



Fig. 6.54/ after



Fig. 6.55/ before



Fig. 6.56/ after



Fig. 6.57,58 Local toilets (Owriz) before and after conservation activities within 1381/2002 and 1382/2003



Fig. 6.57/ before



Fig. 6.58/ after

Fig. 6.59/62 New bath before and after conservation activities within 1381/2002 and 1383/2004



Fig. 6.59/ before



Fig. 6.60/ after



Fig. 6.61/ before



Fig. 6.62/ after



Fig. 6.63,64 Current parking area before and after conservation activities within 1381/2002 and 1384/2005



Fig. 6.63/ before



Fig. 6.64/ after

Fig. 6.65/68 Surrounding area of parking before and after conservation activities within 1381/2002 and 1384/2005



Fig. 6.65/ before



Fig. 6.66/ after



Fig. 6.67/ before



Fig. 6.68/ after



- *Hamlets (Ābādīs / Sar-e-Bāgh)*

Since architectural units at hamlets (*Ābādīs / Sar-e-Bāghs*) are getting restored organically if necessary by the local community during the residency periods in these units, no conservational activities have so far been conducted in them. Nevertheless, all hamlets (*Ābādīs / Sar-e-Bāghs*) are regularly visited by the cultural heritage experts. In general, a strong and good mutual relationship has been established between the villagers and MCHB in order to protect and preserve different aspects of Cultural Landscape of *Maymand*. Besides, in the short and mid-term management plans of the base, a different section as been allocated to the examination and conduction of required restoration and preservation activities in these parts. Plans of all inhabited hamlets (*Ābādīs / Sar-e-Bāghs*) have been made and are available in the presented maps file.



Fig. 6.69 Landscape of Bonelā Ābādī



Fig. 6.70 A view of Bonelā Ābādī



Fig. 6.71 A view of Pīshrūdākhāneh Ābādī



Fig. 6.72 Landscape of Gozgestān Ābādī



Fig. 6.73 A view of Darebeneh Ābādī



Fig. 6.74 A view of Lākhorīn Ābādī





- *Folds (Sar-e-Āghols)*

Like hamlets (*Ābādīs / Sar-e-Bāghs*), *Āghols* (folds) of Cultural Landscape of *Maymand* will be restored and reconstructed, if needed, by the local community during residing periods using local methods. During recent years the Cultural Heritage Base located at troglodyte village of *Maymand*, has undertaken several restoration and conservation activities in some of folds (*Āghols*) that are explained below.

Construction of one *Markhāneh* unit, making cover for one *Sūl* unit and wall making in *Darkhānī Āghol* in 1382/2003.

Fig.6.75 General view of Āghol-e Lotfīhā





Fig. 6.76



Fig. 6.77



Fig. 6.78



Fig. 6.79

Fig.6.76 General view of Āghol-e Darkhāni
Fig.6.77 General view of Āghol-e Jālebīn
Fig.6.78 General view of Āghol-e Bakhshīhā
Fig.6.79 General view of Āghol-e Mortezā
Fig.6.80 General view of Āghol-e Hājī Ebrahīm



Fig. 6.80



- **Miscellaneous Remains including: Water Mills, Pre-Islamic Graves, *Dezhs* (forts) and Petroglyphs/Pictographs**

Unfortunately due to the high disturbance of these properties in the region, their conservation and protection has been facing some challenges and difficulties. At the moment Cultural Heritage Base experts conduct periodical and regular visits of these remains and sites. Besides in order to have a better knowledge about them, required researches have been accomplished.

- *Petroglyphs*

- Documentation of the Petroglyphs/Pictographs and studying their designs and motifs (research by Fariba Karimi).
- Periodical visits by the experts in order to control the status of the remains



Fig. 6.81



Fig. 6.82



Fig. 6.83



Fig. 6.84

Fig. 6.81/84 An example of petroglyph in Cultural Landscape of Maymand



- *Watermills*
 - Investigation and studying of the *Maymand* watermills (two separate reports are available on the mills by Ehsan Zera'at and Sharareh Pur Mojdehi).
 - *Rezmalek* watermill was restored and revitalized in 2007
 - Periodical visits by the experts in order to control the status of the remains

At the moment *Maymand* water mills are in the following conditions:

- *Bādī* Watermill: Almost ruined
- *Chīl Ahmadī* Watermill: Almost undamaged
- *Alī Mehdī* Watermill: Almost ruined
- *Yūsof* Watermill: Semi-ruined
- Unnamed Watermill: totally ruined
- *Rezā* Watermill: Semi-ruined
- *Gedā* Watermill: Semi-ruined
- *Kamarī* Watermill: Almost ruined
- *Rezmalek* Watermill: Intact



Fig. 6.85



Fig. 6.86



Fig. 6.87

Fig.6.85 A view of *Bādī* Watermill
Fig.6.86 A view of *Chīl Ahmadī* Watermill
Fig.6.87 A view of *Yūsof* Watermill



- *Pre-Islamic Graves*

Pre-Islamic Graves are in a poor condition due to their particular use and conditions. Most of them are destroyed or are in a semi-destroyed condition. A particular conservation plan is required for the graves.

Most of the graves have been excavated by the thieves for valuables or their tomb stones were taken for other construction activities.

Pictures and sketch plans of these remains have been prepared. Periodical visits by the experts in order to control the status of these remains are also among undertaken conservational activities.

- *Dezhs (Forts)*

In order to conduct conservational activities on the forts in *Maymand* area, an identification survey has been accomplished that was followed by the registration of the forts. Related reports are available at MCHBarchives.

At the moment, only stone foundations of the forts' have been remained.

The important factor regarding these cases is that any research and conservational action on them would endanger these as regards the threatening dangers of profiteer persons.

Fig.6.88 An example Pre-Islamic Graves in Cultural Landscape of *Maymand*



Fig.6.89 An example of *Dezhs* (forts) in Cultural Landscape of *Maymand*





- *Intangible Heritage*

Intangible heritage that includes different aspects of *Maymandi* people's life, have been in some cases changed, neglected or forgotten as a result of recent changes. The Cultural Heritage Base at *Maymand* has done some valuable actions in order to preserve these heritages including:

- Re-examination, registration and documenting various parts of the intangible heritage of *Maymand*.
- Revitalization and restoring these cases back to the daily lives of the local community as much as possible.

The results of these activities are available in the study and project reports of the *Maymand* Cultural Heritage Base. Following studies are some of the undertaken documenting projects:

- Re-examination and documenting the tools and handicrafts of *Maymand* (in fact these cases are the techniques and knowledge of *Maymand* i people that are reflected in their tools).
- Studying their food and diet
- Re-examination of the traditional medicine and related practices and healing methods
- Examination and studying of the *Maymand* i clothing
- Compilation of a dictionary on the local words and expressions

As regards the practical activities the following programs worth mentioning:

- Revitalization and reintroduction of local handicrafts such as felt making, *Saftū* weaving
- Highlighting the traditional ways of living (such as herding, gardening,...) and emphasis on their reintroduction in their original form.
- Application of local knowledge, skills and techniques in different parts especially in restoration and architectural activities and different aspects of daily life.
- Emphasis on self confidence of the local community and the value of being a *Maymand* i.
- **Visitor Statistics**



Visitor Statistics

Province	Kerman	Teharn	Fars	Yazd	Isfahan	Khorasan	Bandar-e Abbas	North Province	West Province	Other Province	Sum
Number (Person)	10125	1199	546	538	450	279	260	210	149	716	14472

Fig. 6.90 Statistics of *Maymand's* Visitors from different provinces of Iran in *Nowrūz* 1388/2009

Year	Number of visitors in <i>Nowrūz</i> /March-April (Person)	Number of visitors in other month of year (Person)	Foreign visitors (Person)	Sum
1383/2004	2000	7000	110	9000
1384/2005	1500	8300	85	9800
1385/2006	5000	9670	157	14670
1386/2007	14018	20800	385	34818
1387/2008	21300	35200	300	56500
1388/2009	14472	25000	642	39472
1389/2010	15600	-	-	-
Sum	73890	105970	1679	179860

Fig. 6.91 Statistics of *Maymand's* Visitors from 1383/2004 to 1389/2010



No.	Date	Time	Output	Input	Base	Noting
1	82/11/14	2:50	8.5	09	A	Fire Temple
2	82/11/15	9:40	5.5	7.5	A	Fire Temple
3	82/11/15	2:45	9.8	09	A	Fire Temple
4	82/11/16	3:10	09	08	A	afternoon
5	82/11/16	9:15	6.7	8.7	A	afternoon
6	82/11/17	0:6	4.3	7.5	A	sultry-morning
7	82/11/17	9:15	5.4	8.5	A	morning
8	82/11/17	0:6	07	09	A	afternoon
9	82/11/18	0:6	3.7	07	A	morning
10	82/11/18	9:15	03	08	A	Snowy- morning

Fig. 6.92 An example of temperature monitoring in different years and times in *Maymand*



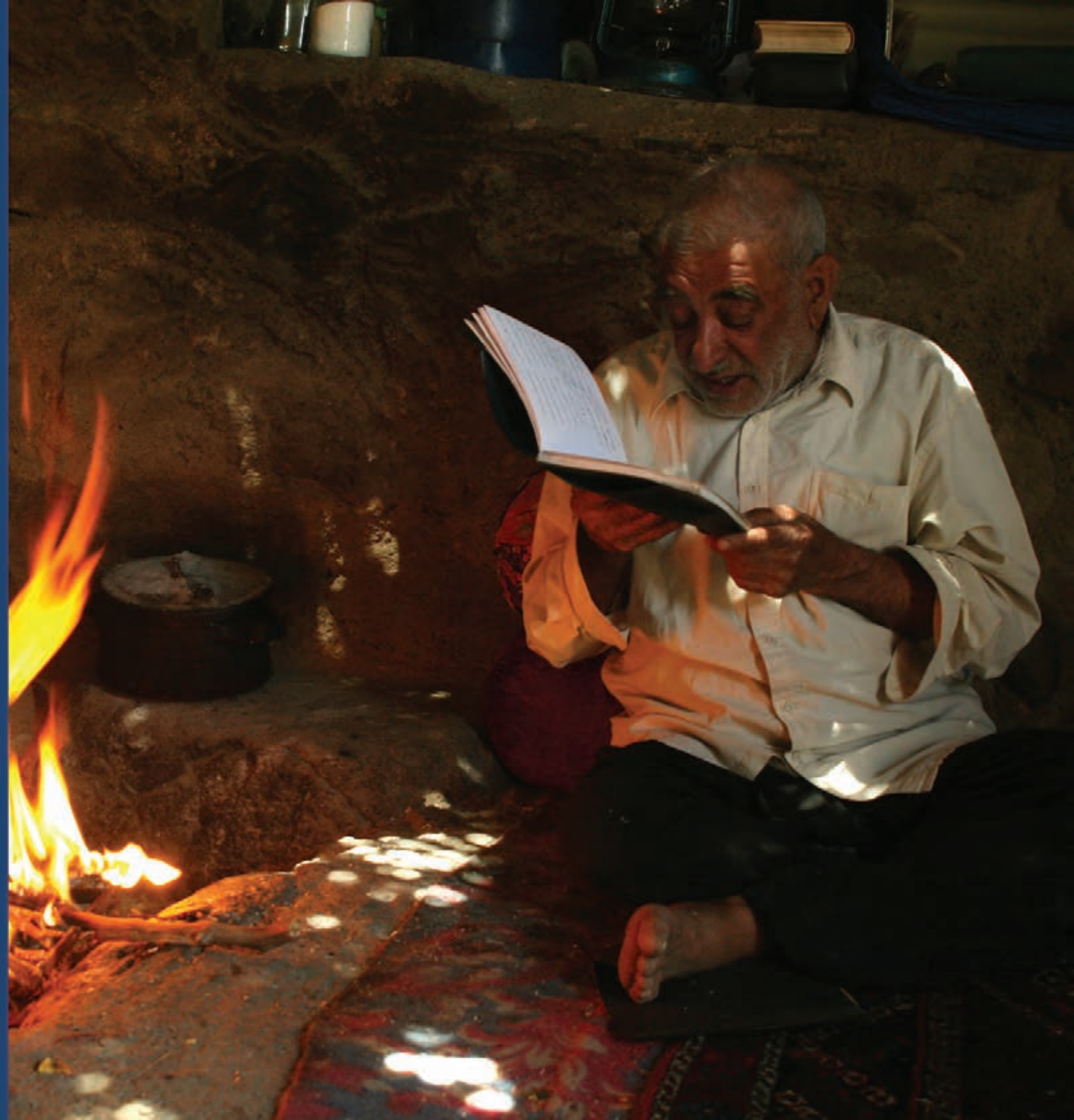
Fig.6.93 Monitoring the rate of raining in Cultural Landscape of Maymand between 1366/1977 and 1382/2003

Year	Rate of Raining (mm)
1366/1987	170
1367/1988	114
1368/1989	160
1369/1990	104
1370/1991	1378
1371/1992	358
1372/1993	126
1373/1994	223
1374/1995	273
1375/1996	107
1376/1997	223.6
1377/1998	190
1378/1999	78.6
1379/2000	620
1380/2001	131
1381/2002	136
1382/2003	210

Chapter 7



Documentation



7.a Photographs, Slides, Image Inventory and Authorization Table and Other Audiovisual Materials

No	Format	Caption	Photographer	Date	Page
1.1	Map	Iran	ICHHTO	2009	1
1.2	Map	Location of <i>Kermān</i> province in Iran	ICHHTO	2009	2
1.3	Map	Location of <i>Maymand</i> in <i>Kermān</i> province	ICHHTO	2009	3
1.4	Map	Location of <i>Shahr-e Bābak</i> Township in <i>Kermān</i> province	ICHHTO	2009	4
1.5	Map	Location of <i>Maymand</i> in <i>Shahr-e Bābak</i> Township	MCHB/ M. Hekmat	2004	5
1.6	Photo	General View of the Cultural Landscape of <i>Maymand</i>	MCHB /M. Hekmat	2004	5
1.7	Table	The list of <i>Maymand</i> Cultural Landscape's map	MCHB	2010	7
1.8	Map	Cultural Landscape of <i>Maymand</i> , Distribution of Hamlets (<i>Ābādīs/Sar-e Bāghs</i>) and Folds (<i>Āghols</i>)	MCHB	2009	8
1.9	Photo	<i>Sar-e-Bāgh</i>	MCHB	2004	8
1.10	Photo	Troglodyte <i>Maymand</i>	MCHB	2004	8
1.11	Photo	Eshām	MCHB	2004	8
1.12	Photo	Sar-e-āghol	MCHB	2004	8
1.13	Map	Buffer zone of Cultural Landscape of <i>Maymand</i>	MCHB	2010	9
1.14	Map	Core zone of Cultural Landscape of <i>Maymand</i>	MCHB	2010	10
1.15	Table	Area of Cultural Landscape of <i>Maymand</i>	MCHB	2010	11
2.1	Map	Provincial division of <i>Shahr-e-Babak</i> sub-province and the location of <i>Maymand</i> village.	MCHB	-	13
2.2	Map	Seasonal rivers	MCHB	2010	16
2.3	Map	Qanats	MCHB	2010	17
2.4	Photo	Neyrīzū spring	MCHB A. Keyvanloo	2005	15
2.5	Photo	The <i>Qanat's</i> origin	MCHB	-	15
2.6	Photo	<i>Kelū-Maymand</i>	MCHB/S. Azarkia	-	15
2.7	Photo	Seasonal Rivers	MCHB	2004	18



No	Format	Caption	Photographer	Date	Page
2.8	Photo	<i>Seh-tāyī</i> pool	MCHB O. Shojai	2009	18
2.9	Photo	Kel-e-sang	MCHB K. Eghtesadi	2004	18
2.10	Photo	Natural grooves leading trickles of water to be gathered	MCHB K. Eghtesadi	2004	19
2.11	Photo	<i>Kel-e-Sang</i> in <i>Qal'h-Marj</i> Mountain	MCHB K. Eghtesadi	2004	19
2.12	Photo	The hollow space in the water container in <i>Sar-e-Āghol</i>	MCHB K. Eghtesadi	2004	19
2.13	Photo	Natural water reservoir under <i>Tāgh</i>	MCHB S. Azarkia	2009	20
2.14	Map	The region's heights	MCHB	-	21
2.15	Photos	A view of the region's vegetation	MCHB	2004	23
2.16	Map	A map of region's vegetation	MCHB	-	24
2.17	Photos	Samples of the region's animal species	MCHB	2003	25
2.18	Photo	The valley and the orchards	MCHB	-	26
2.19	Photo	The single <i>Beneh</i> trees growing in the fields	MCHB	2004	26
2.20	Photo	<i>Korom</i> Bath	MCHB	2003	26
2.21	Photo	<i>Pishestā</i>	MCHB	-	26
2.22	Photo	<i>Kamar-e-Marj</i>	MCHB A. Keyvanloo	2004	27
2.23	Photo	<i>Eshām</i> in <i>Kamar-sefīd</i>	MCHB	-	27
2.24	Photos	<i>Eshkaft-lāshkorgūīyeh</i>	MCHB	2003	28
2.25	Photo	<i>Kot-e-Palang</i>	MCHB	-	28
2.26	Photos	<i>Tīr-khorīn</i>	MCHB	-	28
2.27	Table	The distribution table of <i>Maymand</i> population throughout a solar year	MCHB	2009	33
2.28	Photo	<i>Sar-e-Āghol</i>	MCHB	-	33
2.29	Photo	<i>Eshām</i> in <i>Kamar-Sefīd</i>	MCHB	-	33



No	Format	Caption	Photographer	Date	Page
2.30	Photo	<i>Sar-e-Bāgh</i>	MCHB	2004	33
2.31	Photo	Troglodyte <i>Maymand</i>	MCHB	2004	33
2.32	Table	In-Place Migration	MCHB K. Eghtesadi	2009	34
2.33	Photo	<i>Toqol</i>	MCHTB M. Hajirahimi	2005	34
2.34	Photo	<i>Eyvān</i>	MCHB K. Eghtesadi	2004	34
2.35	Photo	A <i>Kamar</i> room	MCHB K. Eghtesadi	2006	34
2.36	Chart	Main four-phase life cycle and in-place migration	MCHB K. Eghtesadi	2009	35
2.37	Photo	<i>Gombeh</i>	MCHB	2004	35
2.38	Photo	<i>Kapar</i> and <i>Pishgāh</i> in <i>Sar-e-Bāgh</i>	MCHB P.Karamnejad	2009	35
2.39	Chart	Three-phase life cycle	MCHB K. Eghtesadi	2009	36
2.40	Photo	<i>Kapar</i> and <i>Pishgāh</i> in <i>Sar-e-Āghol</i>	MCHB	2005	36
2.41	Photo	<i>Markhāneh</i>	MCHB	2005	36
2.42	Chart	Spatial order and connection	MCHB K. Eghtesadi	2009	38
2.43	Photos	<i>Sar-e-Āghol</i>	MCHB	-	39
2.44	Map	Dispersion map of <i>Sar-e-Āghols</i>	MCHB	2010	39
2.45	Map	<i>Āghol</i> plan	MCHB	2010	40
2.46	Photo	The roof covering of <i>Markhāneh</i> in <i>Sar-e-Āghol</i>	MCHB	2004	41
2.47	Photo	Animal husbandry	MCHB	2004	41
2.48	Photo	Boiling milk	MCHB	2005	41
2.49	Photos	An aerial photo of the <i>Loṭfies</i> and the <i>Ṭālebies Āghols</i>	MCHB	2006	42
2.50	Photo-Figur	Brick-made <i>Āghol</i> (Sūl)	MCHB	2005	43



No	Format	Caption	Photographer	Date	Page
2.51	Photo	Inside a <i>Sūl</i>	MCHB	-	43
2.52	Photo	Inside a wooden <i>Āghol</i>	MCHB	2004	44
2.53	Photo	The outside view of a wooden <i>Āghol</i>	MCHB	-	44
2.54	Photo	The inside view of <i>Darkūz</i>	MCHB	-	44
2.55	Photo	<i>Kūz & Darkūz</i>	MCHB	-	45
2.56	Photo	<i>Korm</i>	MCHB	2004	45
2.57	Photo	<i>Talgard</i>	MCHB	-	45
2.58	Photo	<i>Jirehdān</i>	MCHB	-	46
2.59	Photo	<i>Zendān-e- Gūsfand</i>	MCHB	2004	46
2.60	Photo-Figure	<i>Kapar</i>	MCHB	2004	47
2.61	Photo	<i>Pīshgāh</i>	MCHB P.Karamnejad	2009	47
2.62	Photo	<i>Markhāneh</i>	MCHB	2005	48
2.63	Photos	Inside <i>Markhāneh</i> before and after preparation	MCHB	2005	48
2.64	Figures	Sections of <i>Markhāneh</i>	MCHB F.Izadpanah	2009	48
2.65	Photo	<i>Mashkdān</i>	MCHB	2009	48
2.66	Photo	Outside view of a <i>Howz</i> (pool)	MCHB	-	49
2.67	Figure	Vertical section of a four-part <i>Howz</i> pool)	MCHB F.Izadpanah	-	49
2.68	Photo	Inside an old <i>Howz</i> (pool)	MCHB	-	49
2.69	Photo	Outside view of a <i>Howz</i> (pool)	MCHB	-	49
2.70	Figures	Vertical section of <i>Howz</i> (pool)	MCHB F.Izadpanah	-	49



No	Format	Caption	Photographer	Date	Page
2.71	Photo	<i>jāvīyeh</i>	MCHB	-	50
2.72	Figure	New pools with <i>jāvīyeh</i>	MCHB F.Izadpanah	-	50
2.73	Photo	New (modern) pool	MCHB	-	50
2.74	Photos	<i>Eshām</i> in <i>Kamar-Sefid</i>	MCHB	2005	51
2.75	Photo	<i>Pelās</i>	MCHB	-	51
2.76	Photo	Migration to <i>Sar-e-Bāgh</i>	MCHB P.Karamnejad	2009	52
2.77	Map	Dispersion map of <i>Sar-e- Bāghs</i>	MCHB	2010	53
2.78	Photos	An aerial photo of one of the hamlets in the cultural landscape of Maymand with its unusual and unique structure owing to its organic architecture	MCHB	-	53
2.79	Photos	Activity in <i>Sar-e-Bāgh</i>	MCHB P.Karamnejad	2009	54
2.80	Photo	<i>Sar-e-Bāgh</i>	MCHB	-	54
2.81	Photo	<i>Rayīn</i>	MCHB	-	55
2.82	Photo	An access to a <i>Ābādī</i>	MCHB P.Karamnejad	2009	55
2.83	Figure	Architectural spaces in <i>Sar-e-Bāgh (Gozgestūn)</i>	MCHB	-	56
2.84	Figure	Establishment of rural community near seasonal rivers' banks	MCHB F.Izadpanah	2009	56
2.85	Photos	View of <i>Kapars</i> in hamlets	MCHB	2004	57
2.86	Figure	A section of <i>Kapar</i>	MCHB F.Izadpanah	2009	58
2.87	Figure	Internal space of <i>Kapar</i>	MCHB	-	58
2.88	Figure	Plan of <i>Kapar</i>	MCHB	-	58
2.89	Photos	<i>Gombeh</i>	MCHB	-	59



No	Format	Caption	Photographer	Date	Page
2.90	Figure	A section of <i>Gombeh</i>	MCHB F.Izadpanah	2009	59
2.91	Photo-Figure	<i>Gombeh's</i> roof structure with convergent beams	MCHB	-	60
2.92	Photo	<i>Chehel-Mard</i>	MCHB	-	60
2.93	Photo	Part of the internal space of a <i>Gombeh</i> . <i>Didān</i> and stone niches	MCHB	-	60
2.94	Figure	<i>Mashkdān</i>	MCHB F.Izadpanah	-	61
2.95	Photo	<i>Chahārpāyeh</i>	MCHB	-	61
2.96	Figure	A section of <i>Dūshāb</i> factory	MCHB F.Izadpanah	-	62
2.97	Photo	Two <i>Kele-e-Dūshāb</i> pits. adding <i>Dushāb</i> dust	MCHB P.Karamnejad	2009	62
2.98	Photo	<i>Palghāndan</i>	MCHB P.Karamnejad	2009	63
2.99	Photo	Stirring grapes	MCHB P.Karamnejad	2009	63
2.100	Photo	Covering <i>Dūshāb</i>	MCHB P.Karamnejad	2009	63
2.101	Photo	Sieving <i>Dūshāb</i>	MCHB P.Karamnejad	2009	63
2.102	Photo	<i>Dūshāb</i>	MCHB P.Karamnejad	2009	63
2.103	Photo	<i>Chil-Ahmadi</i> Water-mill	MCHB	-	64
2.104	Photo	<i>Režā</i> Water-mill	MCHB	-	64
2.105	Photo	<i>Rezmalek</i> Water-mill being repaired	MCHB	-	64
2.106	Map	Dispersion map of water-mills	MCHB	2010	65
2.107	Map	The water-mills in <i>Rezmalek</i> valley	MCHB Sh.Poormojdehi	2006	65



No.	Format	Caption	Photographer	Date	Page
2.108	Figure - Photo	<i>Kharman Kamarī</i>	MCHB	-	66
2.109	Photo	<i>Parvārband</i> . animal entrance	MCHB	-	66
2.110	Photos	Parvārband next to Kapar	MCHB	-	67
2.111	Photos	Talgard	MCHB	-	67
2.112	Photos	An aerial photo of Troglodyte Maymand	MCHB	-	68
2.113	Photo	Watchtower in Maymand's aerial photograph	MCHB	-	69
2.114	Photo	<i>Maymand Dezh</i>	MCHB	-	69
2.115	Photo	Watchtowers	MCHB	-	69
2.116	Photo	A view of Troglodyte <i>Maymand's</i> entrance	MCHB O. Shojai	2006	70
2.117	Photos	Women's activities	MCHB P.Karamnejad	2009	70
2.118	Photos	Men's activities. Felt-making	MCHB	2004	70
2.119	Photo	A view of the situation of <i>Kiches</i> and rooms in relation to each other	MCHB	2004	71
2.120	Figure	The situation of <i>Kiches</i> and rooms in relation to each other	MCHB	-	72
2.121	Photo	<i>Maymand</i> Valley	MCHB	-	72
2.122	Photos	A general view of Troglodyte <i>Maymand</i>	MCHB	-	73
2.123	Map	<i>Maymand's</i> access root and breaches	MCHB F.Izadpanah	-	76
2.124	Photo	Tarmac Road	MCHB	-	74
2.125	Photo	Dust Road	MCHB	-	74
2.126	Photo	<i>Masīl</i>	MCHB	-	74
2.127	Photo	<i>Kāshkor</i>	MCHB	-	74
2.128	Photo	<i>Rekhneh</i>	MCHB	-	75



No	Format	Caption	Photographer	Date	Page
2.129	Figure	<i>Shahsavār Rekhneh</i>	MCHB	-	75
2.130	Photo	<i>Shahsavār Rekhneh</i> after restoration	MCHB	-	75
2.131	Photo	Stone stairs(<i>Pellechīn</i>)	MCHB	-	75
2.132	Photo	<i>Kicheh-Bāgh</i>	MCHB	-	76
2.133	Photo	Quarter Centre (the space in front of <i>Hosseinīyeh</i>)	MCHB	-	77
2.134	Photo	<i>Tāsū'ā</i> and <i>Āshūrā</i> mourning ceremony	MCHB	2006	77
2.135	Photo	Children playing in troglodytes	MCHB P.Karamnejad	2009	78
2.136	Photo	<i>Pātāq</i> homes without <i>Kicheh</i>	MCHB	-	78
2.137	Photo	A view of <i>Kichehs</i> in MCH Base	MCHB O. Shojai	2006	79
2.138	Figure	The common forms of <i>Kichehs</i>	MCHB	-	79
2.139	Photo	L-shaped <i>Kicheh</i>	MCHB	-	79
2.140	Photo	T-shaped <i>Kicheh</i>	MCHB	-	79
2.141	Figure	Consisting spaces of <i>Kichehs</i>	MCHB	-	79
2.142	Photo	MCH Base- <i>Eyvān</i>	MCHB	2006	80
2.143	Photo	<i>Kicheh</i> and <i>Eyvān</i>	MCHB	-	80
2.144	Figure	Different types of connection between <i>Eyvāns</i> and <i>Kicheh</i>	MCHB	-	80
2.145	Photos	Different <i>Eyvān</i> types in terms of form: 1- naturally formed <i>Eyvāns</i> in <i>Pātāq</i> 2- Carved <i>Eyvān</i> in <i>Kamar</i> 3- <i>Eyvān</i> with a break-made roof	MCHB	-	80
2.146	Figure	Types of <i>Eyvāns</i> in terms of form	MCHB	-	81
2.147	Photos	<i>Eyvān</i> type 1 and <i>Eyvān</i> type 2	MCHB	-	81
2.148	Photo	<i>Sarsoffeh</i>	MCHB	-	81
2.149	Photo	Making <i>Sarsoffeh</i>	MCHB	2004	81



No	Format	Caption	Photographer	Date	Page
2.150	Photo	A room in the guesthouse with <i>Dīdān</i> in the middle	MCHTB A. Keyvanloo	2003	82
2.151	Figure	Different parts of <i>Otāq</i> in Maymand	MCHB	-	82
2.152	Photo	<i>Otāq-e-Bonī</i> , the room next to the kitchen in MCH Base	MCHB O. Shojai	2006	83
2.153	Figure	<i>Otāq-e-Bonī</i>	MCHB	-	83
2.154	Photo	<i>Otāq-e-Bālāyī</i> (Upper room)	MCHB	-	83
2.155	Figure	<i>Otāq-e-Zīrī</i> (Lower room)	MCHB	-	83
2.156	Figure	The human-body shaped of room entrances	MCHB	-	84
2.157	Figure	The design of all different types of Entrances (<i>Dargāhs</i>) in Maymand	MCHB	-	84
2.158	Photos	Some samples of <i>Dargāh</i>	MCHB	-	84
2.159	Photos	<i>Tāq</i> and <i>Pātāq</i>	MCHB	-	85
2.160	Photos	<i>Owrīz</i>	MCHB	-	86
2.161	Figure	Horizontal section of <i>Owrīz</i>	MCHB	-	86
2.162	Figure	<i>Owrīz</i> and <i>Bārzengeh</i>	MCHB	-	86
2.163	Figures	<i>Owrīz</i> : the location of <i>Bārzengeh</i> and <i>Chākū</i>	MCHB	-	87
2.164	Photo	Guests having breakfast on <i>Toqol</i> , Maymand guesthouse	MCHB	-	87
2.165	Figure	<i>Toqol</i>	MCHB	-	88
2.166	Photo	Drying wild-almond on <i>Toqol</i>	MCHB	-	88
2.167	Photo-Figures	<i>Kornū</i> oven	MCHB	-	88
2.168	Photo	<i>Kornū</i> bread	MCHB	-	88
2.169	Figures	Different types of <i>Panāhbād</i>	MCHB	-	89
2.170	Photo	<i>Panāhbād</i>	MCHB	-	89



No	Format	Caption	Photographer	Date	Page
2.171	Photos	<i>Talvāreh</i>	MCHB	-	90
2.172	Photo	<i>Talvāreh</i> leaning inside <i>Kamar's</i> cavities	MCHB	-	90
2.173	Photo	A newly built <i>Talvāreh</i> in MCH Base by mounting <i>Pādeh-Dūfāq</i>	MCHB	-	90
2.174	Figure	Constructing <i>Talvāreh-Lachakī</i> (corner), right <i>Talvāreh</i> with <i>Pādeh</i> , left	MCHB	-	90
2.175	Photo	<i>Dīdān</i> in <i>Eyvān</i>	MCHB	-	91
2.176	Photo	<i>Dīdān</i> in <i>Gombeh (Sar-e-Bāgh)</i>	MCHB O. Shojai	2006	91
2.177	Photo	<i>Dīdān</i> in a room in guesthouse	MCHB M. Hajirahimi	2005	91
2.178	Photo	<i>Dīdān</i> in <i>Markhāneh (Sar-e-Āqol)</i>	MCHB	-	91
2.179	Figure	<i>Dīdān</i>	MCHB	-	91
2.180	Figure	A vertical section of <i>Dīdān</i>	MCHB	-	91
2.181	Photo	Securing stones with mud mortar	MCHB	-	91
2.182	Photo	<i>Seh-pāyeh</i> (tripod)	MCHB	2004	91
2.183	Photo	<i>Akhīyeh</i>	MCHB	2004	92
2.184	Figure	<i>Akhīyeh</i> to tie the animals	MCHB	-	92
2.185	Photo	Using <i>Akhīyeh</i> to make <i>Kharbār</i>	MCHB	-	92
2.186	Photo	Using <i>Akhīyeh</i> to hang lanterns from the ceiling	MCHB	-	92
2.187	Photo	Tin-plated doors in <i>Sar-e-Bāgh</i>	MCHB	-	93
2.188	Photo	Putting <i>Makhshīf</i> on the wooden edge of the entrance door	MCHB	-	93
2.189	Figure	Using a piece of wood instead of door	MCHB	-	93
2.190	Photo	A single-leaf door (newly built)	MCHB	2006	94
2.191	Figure	Single-leaf door	MCHB	-	94



No	Format	Caption	Photographer	Date	Page
2.192	Photo	A double-leaf door	MCHB	2004	94
2.193	Figure	A double-leaf door	MCHB	-	94
2.194	Figure	The details of door	MCHB	-	95
2.195	Photo	<i>Damāqeh</i>	MCHB	-	95
2.196	Photo	<i>Poshtband</i>	MCHB	-	95
2.197	Photo-Figure	<i>Pāshneh-Gardūn</i> stone	MCHB	-	96
2.198	Figure	Wooden <i>Pāshneh-Gardūn</i>	MCHB	-	96
2.199	Figure	Bottom of <i>Gīveh</i> used as <i>Pāshneh-Gardūn</i>	MCHB	-	96
2.200	Photo-Figure	Hollow <i>Bālāgardūn</i>	MCHB	2004	96
2.201	Photo-Figure	Overall <i>Bālāgardūn</i>	MCHB		96
2.202	Photo-Figure	One-sided <i>Bālāgardūn</i>	MCHB	2004	96
2.203	Photo	<i>Golmīkh</i>	MCHB	-	97
2.204	Figure	Types of <i>Golmīkhs</i>	MCHB	-	97
2.205	Photo-Figure	<i>Gangū</i>	MCHB	-	97
2.206	Photo	<i>Kleydūn</i> inside <i>Kot-e-Kleydūn</i>	MCHB		97
2.207	Photo	<i>Kāseh Kleydūn</i> (Socket)	MCHB		97
2.208	Photo	Mortise and Tenon	MCHB	-	97
2.209	Photo	A kind of wooden key	MCHB	-	97
2.210	Figure	Different types of wall-making	MCHB	-	98
2.211	Figure	<i>Chīl</i> inside a double-foundation wall	MCHB	-	98
2.212	Figure	<i>Gāz</i> in the facing and vertical section of a wall	MCHB	-	99



No	Format	Caption	Photographer	Date	Page
2.213	Figure	Use of bulky and whole-piece stones in wall making	MCHB	-	99
2.214	Figure	Four stages of moving a huge stone with crowbar	MCHB	-	99
2.215	Photo	Holding on to the stone in an unstable position using hands and feet	MCHB	-	99
2.216	Figure	Use of hydraulic jacks instead of crowbars	MCHB	-	100
2.217	Figure	Putting a helper stone at one-third of the big stone's bottom	MCHB	-	100
2.218	Figure	Assisting stone to diverge the big stone's direction	MCHB	-	100
2.219	Figure	The use of rolling logs underneath to move the stone-slab	MCHB	-	101
2.220	Photo	Moving on the rolling-logs	MCHB	-	101
2.221	Photo-Figure	Rotating large stone pieces round the vertical axis	MCHB	-	101
2.222	Photo	Using supporting wooden-beams to carry large stones moving on the rolling-logs	MCHB	-	102
2.223	Photo	Dragging large stones	MCHB	-	102
2.224	Photo	Using display stones in wall-making	MCHB	-	102
2.225	Figure	Restoring the frail layers of the roof	MCHB	-	103
2.226	Figure	Covering small cavities in the ceiling with <i>Barg-Sang</i>	MCHB	-	103
2.227	Figure	Covering small cavities in the ceiling with wooden beams (<i>Evarzeh</i>)	MCHB	-	103
2.228	Figure	The execution details of windows in the ceilings' covering walls	MCHB	-	104
2.229	Figure	The execution details of repairing the ceilings' coverings	MCHB	-	104
2.230	Photo	The method of assembling wooden-boards	MCHB	2006	105
2.231	Photo-Figure	The overlapping end of wooden-boards	MCHB	2005	105
2.232	Figure	Locking the wooden-boards	MCHB	-	105
2.233	Map	Outstanding buildings in <i>Maymand</i>	MCHB F.Izadpanah	-	106



No	Format	Caption	Photographer	Date	Page
2.234	Photo	The entrance stone of the mosque	MCHB	2003	107
2.235	Photo	<i>Mehrāb</i> (altar) and <i>Manbar</i> (sermon pulpit)	MCHB	-	107
2.236	Photo	<i>Didān</i>	MCHB	2002	107
2.237	Photo	<i>Shabestān</i> in front of the mosque, recently restored	MCHB	2003	107
2.238	Photo	<i>Maymand's</i> mosque, with segregating male/female sections	MCHB A. Keyvanloo	2004	108
2.239	Figure	The plan of the internal space-orders of the mosque before restoration	MCHB	-	108
2.240	Photo	Sheikh Mahmud in front of the mosque's entrance	MCHB M. Mehran	2005	108
2.241	Photo	Locals praying at the mosque	MCHB O. Shojaei	2006	108
2.242	Figure	The plan of mosque	MCHB	-	109
2.243	Figure	AA section and BB section of the mosque	MCHB	-	109
2.244	Photo	<i>Maymand's Hosseiniyeh</i>	MCHB	-	110
2.245	Photo	An interior view of the <i>Hosseiniyeh</i>	MCHB	-	111
2.246	Photo	An exterior view of the <i>Hosseiniyeh</i>	MCHB	-	111
2.247	Figure	Plan of the internal space-orders of the <i>Hosseiniyeh</i> before restoration	MCHB	-	111
2.248	Figure	<i>Hosseiniyeh's</i> plan	MCHB	-	111
2.249	Figure	An AA and BB section of <i>Hosseiniyeh</i>	MCHB	-	111
2.250	Photo	The entrance stone of the village's bath-house stairs	MCHB A. Keyvanloo	2004	112
2.251	Photo	The bath-house entrance	MCHB	-	112
2.252	Photo	<i>Sarbāneh</i> (dressing room); the found pool and the new pool	MCHB	-	112
2.253	Photo	<i>Garmkhāneh</i> (the hot chamber)	MCHB	2004	113
2.254	Photo	The old village bath-house	MCHB	2003	113



No	Format	Caption	Photographer	Date	Page
2.255	Photo	The <i>Khazīneh's</i> (water reservoir of a bath-house) entrance	MCHB	-	113
2.256	Photo	Inside the <i>Khazīneh</i>	MCHB	-	113
2.257	Photo	The cold-water pool	MCHB	-	113
2.258	Photo	Bath-house's skylight	MCHB	-	113
2.259	Figure	The bath-house's plan	MCHB	-	114
2.260	Figures	Sections of <i>Maymand's</i> Bath-house	MCHB	-	114
2.261	Photo	<i>Maymand's</i> school, around 50 years ago	MCHB Dr. Sarafraz	-	115
2.262	Photo	The entrance stone of MCHT Base, old village school	MCHTB O. Shojaei	2006	115
2.263	Photo	The main <i>Kicheh</i> , the office room of MCH Base	MCHB O. Shojaei	2006	115
2.264	Figure	Plan of MCH Base after restoration	MCHB	-	116
2.265	Figures	Section of <i>Maymand's</i> school	MCHB	-	116
2.266	Photo	School's <i>Kicheh</i> after restoration	MCHB M. Mehran	2004	117
2.267	Photo	The main <i>Kicheh</i> , two room entrances on both sides	MCHB A. Keyvanloo	2004	117
2.268	Photo	Deep niches in rooms	MCHB	2002	117
2.269	Photo	The main <i>Kicheh</i> , Otāq-e-Bonī	MCHB K. Eghtesadi	2006	118
2.270	Photo	The interior space of <i>Bonī</i> room, the office room of MCH Base	MCHB K. Eghtesadi	2006	118
2.271	Photo	The interior of the left-hand side room	MCHB	2002	119
2.272	Photo	Duplex room	MCHB	2006	119
2.273	Photo	The right-hand entrance leading to two other rooms	MCHB	2006	119
2.274	Photo	The kitchen	MCHB Sh. Poormojdehi s	2006	120



No	Format	Caption	Photographer	Date	Page
2.275	Photo	The room next to the kitchen	MCHB O. Shojaei	2006	120
2.276	Photo	Children's education before school closed in 2006	MCHB	2006	121
2.277	Photo	The village's school pupils in their uniform	MCHTB H. Mahmudi	2009	121
2.278	Photo	The school's inauguration ceremony	MCHTB H. Mahmudi	2009	121
2.279	Photo	The Fire Temple's entrance	MCHB	2006	122
2.280	Photo	Stone partition wall	MCHB O. Shojaei	2006	122
2.281	Figure	Sections of fireplaces	MCHB	-	123
2.282	Photo	The two fireplaces in front of <i>Kicheh-Dobandi</i>	MCHB	2006	123
2.283	Photo	The end room with a thick ceiling (photo exhibition)	MCHB A. Keyvanloo	2004	123
2.284	Photo	The eastern room on the right-hand side with two entrances	MCHB	2006	124
2.285	Photo	The eastern room, the museum of MCH Base	MCHB M. Mehran	2004	124
2.286	Photo	The western room's entrance	MCHTB O. Shojaei	2006	124
2.287	Photo	The western room, the document centre of MCHT Base	MCHTB M. Mehran	2004	125
2.288	Figure	Plan of fire temple (<i>Ātashkadeh</i>)	MCHB	-	125
2.289	Figure	Section of fire temple (<i>Ātashkadeh</i>)	MCHB	-	125
2.290	Photo	<i>Qal'eh Dezh</i>	MCHB	-	126
2.291	Map	Distribution of forts in <i>Maymand</i>	MCHB	2010	126
2.292	Photo	A view of one of <i>Maymand's</i> graveyards	MCHB	-	127
2.293	Photos	A marble tombstone A tombstone made of thin stone-chips of the region	MCHB	-	127



No	Format	Caption	Photographer	Date	Page
2.294	Photos	Pre- Islamic graves	MCHB S.Azarkia	2009	128
2.295	Map	Distribution of Pre-Islamic graves in Maymand	MCHB	2009	128
2.296	Photos	<i>Som</i> in <i>Qal'eh-Marj</i>	MCHB	2005	129
2.297	Photos	<i>Gorgondar</i> Petroglyphs	MCHB F. Karimi	2003	130
2.298	Map	Distribution of petroglyphs in <i>Maymand</i>	MCHB	2010	130
2.299	Photo	Cattle breeding at <i>Sar-e-Āqol</i>	MCHB P.Karamnejad	2009	131
2.300	Photo	Foddering	MCHB P.Karamnejad	2009	132
2.301	Photo	Milking	MCHB P.Karamnejad	2009	132
2.302	Photos	Sheep being washing and sheared	MCHB P.Karamnejad	2009	133
2.303	Photo	Foddering to fatten the lamb	MCHB P.Karamnejad	2009	133
2.304	Table	Cattle breeding time schedule	MCHB M.Taghavi	2010	133
2.305	Photo	Artisan Hossein Ebrahimi (gunsmith)	MCHB	-	134
2.306	Photo	An antler	MCHB	-	134
2.307	Photos	Partridge and <i>Komeh</i>	MCHB	-	134
2.308	Photos	<i>Qandīl</i>	MCHB	2005	135
2.309	Photo	Closing <i>Qandīl's</i> lid	MCHB	2005	135
2.310	Photo	A natural beehive	MCHB	-	135
2.311	Table	Planting and harvest time of crops	MCHB M.Taghavi	2010	139
2.312	Table	Agricultural activities based on seasons	MCHB M.Taghavi	2010	139



No	Format	Caption	Photographer	Date	Page
2.313	Photo	Orchards around <i>Maymand</i>	MCHB	-	136
2.314	Photo	Tillage	MCHB P.Karamnejad	2009	137
2.315	Photo	Picking grapes	MCHB P.Karamnejad	2009	137
2.316	Photos	Picking almonds by family members	MCHB P.Karamnejad	2009	137
2.317	Photo	Collecting wild almond	MCHB	-	138
2.318	Photo	Collecting self-growing plants (<i>Chemzū</i>)	MCHB O. Shojaei	2008	138
2.319	Photos	Felt-making	MCHB	-	140
2.320	Photos	Carpentry	MCHB	2004	140
2.321	Photos	Stone-Carving	MCHB	2006	141
2.322	Photos	Blacksmithing	MCHB	2004	141
2.323	Photo	<i>Saftū</i> -Weaving	MCHB	2004	141
2.324	Photo	Different woven <i>Saftūs</i> with modern functions	MCHB	-	141
2.325	Photo	Chandelier (<i>Saftū</i> and <i>Dashtī</i> curtain)	MCHB	-	141
2.326	Photos	Carpet-weaving: <i>Khorjīn</i> (right)	MCHB	-	141
2.327	Photo	<i>Tūbreh</i>	MCHB	-	141
2.328	Photo	Kilīm-weaving	MCHB	-	141
2.329	Photo	Kārbāfī	MCHB	-	142
2.330	Photo	Spinning	MCHB	-	142
2.331	Photos	Leather Industries	MCHB	2004	142
2.332	Photos	Chādor-Shab	MCHB	-	142
2.333	Photos	Crocheting	MCHB	-	142
2.334	Photo	Dyeing wool	MCHB	-	142



No	Format	Caption	Photographer	Date	Page
2.335	Photo	Weaving <i>Band-e-Tonbān</i>	MCHB	-	142
2.336	Photo	Clothing; <i>Arkhāleq</i>	MCHB	-	142
2.337	Photo	Cattle	MCHB	-	143
2.338	Photo	Fruit orchards inside the village	MCHB	-	143
2.339	Photos	Farm (left) Gathering wild-almond (right)	MCHB	-	143
2.340	Photos	Hunting	MCHB	-	143
2.341	Table	Food Resources	MCHB	-	144
2.342	Photo	Baking bread on <i>Tābeh</i>	MCHB	-	145
2.343	Photo	Yogurt	MCHB	-	145
2.344	Photo	<i>Espār</i>	MCHB	-	145
2.345	Photo	Preparing <i>Kashk</i>	MCHB	-	145
2.346	Photo	Diced lamb (<i>Qormeh</i>)	MCHB	-	145
2.347	Photo	Barley broth (<i>Jowbā</i>)	MCHB	2004	145
2.348	Photo	<i>Āsh-Reshteh</i> (noodle broth)	MCHB	2006	145
2.349	Photo	<i>Āb-Garmū</i>	MCHB	-	145
2.350	Photo	<i>Sīr-ow-Beneh</i>	MCHB	2005	146
2.351	Photo	<i>Ghorbā</i>	MCHB	2005	146
2.352	Photo	<i>Sershū</i> broth	MCHB	2005	146
2.353	Photo	<i>Kaljūsh</i>	MCHB	-	146
2.354	Photo	<i>Pest-e-Senjed</i>	MCHB	-	146
2.355	Photo	<i>Nokhod-Pokhtū</i>	MCHB	2005	146



No	Format	Caption	Photographer	Date	Page
2.356	Photo	<i>Shalgham Pokhtū</i>	MCHB	2004	146
2.357	Photo	<i>Ājīl</i>	MCHB	2005	146
2.358	Photo	<i>Arkhāleq</i> (an old dress)	MCHB	-	147
2.359	Photo	Women's hat	MCHB	-	148
2.360	Photo	Silk Handkerchief (used as headband)	MCHB	-	148
2.361	Photo	<i>Chādor-Shab</i>	MCHB	-	148
2.362	Photos	Wrist-band and Ankle-band (<i>Pāpīch</i>)	MCHB	-	148
2.363	Photo	Bride and Groom	MCHB	-	149
2.364	Photo	Bride and Groom clothing from canvass and patterned calico	MCHB	-	149
2.365	Photo	<i>Kākol-ūti</i>	MCHB	2005	150
2.366	Photo	<i>Angūr-Bāū</i>	MCHB	2004	150
2.367	Photo	<i>Aklīl-ol-molk</i>	MCHB	-	150
2.368	Photo	<i>Beneh</i> (left), <i>Beneshk</i>	MCHB	2005	150
2.369	Photo	The wood of <i>Senjed</i> trunk was used as <i>Ātel</i> to keep the broken bone still	MCHB	2004	151
2.370	Photo	<i>Chāghūt</i>	MCHB		151
2.371	Photo	<i>Kerneh</i>	MCHB	-	151
2.372	Photo	<i>Esfand</i>	MCHB	-	151
2.373	Photo	<i>Mashk-zadan</i>	MCHB	-	151
2.374	Photos	Planting trees in graveyards	MCHB	-	152
2.375	Photo	<i>Beneh-Nazrī</i>	MCHB	-	152
2.376	Photos	<i>Jūsh</i> mourning ceremony	MCHB	-	153



No	Format	Caption	Photographer	Date	Page
2.377	Photo	Elderly men and women working together in <i>Sar-e-Āghol</i>	MCHB P.Karamnejad	2009	155
2.378	Photo	Mr. Ebrahimi, who first discovered <i>Gorgondar</i> petroglyphs about 40 years ago.	MCHB F.Karimi	2003	158
2.379	Photo	<i>Gorgondar</i> Petroglyphs	MCHB F.Karimi	2003	158
2.380	Photo	Black cross-shaped pictograph (It might represent four main axes)	M.Naserifard	2010	159
2.381	Photo	A pictograph in red showing human birth, dated to 2nd millennium B.C.	M.Naserifard	2010	159
2.382	Chart	Cultural landscape of <i>Maymand</i>	MCHB/S.Azarkia& K.Eghtesadi	2009	165
2.383	Photo	An aerial photo of <i>Maymand</i> valley and surrounding valleys	Google K.Eghtesadi	2009	167
2.384	Photo	Destruction of raised layers of <i>Tāq</i> as the result of lightning.	MCHB	-	168
3.1	Graph	The life diagram of <i>Maymand</i> Cultural Landscape	K.Eghtesadi	2009	175
3.2	Photo	Living tradition in Cultural Landscape of <i>Maymand-Āghol</i>	MCHB/P.Karamnejad	2009	176
3.3	Photo	Living tradition in Cultural Landscape of <i>Maymand</i>	MCHB/P.Karamnejad	2009	177
3.4	Photo	Living tradition in Cultural Landscape of <i>Maymand</i>	MCHB/P.Karamnejad	2009	177
3.5	Photo	Living tradition in Cultural Landscape of <i>Maymand</i>	MCHB/P.Karamnejad	2009	178
3.6	Photo	Life in Cultural Landscape of <i>Maymand</i>	MCHB/P.Karamnejad	2009	179
3.7	photo	Living tradition in Cultural Landscape of <i>Maymand</i> -migration to <i>Ābādī</i>	MCHB/P.Karamnejad	2009	180
3.8	Figure	Different stage of human residential architecture	Loubes, J	1984	182
3.9	Photo	<i>Āghol</i>	MCHB/ M. Hekmat	2004	183
3.10	Photo	<i>Ābādī</i>	MCHB		183
3.11	Photo	Troglodyte <i>Maymand</i>	MCHB		183
3.12	Photo	Troglodyte <i>Maymand</i>	MCHB/P.Karamnejad	2009	183
3.13	Photo	Living tradition in <i>Āghol</i>	MCHB/P.Karamnejad	2009	184



No	Format	Caption	Photographer	Date	Page
3.14	Photo	Living tradition in <i>Ābādī</i>	MCHB/P.Karamnejad	2009	185
3.15	Photo	Quality of <i>interaction with the Maymandis</i> and their nature	MCHB/P.Karamnejad	2009	187
3.16	Photo	The way of collecting water in Cultural Landscape of <i>Maymand</i>	MCHB/P.Karamnejad	2009	187
3.17	photo	<i>Kel-e Dūshāb</i>	MCHB/P.Karamnejad	2009	188
3.18	photo	<i>Kel-e Dūshāb</i>	MCHB/P.Karamnejad	2009	188
3.19	Table	The table showing the exclusive characteristics of Cultural Landscape of <i>Maymand</i>	MCHB	2009	191
3.20	photo	Living tradition in Cultural Landscape of <i>Maymand</i> -migration to <i>Ābādī</i>	MCHB/P.Karamnejad	2009	194
3.21	Figure	Habitation en poche D'après Dunzhen Liu, <i>La maison chinoise</i> , Traduction et adaptation française par Pierre Clément & Co, Editions d'architecture, Berger-Leurault, Paris, 1980, Edition d'architecture, Pekin, 1957, p. 3	Loubes, J	1984	196
3.22	Figure	Habitation en poche D'après Dunzhen Liu, <i>La maison chinoise</i> , Traduction et adaptation française par Pierre Clément & Co, Editions d'architecture, Berger-Leurault, Paris, 1980, Edition d'architecture, Pekin, 1957, p. 3	Loubes, J	1984	196
3.23	Figure	Habitation en poche D'après Dunzhen Liu, <i>La maison chinoise</i> , Traduction et adaptation française par Pierre Clément & Co, Editions d'architecture, Berger-Leurault, Paris, 1980, Edition d'architecture, Pekin, 1957, p. 3	Loubes, J	1984	196
3.24	photo	The style and quality of <i>Āghol's</i> architecture	MCHB	2004	197
3.25	photo	The style and quality of <i>Āghol's</i> architecture	MCHB	2004	197
3.26	Figure	The style and quality of <i>Āghol's</i> architecture	MCHB	2005	197
3.27	Figure	The style and quality of <i>Āghol's</i> architecture	MCHB	2005	197
3.28	photo	The style and quality of <i>Ābādī's</i> architecture	MCHB	2004	198
3.29	photo	The style and quality of <i>Ābādī's</i> architecture	MCHB	2004	198
3.30	Figure	The style and quality of <i>Ābādī's</i> architecture	MCHB	2005	198
3.31	photo	The style and quality of troglodyte village architecture	MCHB	2005	199
3.32	photo	The style and quality of troglodyte village architecture	MCHB	2004	199
3.33	photo	The style and quality of troglodyte village architecture	MCHB	2005	199
3.34	Photo	<i>Eshkaft-e Lāshkorgūyeh</i>	MCHB	2005	199



No	Format	Caption	Photographer	Date	Page
3.35	Photo	General view and different spaces of <i>Kandovān</i> village	www.ichhto.ir	-	205
3.36	Photo	General view and different spaces of <i>Kandovān</i> village	www.ichhto.ir	-	205
3.37	Photo	General view and different spaces of <i>Kandovān</i> village	www.ichhto.ir	-	205
3.38	Photo	General view and different spaces of <i>Kandovān</i> village	www.ichhto.ir	-	205
3.39	Photo	General view of <i>Kandovān</i> village	www.ichhto.ir	-	206
3.40	Photo	General view and different spaces of <i>Kandovān</i> village	www.ichhto.ir	-	206
3.41	Photo	General view and different spaces of <i>Kandovān</i> village	www.ichhto.ir	-	206
3.42	Photo	General view and different spaces of <i>Kandovān</i> village	www.ichhto.ir	-	206
3.43	Photo	Different spaces and general view of <i>Hīlehvar</i> village	www.ichhto.ir	-	207
3.44	Photo	Different spaces and general view of <i>Hīlehvar</i> village	www.ichhto.ir	-	207
3.45	Photo	Different spaces and general view of <i>Hīlehvar</i> village	www.ichhto.ir	-	207
3.46	Photo	Different spaces and general view of <i>Hīlehvar</i> village	www.ichhto.ir	-	207
3.47	Photo	General view of <i>Hīlehvar</i> village	www.ichhto.ir	-	209
3.48	Photo	Different views of <i>Nūsh Ābād</i> underground city	www.ichhto.ir	-	211
3.49	Photo	Different views of <i>Nūsh Ābād</i> underground city	www.ichhto.ir	-	211
3.50	Photo	Different views of <i>Nūsh Ābād</i> underground city	www.ichhto.ir	-	211
3.51	photo	General view of <i>Karaftū</i> cave	www.ichhto.ir	-	213
3.52	Photo	Different spaces of <i>Karaftū</i> cave	www.ichhto.ir	-	214
3.53	Photo	Different spaces of <i>Karaftū</i> cave	www.ichhto.ir	-	214
3.54	Photo	Different spaces of <i>Karaftū</i> cave	www.ichhto.ir	-	214
3.55	Photo	Different spaces of <i>Karaftū</i> cave	www.ichhto.ir	-	214



No	Format	Caption	Photographer	Date	Page
3.56	Photo	Different spaces of <i>Karaftū</i> cave	www.ichhito.ir	-	214
3.57	Photo	Different view of <i>Pālmīrān</i> temple in <i>Khārk</i> Island	www.ichhito.ir	-	216
3.58	Photo	Different view of <i>Pālmīrān</i> temple in <i>Khārk</i> Island	www.ichhito.ir	-	216
3.59	Photo	Different view of <i>Pālmīrān</i> temple in <i>Khārk</i> Island	www.ichhito.ir	-	216
3.60	photo	Different view of <i>Tamīn</i> village	www.ichhito.ir	-	216
3.61	photo	Different view of <i>Tamīn</i> village	www.ichhito.ir	-	216
3.62	photo	Different view of <i>Tamīn</i> village	www.ichhito.ir	-	216
3.63	Table	Table showing summarizing the comparison between <i>Maymand</i> and other similar sites in Iran	MCHB	2009	217
3.64	Photo	A view of Cappadocia	www.worldheritagesite.org	2009	220
3.65	Photo	The map of Cappadocia in 15th century	www.worldheritagesite.org	2009	220
3.66	Photo	General view of Cappadocia	www.worldheritagesite.org	2009	221
3.67	Photo	General view of Cappadocia	www.worldheritagesite.org	2009	221
3.68	Photo	General view of Cappadocia	www.worldheritagesite.org	2009	221
3.69	Photo	An interior space in Cappadocia	www.worldheritagesite.org	2009	221
3.70	Photo	A overall view of rocks in Cappadocia	www.worldheritagesite.org	2009	221
3.71	Photo	A Cappadocian (relief from the eastern stairs of the <i>Āppādānā</i> of Pesepolis	www.worldheritagesite.org	2009	221
3.72	Photo	Painting of interior spaces of rocky church in Cappadocia	www.worldheritagesite.org	2009	223
3.73	Photo	Painting of interior spaces of rocky church in Cappadocia	www.worldheritagesite.org	2009	223
3.74	Photo	Painting of interior spaces of rocky church in Cappadocia	www.worldheritagesite.org	2009	223
3.75	Photo	Painting of interior spaces of rocky church in Cappadocia	www.worldheritagesite.org	2009	223



No	Format	Caption	Photographer	Date	Page
3.76	Photo	Different views of <i>DerĪnkūyū</i>	www.worldheritagesite.org	2009	225
3.77	Photo	Different views of <i>DerĪnkūyū</i>	www.worldheritagesite.org	2009	225
3.78	Photo	Different views of <i>DerĪnkūyū</i>	www.worldheritagesite.org	2009	225
3.79	Photo	General view of Matera	www.worldheritagesite.org	2009	227
3.80	Photo	General view of Matera	www.worldheritagesite.org	2009	227
3.81	Photo	Different spaces of Matera	www.worldheritagesite.org	2009	228
3.82	Photo	Different spaces of Matera	www.worldheritagesite.org	2009	228
3.83	Photo	Different spaces of Matera	www.worldheritagesite.org	2009	228
3.84	Photo	General view of Matera	www.worldheritagesite.org	2009	231
3.85	Photo	Tombs of Pantalica	www.worldheritagesite.org	2009	232
3.86	Photo	Necropolis caved in squared forms into the limestone	www.worldheritagesite.org	2009	233
3.87	Photo	A view of one tomb	www.worldheritagesite.org	2009	234
3.88	Photo	An overall view of <i>Bamiyan</i> Cultural Landscape	www.worldheritagesite.org	2009	234
3.89	Photo	General view of <i>Bamiyan</i> Cultural Landscape	www.worldheritagesite.org	2009	235
3.90	Photo	Different view of <i>Bamiyan</i> Cultural Landscape	www.worldheritagesite.org	2009	236
3.91	Photo	Different view of <i>Bamiyan</i> Cultural Landscape	www.worldheritagesite.org	2009	236
3.92	Photo	Different view of <i>Bamiyan</i> Cultural Landscape	www.worldheritagesite.org	2009	236
3.93	Photo	Different view of <i>Bamiyan</i> Cultural Landscape	www.worldheritagesite.org	2009	236
3.94	photo	Different view of <i>Petra</i>	http://sacredsites.com	2009	237
3.95	photo	Different view of <i>Petra</i>	http://sacredsites.com	2009	237



No	Format	Caption	Photographer	Date	Page
3.96	photo	Different view of <i>Petra</i>	http://sacredsites.com	2009	237
3.97	photo	Different view of <i>Petra</i>	http://sacredsites.com	2009	237
3.98	photo	General view of <i>Ajanta</i> caves	www.worldheritagesite.org	2009	238
3.99	photo	General view of <i>Ellora</i> caves	www.worldheritagesite.org	2009	238
3.100	photo	<i>Longman</i> Grottoes from southeast	www.worldheritagesite.org	2009	239
3.101	photo	<i>Yungang</i> Grottoes	www.worldheritagesite.org	2009	241
3.102	photo	<i>Yungang</i> Grottoes	www.worldheritagesite.org	2009	241
3.103	photo	<i>Yungang</i> Grottoes	www.worldheritagesite.org	2009	241
3.104	photo	Two views of <i>Santorin</i> Island	M. Ashrafi	2009	242
3.105	photo	Two views of <i>Santorin</i> Island	M. Ashrafi	2009	242
3.106	photo	Mountain of the Dead in <i>Siwa</i>	www.worldheritagesite.org	2009	243
3.107	photo	A view of <i>Tungkwan</i> village	www.worldheritagesite.org	2009	245
3.108	photo	A view of <i>Loyang</i> village	www.worldheritagesite.org	2009	245
3.109	photo	A building in <i>Matmata</i>	www.worldheritagesite.org	2009	246
3.110	photo	Different views of <i>Matmata</i>	www.worldheritagesite.org	2009	247
3.111	photo	Different views of <i>Matmata</i>	www.worldheritagesite.org	2009	247
3.112	photo	Different views of <i>Matmata</i>	www.worldheritagesite.org	2009	247
3.113	photo	Different views of <i>Matmata</i>	www.worldheritagesite.org	2009	247
3.114	Table	showing summarizing the comparison between The Cultural Landscape of <i>Maymand</i> and other similar sites in the world	MCHB	2010	249
3.115	photo	Troglodyte <i>Maymand</i>	MCHB	-	262
3.116	photo	<i>Eyvān</i> in Troglodyte <i>Maymand</i>	MCHB	-	262



No	Format	Caption	Photographer	Date	Page
3.117	photo	<i>Tir-e Khorrīn</i> peak	MCHB/ M. Hekmat	2004	262
3.118	photo	Troglodyte <i>Maymand</i>	MCHB/S. Azarkia	2009	262
3.119	photo	Different views of <i>Ābādī</i> in Cultural Landscape of <i>Maymand</i>	MCHB	-	263
3.120	photo	Different views of <i>Ābādī</i> in Cultural Landscape of <i>Maymand</i>	MCHB	-	263
3.121	photo	Different views of <i>Ābādī</i> in Cultural Landscape of <i>Maymand</i>	MCHB	-	263
3.122	photo	Cultural Landscape of <i>Maymand</i>	MCHB/P.Karamnejad	2009	263
3.123	photo	Felt-making in troglodyte <i>Maymand</i>	MCHB/P.Karamnejad	2009	264
3.124	Chart	Graph represents different aspect of the Cultural Heritage of <i>Maymand</i>	MCHB/S.Azarkia&K.Eghtesadi	2009	266
3.125	photo	These pictures show the authenticity of setting, design, material and visual integrity of troglodyte <i>Maymand</i> within 40 years	Sarfaraz	1965	272
3.126	photo	These pictures show the authenticity of setting, design, material and visual integrity of troglodyte <i>Maymand</i> within 40 years	MCHB	2005	272
3.127	photo	These pictures show the authenticity of setting, design, material and visual integrity of troglodyte <i>Maymand</i> within 40 years	Sarfaraz	1965	272
3.128	photo	These pictures show the authenticity of setting, design, material and visual integrity of troglodyte <i>Maymand</i> within 40 years	MCHB	2005	272
3.129	photo	The student of troglodyte village of <i>Maymand</i> in 1344/1965; Photo by Dr. Sarfaraz	Sarfaraz	1965	273
3.130	photo	An old felt of <i>Maymand</i>	MCHB	2004	274
3.131	photo	Revitalization felt-making in <i>Maymand</i> as regard old motifs by MCHB	MCHB	2004	274
3.132	photo	Existing old handicrafts in <i>Maymand</i> , these pictures show authenticity of intangible heritage in this cultural landscape	MCHB/ M. Hekmat	2004	274
3.133	photo	Existing old handicrafts in <i>Maymand</i> , these pictures show authenticity of intangible heritage in this cultural landscape	MCHB	2004	274
3.134	photo	showing traditional life in the Cultural Landscape of <i>Maymand</i> nowadays	MCHB/P.Karamnejad	2009	274
3.135	photo	Using traditional and local materials in building in Cultural Landscape of <i>Maymand</i>	MCHB	2004	275
3.136	photo	Attention to authenticity of <i>Maymand</i> in conservation activities by MCHB -Designing and constructing MCHB lavatory within 2003 to 2005 as regard local toilets (<i>Owrīz</i>)-	MCHB	-	275
3.137	photo	Attention to authenticity of <i>Maymand</i> in conservation activities by MCHB -Interior design of restaurant in 2006-	MCHB	2006	275



No	Format	Caption	Photographer	Date	Page
4.1	Ghraph	The graph showing different aspects of Cultural Landscape of <i>Maymand</i>	MCHB/S.Azarkia&K.Eghtesadi	2009	284
4.2	Table	Table showing the executive activities of the MCHHTB from 1380/2001 to 1384/2005	MCHB	2009	287
4.3	Table	Table showing the executive activities of the MCHHTB in 1385/2006	MCHB	2009	288
4.4	Table	Table showing the executive activities of the MCHHTB in 1386/2007	MCHB	2009	289
4.5	Table	Table showing the executive activities of the MCHHTB in 1387/2008	MCHB	2009	290
4.6	Table	Table showing executive activities of the MCHB in 2010 and 2011		2011	291
4.7	Photo	Cleaning different spaces of troglodyte <i>Maymand</i> 1380/2001	MCHB	2002	292
4.8.a/b	Photo	A part of troglodyte <i>Maymand</i> during cleaning in 1380/2001	MCHB	2002	292
4.9	Photo	Destructing inappropriate buildings, considering the integrity of troglodyte <i>Maymand</i>	MCHB	2003	292
4.10	Photo	Destructing inappropriate buildings, considering the integrity of troglodyte <i>Maymand</i>	MCHB	2003	292
4.11.a/ c	Photo	Different process of preparing local material (Barg Sang/ Leaf Stone) for conservation activities	MCHB	2003	293
4.12	Photo	Consolidation damaged roofs 1380/2001	MCHB	2003	293
4.13.a/b	Photo	Different process of restoration of damaged roof 1380/2001	MCHB	2003	293
4.14.a/g	Photo	Different process of restoration of damaged <i>Sar Soffeh</i> 1380/2001	MCHB	2003	294
4.15.a/e	Photo	Different process of restoration of damaged roof	MCHB	2003	295
4.16.a/c	Photo	Conservation and restoration activities in <i>Kicheh-ye Dobandī</i> (fire temple) within 1381/2002 to 1383/2004	MCHB	2002-3	296
4.17	Photo	Restoration of <i>Dargāh</i>	MCHB	2003	296
4.18	Photo	Restoration of interior space of <i>Kicheh</i>	MCHB	2003	296
4.19	Photo	Restoration of <i>Dīdān</i>	MCHB	2003	296
4.20.a/b	Photo	Interior corridor of mosque before improving action	MCHB	2003	297
4.21	Photo	preparing and making doors for <i>Kichehs</i>	MCHB	2003	297



No	Format	Caption	Photographer	Date	Page
4.22.a/e	Photo	Process of building new bath and toilet for MCHHTB within 1380/2001 to 1383/2004	MCHB	2001-3	298
4.22.f/i	Photo	Interior space of MCHHTB's new bath and toilet.	MCHB	2001-3	298
4.23.a/d	Photo	Improving public toilets near the mosque in troglodyte Maymand	MCHB	2001-3	300
4.24.a/c	Photo	Improving and organizing new bath in troglodyte village	MCHB	2001-3	301
4.25.a/b	Photo	Improving and organizing Public toilets in troglodyte village	MCHB	2010	301
4.26.a/b	Photo	Improving and organizing Public toilets in troglodyte village	MCHB	2010	302
4.27.a/d	Photo	Improving and organizing Public toilets next of parking	MCHB	2001-3	303
4.28.a/c	Photo	Process of Building of guards' room	MCHB	2001-3	303
4.29.a/b	Photo	Reorganization of the path ending in the hostel	MCHB	2010	304
4.30.a/b	Photo	Reorganization of the village entrance	MCHB	2010	304
4.31.a/b	Photo	Complete executive operation and utilization children's play ground	MCHB	2011	305
4.32.a/f	Photo	Process of establishing half cooking calk kiln	MCHB	2011	306
4.33	Photo	Process of Building the temporary rest place for tourists	MCHB	2001-3	307
4.34	Photo	Process of construction of children playground	MCHB/S.Azarkia	2010	307
4.35	Photo	Designing and positioning the new buckets	MCHB	2001-3	307
4.36	Photo	Preparing the sing boards for different spaces	MCHB	2001-3	307
4.37	Photo	Sing board of MCHB	MCHB	2001-3	307
4.38	Photo	Illuminating surrounding spaces after conservation activities	MCHB	2001-3	307
4.39	Photo	Illuminating surrounding spaces after conservation activities	MCHB	2001-3	307
4.40	Photo	Illuminating interior spaces after conservation activities	MCHB	2001-3	307
4.41	Photo	Interior space of one of the MCHB's room after conservation activities	MCHB	2004	308
4.42	Photo	Interior space of restaurant after conservation activities	MCHB	2007	308



No	Format	Caption	Photographer	Date	Page
4.43	Map	Distribution of Hamlets (<i>Abādīs</i>) in Cultural Landscape of <i>Maymand</i>	MCHB/S.Azarkia	2009	311
4.44	Photo	General view of <i>Darebīd</i>	MCHB	2005	312
4.45	Photo	General view of <i>Pīshrūdkhāneh</i>	MCHB/S.Azarkia	2009	312
4.46	Photo	An architectural unit in <i>Darebīd</i>	MCHB	2005	312
4.47	Photo	An architectural unit in <i>Darebīd</i>	MCHB	2005	312
4.48	Map	Distribution of folds (<i>Āghols</i>) in Cultural Landscape of <i>Maymand</i>	MCHB/S.Azarkia	2009	314
4.49	Photo	General view of <i>Tālebīh Āghol</i>	MCHB/M.Mahmudi	2009	315
4.50	Photo	General view of <i>Loṭfīhā Āghol</i>	MCHB/M.Mahmudi	2009	315
4.51	Photo	General view of <i>Darkhānīhā Āghol</i>	MCHB/M.Mahmudi	2009	315
4.52	Photo	General view of <i>Bakhshīhā Āghol</i>	MCHB/M.Mahmudi	2009	316
4.53	Photo	General view of <i>Mortezā Āghol</i>	MCHB/M.Mahmudi	2009	316
4.54	Photo	General view of <i>Hājī Ebrahīm Āghol</i>	MCHB/M.Mahmudi	2009	316
4.55	Map	Area of petroglyphs in Cultural Landscape of <i>Maymand</i>	MCHB/S.Azarkia	2010	318
4.56	Photo	An example of petroglyph in Cultural Landscape of <i>Maymand</i>	MCHB	2004	319
4.57	Photo	An example of petroglyph in Cultural Landscape of <i>Maymand</i>	MCHB	2004	319
4.58	Photo	An example of petroglyph in Cultural Landscape of <i>Maymand</i>	MCHB	2004	319
4.59	Map	Distribution of watermills in Cultural Landscape of <i>Maymand</i>	MCHB/S.Azarkia	2010	321
4.60	Photo	A view of <i>Chīl Ahmadī</i> Watermill	MCHB	2004	322
4.61	Photo	A view of <i>Rezā</i> Watermill	MCHB	2004	322
4.62.a/b	Photo	Repairing <i>Rezmalek</i> watermill	MCHB	2004	322
4.63	Photo	A Section of <i>Rezmalek</i> watermill	MCHB	2004	322
4.64	Photo	Detail of <i>Rezmalek</i> watermill	MCHB	2004	322
4.65	Photo	An example Pre-Islamic Graves in Cultural Landscape of <i>Maymand</i>	MCHB/ S.Azarkia	2009	323
4.66	Photo	A part of area of Pre-Islamic Graves in Cultural Landscape of <i>Maymand</i>	MCHB/ S.Azarkia	2009	323
4.67	Photo	An example Pre-Islamic Graves in Cultural Landscape of <i>Maymand</i>	MCHB /S.Azarkia	2009	323
4.68	Map	Distribution of Pre-Islamic Graves in Cultural Landscape of <i>Maymand</i>	MCHB/S.Azarkia	2010	324
4.69	Map	Distribution of <i>Dezhs</i> (forts) in Cultural Landscape of <i>Maymand</i>	MCHB/S.Azarkia	2010	325



No	Format	Caption	Photographer	Date	Page
4.70	Photo	An example of <i>Dezhs</i> (forts) in Cultural Landscape of <i>Maymand</i>	MCHB /S.Azarkia	2009	325
4.71	Photo	Due consideration has been given to protecting and encouraging living traditions in <i>Maymand</i> cultural landscape by the MCHB.	MCHB/ M. Hekmat	2004	329
4.72	Photo	Due consideration has been given to protecting and encouraging living traditions in <i>Maymand</i> cultural landscape by the MCHB.	MCHB	2004	329
4.73	Photo	Due consideration has been given to protecting and encouraging living traditions in <i>Maymand</i> cultural landscape by the MCHB.	MCHB	2004	329
4.74	Photo	Due consideration has been given to protecting and encouraging living traditions in <i>Maymand</i> cultural landscape by the MCHB.	MCHB	2004	329
4.75	Photo	Due consideration has been given to protecting and encouraging living traditions in <i>Maymand</i> cultural landscape by the MCHB.	MCHB	2010	329
4.76	Photo	Due consideration has been given to protecting and encouraging living traditions in <i>Maymand</i> cultural landscape by the MCHB.	MCHB	2010	329
4.77	Photo	Due consideration has been given to protecting and encouraging living traditions in <i>Maymand</i> cultural landscape by the MCHB.	MCHB	2004	329
4.78	Map	Location of <i>Khatun Abad</i> cooper factory	MCHB/S.Azarkia	2010	331
4.79	Photo	A view of <i>Khatun Abad</i> cooper factory	MCHB	2005	331
4.80	Photo	An inappropriate construction with troglodyte fabric of <i>Maymand</i>	MCHB	2010	334
4.81	Photo	An inappropriate construction with troglodyte fabric of <i>Maymand</i>	MCHB	2010	334
4.82	Photo	The construction of post office which is inappropriate with troglodyte fabric of <i>Maymand</i>	MCHB	2010	334
4.83	Photo	The construction of school which is inappropriate with troglodyte fabric of <i>Maymand</i>	MCHB	2010	334
4.84	Photo	The construction of health center which is inappropriate with troglodyte fabric of <i>Maymand</i>	MCHB	2010	334
4.85	Photo	An inappropriate construction with troglodyte fabric of <i>Maymand</i>	MCHB	2010	335
4.86	Photo	An inappropriate construction with troglodyte fabric of <i>Maymand</i>	MCHB	2010	335
4.87	Photo	An inappropriate construction with troglodyte fabric of <i>Maymand</i>	MCHB	2010	335
4.88	Photo	An inappropriate structure with troglodyte fabric of <i>Maymand</i>	MCHB	2010	335
4.89	Photo	An unsuitable structure with troglodyte fabric of <i>Maymand</i>	MCHB	2010	335



No	Format	Caption	Photographer	Date	Page
4.90	Photo	The water supply place which is considering the integrity of troglodyte <i>Maymand</i>	MCHB	2010	336
4.91	Photo	The water supply place which is considering the integrity of troglodyte <i>Maymand</i>	MCHB	2010	336
4.92	Photo	Some Items does not meet the visual integrity conditions of troglodyte <i>Maymand</i>	MCHB	2010	336
4.93	Photo	Inappropriate pole with the visual integrity of troglodyte <i>Maymand</i>	MCHB	2010	336
4.94	Photo	Inappropriate pole with the visual integrity of troglodyte <i>Maymand</i>	MCHB	2010	336
4.95	Photo	Using of new and unsuitable instruments instead of traditional and local instruments in daily life	MCHB/P.Karamnejad	2009	337
4.96	Photo	Using of new and unsuitable instruments instead of traditional and local instruments in daily life	MCHB/P.Karamnejad	2009	337
4.97	Table	Table showing population size of Cultural Landscape of <i>Maymand</i> during a solar year	MCHB	2008	343
4.98	Photo	Some people of cultural Landscape of <i>Maymand</i>	MCHB/P.Karamnejad	2009	344
5.1	Table	Ownership table of Cultural Landscape of <i>Maymand</i>	MCHB/S.Azarkia	2010	346
5.2	Table	Position of <i>Maymand</i> Cultural Heritage Base in ICHHTO	MCHB	2010	355
5.3	Chart	Different aspects of the Cultural Landscape of <i>Maymand</i>	MCHB	2010	361
5.4	Chart	Organizations chart of <i>Maymand</i> Cultural Heritage Base (MCHB)	MCHB	2010	362
5.5	Chart	Stakeholders of Cultural Landscape of <i>Maymand</i> conservation	MCHB	2010	363
5.6	Chart	Future Perspective of The Cultural Landscape of <i>Maymand</i>	MCHB/M. Ashrafi	2010	364
5.7	Chart	<i>Maymand</i> Cultural Heritage Base Policies	MCHB	2010	368
5.8	Chart	Short -Term Plans of <i>Maymand</i> Cultural Heritage Base	MCHB/M. Ashrafi	2010	372
5.9	Chart	Mid -Term Plans of <i>Maymand</i> Cultural Heritage Base	MCHB/M. Ashrafi	2010	376
5.10	Chart	Budget of MCHB in Different Years	MCHB/M. Ashrafi	2010	378

No	Format	Caption	Photographer	Date	Page
5.11	Chart	Allocated Budget By Different Organization to cultural Landscape of <i>Maymand</i>	MCHB	2010	379
5.12	Chart	ICHHTO Budget to MCHB from 1380/2001 to 1389/2010	MCHB	2010	380
5.13	Chart	Different Category of MCHB's Budget	MCHB	2010	381
5.14	Chart	Resource of experts	MCHB	2010	382
5.15	Chart	Statistics of <i>Maymand's</i> Visitors from 1383/2004 to 1389/2010	MCHB	2010	386
5.16	Chart	Statistics of <i>Maymand's</i> Visitors from different provinces of Iran in <i>Nowrūz</i> 1388/2009	MCHB	2010	387
5.17	Chart	Statistics of Cultural Landscape of <i>Maymand's</i> Visitors in <i>Nowrūz</i> from 1384/2005 to 1389/2010	MCHB	2010	388
5.18a	Chart	Statistics of <i>Maymand's</i> Visitors age	MCHB	2010	389
5.18b	Chart	Statistics of <i>Maymand's</i> Visitors' education	MCHB	2010	389
5.19.a/d	Map	Troglodyte <i>Maymand's</i> Tourist Map	MCHB	2010	390
5.20	Map	The cultural Landscape of <i>Maymand's</i> Tourist Map	MCHB	2010	391
5.21	Photo	Handicraft shop in troglodyte village	MCHB	2008	392
5.22	Photo	Native seller	MCHB	2008	392
5.23	Photo	Handicraft for selling in troglodyte village	MCHB	2011	392
5.24	Photo	Handicraft for selling in troglodyte village	MCHB	2011	392
5.25	Photo	Guest house in troglodyte village	MCHB	2006	393
5.26	Photo	Guest house in troglodyte village	MCHB	2006	393
5.27	Photo	ethnology museum	MCHB	2006	393
5.28	Photo	The mosque for prayer	MCHB	2006	394
5.29	Photo	Educated local tourist guide	MCHB	2011	394
5.30	Photo	Educated local tourist guide	MCHB	2011	394



No	Format	Caption	Photographer	Date	Page
5.31	Photo	MCHB's library for tourists	MCHB	2006	395
5.32	Photo	MCHB's expert give some information to tourists	MCHB	2006	395
5.33	Photo	Public lavatories	MCHB	2004	395
5.34	Photo	Restaurant in troglodyte village	MCHB	2006	395
5.35	Photo	Restaurant in troglodyte village	MCHB	2006	395
5.36	Photo	Play ground of children	MCHB/N. Zakersoltani	2011	396
5.37	Photo	Temporary residence of the visitors next of old bath	MCHB /S.Azarkia	2009	396
5.38	Photo	Temporary residence of the visitors next of old bath	MCHB/S.Azarkia	2009	396
5.39	Photo	Temporary residence of the visitors next of old bath	MCHB	2006	396
5.40	Photo	Temporary residence of the visitors next of old bath	MCHB	2006	396
5.41	Photo	Temporary residence of the visitors next of old bath	MCHB	2007	396
5.42	Photo	Temporary residence of the visitors next of old bath	MCHB	2005	397
5.43	Photo	Temporary residence of the visitors next of old bath	MCHB	2006	397
5.44	Photo	Temporary residence of the visitors next of old bath	MCHB	2006	397
5.45	Photo	Temporary residence of the visitors next of old bath	MCHB	2007	397
5.46	Photo	Temporary residence of the visitors next of old bath	MCHB	2005	397
5.47	Photo	Sing boards in troglodyte <i>Maymand</i>	MCHB	2004	398
5.48	Photo	Sing boards in troglodyte <i>Maymand</i>	MCHB	2004	398
5.49	Photo	Sing boards in troglodyte <i>Maymand</i>	MCHB	2004	398
5.50	Photo	Sing boards in troglodyte <i>Maymand</i>	MCHB	2004	398
5.51	Photo	Sing boards in troglodyte <i>Maymand</i>	MCHB	2004	398



No	Format	Caption	Photographer	Date	Page
5.52	Photo	Sing boards in troglodyte <i>Maymand</i>	MCHB	2004	398
5.53	Photo	Sing boards in troglodyte <i>Maymand</i>	MCHB	2004	398
5.54	Photo	Sing boards in troglodyte <i>Maymand</i>	MCHB	2004	398
5.55	Photo	Meeting of high authorities And MCHB's director and experts in Troglodyte <i>Maymand</i> in 1382/2003	MCHB	2003	400
5.56	Photo	Visiting of ICOMOS doyen members of <i>Maymand</i> in 1382/2003	MCHB	2003	400
5.57	Photo	Meeting ICOMOS doyen with <i>Shahr-e Bābak</i> governs	MCHB	2003	400
5.58	Photo	Meeting of <i>Shahr-e Bābak</i> Governs in troglodyte <i>Maymand</i> 1384/2005	MCHB	2003	401
5.59	Photo	Visiting of ICHHTO high experts of <i>Maymand</i> 1383/2004	MCHB	2010	401
5.60	Photo	Visiting of Kerman governor Of <i>Maymand</i> 1389/2010	MCHB	2010	401
5.61	Photo	Revitalization and introducing of traditional games of <i>Maymand</i> by MCHB	MCHB	2010	402
5.62	Photo	Revitalization and introducing of traditional games of <i>Maymand</i> by MCHB	MCHB	2010	402
5.63	Photo	Education of <i>Maymandis</i> children (by MCHB)	MCHB	2010	402
5.64	Photo	Education of <i>Maymandis</i> children (by MCHB)	MCHB	2010	402
5.65	Photo	Education of <i>Maymandis</i> children (by MCHB)	MCHB	2010	402
5.66	Photo	Document Center in troglodyte <i>Maymand</i>	MCHB	2003	403
5.67	Photo	meeting of MCHB director with <i>Maymandis</i> women	MCHB	2010	403
5.68	Photo	Education of traditional Handicrafts to MCHB's staffs	MCHB	2008	403
5.69	Photo	Education of traditional Handicrafts to visitors of <i>Maymand</i>	MCHB	2008	403
5.70	Photo	Education of traditional Handicrafts to visitors of <i>Maymand</i>	MCHB	2008	403



No	Format	Caption	Photographer	Date	Page
5.71	Photo	Three dimensional picture of troglodyte <i>Meymand</i>	MCHB	2011	404
5.72	Photo	Three dimensional picture of troglodyte <i>Meymand</i>	MCHB	2011	404
5.73	Photo	<i>Haft sîn</i> in Nowrûz ceremony in Troglodyte <i>Maymand</i>	MCHB	2011	405
5.74	Photo	<i>Haft sîn</i> in Nowrûz ceremony in Troglodyte <i>Maymand</i>	MCHB	2011	405
5.75	Photo	Main page of <i>Maymand</i> website	MCHB	2011	405
5.76	Photo	Poster of "First Troglodytic Architecture Conference, Kerman 2012"	MCHB	2011	406
5.77.a/b	Photo	<i>Maymand</i> brochure	MCHB	2011	406
5.78	Chart	Categorizing of staffing levels of MCHB	MCHB/K. Eghtesadi	2009	407
5.79	Chart	Categorizing of staffing levels of MCHB	MCHB	2010	407
5.80	Table	MCHB's current staffs	MCHB	2010	408
5.81	Table	MCHB's skillful and labors	MCHB	2010	409



No	Format	Caption	Photographer	Date	Page
6.1	Chart	Different aspects of monitoring of Cultural Landscape of <i>Maymand</i>	MCHB/S. Azarkia	2010	410
6.2	Table	Indicators of monitoring in Cultural Landscape of <i>Maymand</i>	MCHB/S. Azarkia	2010	411-413
6.3	Chart	Information resource of monitoring	MCHB	2010	414
6.4	Chart	Position of monitoring in MCHB chart	MCHB	2010	415
6.5	Chart	Experts of MCHB for monitoring	MCHB	2010	416
6.6	Table	Contact information of MCHB's experts for monitoring	MCHB	2010	404
6.7	Photo	Air photo of troglodyte <i>Maymand</i> in 1363/1984	MCHB	1984	425
6.8	Photo	Air photo of troglodyte <i>Maymand</i> in 1384/2005	MCHB	2005	425
6.9	Photo	Troglodyte <i>Maymand</i> in 1344/1965	MCHB	1965	426
6.10	Photo	Troglodyte <i>Maymand</i> in 1384/2005	MCHB	2005	426
6.11	Photo	Troglodyte <i>Maymand</i> in 1344/1965	MCHB	1965	426
6.12	Photo	Troglodyte <i>Maymand</i> in 1384/2005	MCHB	2005	426
6.13	Photo	Troglodyte <i>Maymand</i> before conservation activities in 1380/2001	MCHB	2001	427
6.14	Photo	Troglodyte <i>Maymand</i> after conservation activities in 1384/2005	MCHB	2005	427
6.15	Photo	15Troglodyte <i>Maymand</i> before conservation activities in 1380/2001	MCHB	2001	427
6.16	Photo	Troglodyte <i>Maymand</i> afterconservation activities in 1384/2005	MCHB	2005	427
6.17	Photo	Troglodyte <i>Maymand</i> before conservation activities in 1380/2001	MCHB	2001	428
6.18	Photo	Troglodyte <i>Maymand</i> after conservation activities in 1384/2005	MCHB	2005	428
6.19	Photo	Troglodyte <i>Maymand</i> before conservation activities in 1380/2001	MCHB	2001	428
6.20	Photo	Troglodyte <i>Maymand</i> after conservation activities in 1384/2005	MCHB	2005	428
6.21	Photo	The area front of <i>Hosseinieh</i> before conservation activities in 1381/2002	MCHB	2002	429



No	Format	Caption	Photographer	Date	Page
6.22	Photo	The area front of <i>Hosseinieh</i> after conservation activities in 1383/2004	MCHB	2004	429
6.23	Photo	The area front of <i>Hosseinieh</i> before conservation activities in 1381/2002	MCHB	2002	429
6.24	Photo	The area front of <i>Hosseinieh</i> after conservation activities in 1383/2004	MCHB	2004	429
6.25	Photo	The door of <i>Hosseinieh</i> before conservation activities in 1381/2002	MCHB	2002	429
6.26	Photo	The door of <i>Hosseinieh</i> after conservation activities in 1383/2004	MCHB	2004	429
6.27	Photo	Interior space of mosque during conservation activities in 1381/2002	MCHB	2002	430
6.28	Photo	Interior space of mosque after conservation activities in 1384/2005	MCHB	2005	430
6.29	Photo	The door of mosque before conservation activities in 1381/2002	MCHB	2002	430
6.30	Photo	The door of mosque after conservation activities in 1383/2004	MCHB	2004	430
6.31	Photo	Entrance of mosque before conservation activities in 1381/2002	MCHB	2002	430
6.32	Photo	Entrance of mosque after conservation activities in 1383/2004	MCHB	2004	430
6.33	Photo	Inner space of fire temple before conservation activities in 1381/2002	MCHB	2002	431
6.34	Photo	Inner space of fire temple after conservation activities in 1383/2004	MCHB	2004	431
6.35	Photo	Altars inside of fire temple before conservation activities in 1381/2002	MCHB	2002	431
6.36	Photo	I Altars inside of fire temple after conservation activities in 1383/2004	MCHB	2004	431
6.37	Photo	Altars inside of fire temple before conservation activities in 1381/2002	MCHB	2002	431
6.38	Photo	Altars inside of fire temple after conservation activities in 1383/2004	MCHB	2004	431
6.39	Photo	Different spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2002	432
6.40	Photo	Different spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2005	432
6.41	Photo	Different spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2002	432



No	Format	Caption	Photographer	Date	Page
6.42	Photo	Different spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2005	432
6.43	Photo	Different spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2002	432
6.44	Photo	Different spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2005	432
6.45	Photo	Different interior spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2002	433
6.46	Photo	Different interior spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2005	433
6.47	Photo	Different interior spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2002	433
6.48	Photo	Different interior spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2005	433
6.49	Photo	Different interior spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2002	433
6.50	Photo	Different interior spaces of <i>Kīcheh-ye Mahdīhā</i> (MCHB office) before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2005	433
6.51	Photo	Area above the <i>old bath</i> before and after conservation activities (collecting inappropriate structure) within 1381/2002 and 1383/2004	MCHB	2002	434
6.52	Photo	Area above the <i>old bath</i> before and after conservation activities (collecting inappropriate structure) within 1381/2002 and 1383/2004	MCHB	2004	434
6.53	Photo	Area next of <i>old bath</i> before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2002	434
6.54	Photo	Area next of <i>old bath</i> before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2005	434
6.55	Photo	Area next of <i>old bath</i> before and after conservation activities	MCHB	2002	434
6.56	Photo	Area next of <i>old bath</i> before and after conservation activities	MCHB	2005	434



No	Format	Caption	Photographer	Date	Page
6.57	Photo	Local toilets (<i>Owrīz</i>) before and after conservation activities within 1381/2002 and 1382/2003	MCHB	2002	435
6.58	Photo	Local toilets (<i>Owrīz</i>) before and after conservation activities within 1381/2002 and 1382/2003	MCHB	2003	435
6.59	Photo	New bath before and after conservation activities within 1381/2002 and 1383/2004	MCHB	2002	435
6.60	Photo	New bath before and after conservation activities within 1381/2002 and 1383/2004	MCHB	2004	435
6.61	Photo	New bath before and after conservation activities within 1381/2002 and 1383/2004	MCHB	2002	435
6.62	Photo	New bath before and after conservation activities within 1381/2002 and 1383/2004	MCHB	2004	435
6.63	Photo	Current parking area before and after conservation activities	MCHB	2002	436
6.64	Photo	Current parking area before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2005	436
6.65	Photo	Surrounding area of parking before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2002	436
6.66	Photo	Surrounding area of parking before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2005	436
6.67	Photo	Surrounding area of parking before and after conservation activities within 1381/2002 and 1384/2005	MCHB	2002	436
6.68	Photo	Surrounding area of parking before and after conservation activities	MCHB	2005	436
6.69	Photo	Landscape of <i>Bonelā Ābādī</i>	MCHB	2009	438
6.70	Photo	A view of <i>Bonelā Ābādī</i>	MCHB	2009	438
6.71	Photo	A view of <i>Pīshrūdikhāneh Ābādī</i>	MCHB	2009	438
6.72	Photo	Landscape of <i>Gozgestān Ābādī</i>	MCHB	2004	438



No	Format	Caption	Photographer	Date	Page
6.73	Photo	A view of <i>Darebeneh Ābādī</i>	MCHB	2004	438
6.74	Photo	A view of <i>Lākhorīn Ābādī</i>	MCHB	2004	438
6.75	Photo	General view of <i>Āghol-e Lotfihā</i>	MCHB	2009	439
6.76	Photo	General view of <i>Āghol-e Darkhānī</i>	MCHB	2009	440
6.77	Photo	General view of <i>Āghol-e Ṭālebīh</i>	MCHB	2009	440
6.78	Photo	General view of <i>Āghol-e Bakhshīhā</i>	MCHB	2009	440
6.79	Photo	General view of <i>Āghol-e Mortezā</i>	MCHB	2009	440
6.80	Photo	80General view of <i>Āghol-e Hājī Ebrahīm</i>	MCHB	2009	440
6.81	Photo	An example of petroglyph in Cultural Landscape of <i>Maymand</i>	MCHB	2005	441
6.82	Photo	An example of petroglyph in Cultural Landscape of <i>Maymand</i>	MCHB	2005	441
6.83	Photo	An example of petroglyph in Cultural Landscape of <i>Maymand</i>	MCHB	2005	441
6.84	Photo	An example of petroglyph in Cultural Landscape of <i>Maymand</i>	MCHB	2005	441
6.85	Photo	A view of <i>Bādī</i> Watermill	MCHB	2009	442
6.86	Photo	A view of <i>Chīl Ahmadī</i> Watermill	MCHB	2009	442
6.87	Photo	A view of <i>Yūsof</i> Watermill	MCHB	2009	442
6.88	Photo	An example Pre-Islamic Graves in Cultural Landscape of <i>Maymand</i>	MCHB /S.Azarkia	2009	443
6.89	Photo	An example of <i>Dezhs</i> (forts) in Cultural Landscape of <i>Maymand</i>	MCHB /S.Azarkia	2009	443
6.90	Table	Statistics of <i>Maymand's</i> Visitors from different provinces of Iran in <i>Nowrūz</i> 1388/2009	MCHB	2010	445
6.91	Table	Statistics of <i>Maymand's</i> Visitors from 1383/2004 to 1389/2010	MCHB	2010	445
6.92	Table	An example of temperature monitoring in different years and times in <i>Maymand</i>	MCHB	-	446
6.93	Table	Monitoring the rate of raining in Cultural Landscape of <i>Maymand</i> between 1366/1977 and 1382/2003	MCHB	-	447



7.b Texts Relating to Protective Designation, Copies of Property Management Plans or Documented Management Systems and Extracts of Other Plans Relevant to the Property

- The texts and contents of the management plans and protective designation of the property as indicated in the Management chapter of this file:

The protection of all historical monuments of Iran is ensured by *ICHHTO*. By the Law of Conservation of National Monuments approved on November the 3rd 1930, all the monuments registered in the National Heritage List are under the State's protection and supervision.

The national and international laws, regulations and constitutions to preserve and support the property:

✚ Registration of *Maymand* troglodyte Village in the National Heritage List

In **1380/2001**, *Maymand* Troglodyte Village was registered in the National Heritage List with registration number of **4513**. As the result, this site was protected under the "Historical Monuments' Protection and Conservation Law".

✚ Identification and Approval of the Site's Buffer Zone

In December 2001 (*Āzar* 1380), for the first time the conservational buffer zone of the *Maymand* troglodyte village was identified and hence, the village became under protection of related official protective laws and was considered a historically valuable site. Gaining a better understanding of the complex and its unique characteristics, led to revision of the defined buffer zone in 1381/2002 and some alterations were made. This second buffer zone was also changed and reviewed in 1388/2009. In this final revision, all the *Sar-e-Āghols*, *Sar-e-Bāghs* were also included in the core zone of the site and therefore became subjected to the supervision and conservational programs.

✚ Establishment of the *Maymand* Cultural Heritage Base



Due to the distance between the site and the Cultural Heritage Office of the Kerman province and the importance and extent of the *Maymand* cultural landscape, the provincial Cultural Heritage Office could not have a full suitable control and supervision on this site.

Threats posed by a hotel construction on the hills overlooking *Maymand* were another motivation for the high authorities of the ICHHTO to issue the necessary permission for establishment of a local cultural heritage base at *Maymand*. The local base could undertake the conservational and revitalization activities in a more sufficient way through a better understanding of the site resulted by its physical existence in the area.

Conservational Programs of the MCHB

Since the establishment of MCHB in December 2001, various activities have been undertaken in order to examine, protect, conserve and revitalize man-made and natural perceptible and imperceptible heritages of *Maymand* troglodyte village and its connected complex. A comprehensive description of such activities are given in the annual reports of the MCHB in form of restoration, conservation and revitalization programs and documentations, and compilation of the restoration guidelines. The conservation issue in the *Maymand* cultural landscape contains a collection of man-made and natural, perceptible and imperceptible and live and lifeless heritages.

Cultural and Natural Heritage Laws in Iran:

There are different laws and regulations for protection and conservation of cultural heritage in Iran. These are in the following broad categories:

- Legislation governing general cases in the country, including cultural heritage;
- Legislation specifically concerning cultural heritage;
- Legislation specifically concerning natural heritage;
- International legal instruments, recommendations and guidelines that are integrated within the national legislation.



- **General Regulation:**

Samples of the general laws and regulations relevant to cultural heritage include, inter alia:

1. Article 83 of the Constitution Law of Islamic Republic of Iran (1920) recognizes the importance of cultural properties. Transferring the ownership of public monuments and properties considered to be part of the national heritage is forbidden, unless approved by the Parliament. However, transfer of ownership of monuments and cultural properties officially recognized as insignificant is possible.
2. Article (26) of the Iranian Civil Law (1939) prohibits private ownership of significant cultural property.
3. The Islamic Penal Law is an effective law for practical protection of cultural heritage. A full chapter deals with crimes regarding cultural heritage (from Article 588-569) in the Islamic Penal Law, (1996). This law recognizes the following as a crime subject to punishment:
 - Damaging, theft, selling or buying stolen historical property (Article 559);
 - Violation of the regulations of ICHHTO resulting in deterioration, defect, or damage in the heritage property (Article 560);
 - Illicit export or smuggle of heritage property (Article 561);
 - Any unauthorized excavation in an effort to find historical properties (Article 562.1);
 - Selling or buying properties discovered from unauthorized excavations (Article 562.2);
 - Encroachment on historical or religious land, property or sites registered on the National Heritage List with no private ownership (Article 563);
 - Restoration, repair, converting, renovation and extension of cultural or historical monuments or their decoration, registered on the National Heritage List without the ICHHTO approval (Article 564);
 - Transferring parts of immovable properties registered on the National Heritage List without the ICHHTO consent (Article 565).
 - Converting the functions of monuments and sites registered on the National Heritage List denigrating the identity of the property and/or without ICHHTO consent.



4. The Law for Punishment of Those Interfering in the National Economic System (1991), article (I), paragraph d, considers any effort towards export of national property , even though not successful, a crime. All such property intended for export is confiscated.
5. Property acquisition law for implementing public development and military projects of the Government (1979) allows the acquisition of any historic property, in case a project is prepared for this property. This law has a streamlined procedure, which also guarantees the rights of the private owners.

- **Specific Regulation for Cultural Heritage:**

Samples of the regulations specifically dealing with cultural heritage are explained below:

1. The Law for Protection of National Heritage (1930) is the first comprehensive law concerning various aspects cultural heritage. This Law defines the procedure for identification of cultural heritage property (Article 1). It further mandates the Government to prepare a National Heritage List (Article 2), sets the criteria and legal protection for properties on this List, and stipulates legal provisions for archaeological excavations.
2. The Bylaw Concerning Prevention of Unauthorized Excavation (1980) stipulates punishments for excavation and/or purchase of excavated historic objects. The provisions of this Law are further elaborated in the Islamic Penal Law mentioned above. There is further regulation limiting production, purchase, use or advertisement of metal detectors.
3. The Law Concerning Acquisition of Land, Building and Premises for Protection of Historic Properties (1969) stipulates further regulations for acquiring property with historic or cultural significance.
4. The Law for Establishing Iranian Cultural Heritage Organization (1979) is another powerful legal instrument depicting a comprehensive picture for managing cultural heritage of the country.
5. The Law for Establishing the Higher Council for Architecture and Urban Planning (1987), which concerns with both cultural and natural heritage.



✚ International Legal Instruments:

In the I.R. of Iran, the requirements of any international convention are integrated with the national legislation, upon accession to that international convention. Thereafter, it will be compulsory to abide with the requirements of these conventions. The I. R. of Iran has acceded to several *UNESCO* conventions concerning the conservation and protection of cultural heritage, as well as other conventions and charters. Some of important conventions which are acceded by the I. R. Iran include, inter alia:

1. Convention Concerning the Protection of the World Cultural and Natural Heritage (1972)
2. Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (1954) and its Protocol I (1954) and Protocol II (1999)
3. Convention for the Safeguarding of the Intangible Cultural Heritage (2003)
4. The Florence charter about historic gardens (1981)

✚ Other Regulations:

In addition to the legal instruments mentioned above, there are other types of regulations for protection and conservation of cultural and historic property in the I. R. of Iran. For example, according to a cabinet decision adopted in 2001, all public organizations must conduct studies to assess the cultural/historic impacts of major development projects at the earliest feasibility study stage and to comply with the recommendations of such studies during design and implementation.

✚ Regulations of the Core zone and Buffer Zone of the Cultural Landscape of *Maymand*

- Regulation of Core Zone
1. Any action leading to any damage or destruction property is prohibited.



2. Any developing and organizing activity that results damage to the landscape and natural setting of the site such as stone, pebble and sand mining, mountain cutting and digging, erecting electricity, telephone and communication, satellite and TV towers, advertising boards and so on is prohibited.
3. Any conservation plans, development plans, organizing and landscaping activity, as well as establishment of tourism and service facilities is only permitted after preparation of the related plan and its final approval by the ICHHTO and its execution according to the approved plan in order to preserve cultural, historical and natural characteristics of the region.
4. In order to preserve natural resources and landscape of the area, any damage to the natural appearance of the region located within the buffer zone of the property like changes in the land topography, soil, gardens and fields, rivers direction, *qanats*, springs and vegetation is prohibited.
5. Preserving gardens and agriculture lands use is mandatory and agricultural activities are allowed.
6. All historical monuments located within the core zone such as towers, forts, pre-Islamic graves, old cemeteries, watermills and other valuable sites that have some relation with the core zone need to be preserved, protected and restored in their current status.
7. Any construction activity, building new structures and pathways in prohibited in the core zone of the property. Restoration, alteration and widening of old pathways (especially in troglodyte village) is only permitted after preparing and presenting its plan and final approval of ICHHTO.
8. Fundamental, service and facility providing activities such as gas and water piping, electricity networking, water and sewage management, telephone lining and so on is only executable after preparing related plans and it final approval by the ICHHTO.
9. No public and heavy vehicle is allowed to enter the troglodyte village.



10. It should be once more noted (especially in troglodyte village) that newly established buildings like education organization camp building, telecommunication and health center buildings, bath and school are going to be removed or improved.

- **Regulation of Buffer Zone**

- Large scale plans include industrial complexes and development projects such as highways, railways, agricultural must be agreed by ICHHTO (MCHB) in the feasibility study stage.

Management Plan of Cultural Landscape of Maymand

- **Future Perspective**

Our future perspective from *Maymand* and its cultural landscape is a village that has preserved its perceptible heritage, has the highest rate of continuation and originality in its imperceptible heritage, has ability to provide energy required for its continuation, connects its residents' lives with the modern course of life, has the ability to make connections with other geographical spans at a suitable level and a village that provides the means of knowing and experiencing such life for non-local community as well.

- **Main Goal**

The main goal is conservation and stable dynamic and continuation of life tradition with all its novel aspects in the Cultural Landscape of Maymand.

In fact, the main goal of MCHHTB is "Conservation and Sustainable Local Development". By conservation, we mean protection and maintenance of both physical and spiritual of this valuable cultural property and its local sustainable development. In other words, village's development should take place while maintaining the traditional life style of the village - that has been present for centuries-. It should also attempt to reinforce existing values while taking new needs of the village residents into



consideration in order to prevent rapid and hasty changes in the social and economic structure of the village, a sad experience that happened in many other cultural sites.

What makes *Maymand* historical village a unique site is the living spirit that exists within its body. In other words, the significance of this property is not just its distinguishing architecture. *Maymand's* existing and live traditional life style and its antiquity adds much to the value of the property. The goal is to protect and preserve this living style and to provide an example for other villages. And this goal is obtainable if *Maymand* residents know and become aware of the values of this life style so that they can continue to live in modern society on the basis of an active economy and application of traditional living methods. Achieving project's aims also requires that these values be presented to the tourists visiting the property in the best way.

Maymand's knowledge about agriculture, herding, using local medicinal plants, and more importantly their friendly interactions with nature is so deep and vast.

Educating younger generation with these knowledge and information as well as teaching them the values of these inheritance, can help protecting and preserving this valuable heritage. Encouraging master artists and craftsmen to pass their knowledge to their students and youngsters as well as encouraging the latter group to learn traditional knowledge and techniques of their ancestors are among main goals that project attempts to implant.

What is known as sustainable local development can be defined as development in property's social, economical and environmental aspects while trying to preserve fundamental basis of traditional life and the surrounding environment.

Today, residents of *Maymand* are living with thousands of year's old traditions while utilizing and applying modern knowledge and facilities in that traditional atmosphere and with a close and friendly relationship with the nature; this provides a great model for modern industrial urban societies who are no longer associate with the nature.

The project will attempt to institutionalize this traditional life style and applies new methods and technologies in this regard as far as they don't affect that living system.

- **Strategy**

Taking the intellectual foundations, goal and management perspective of the cultural landscape of *Maymand* into consideration, important management topics at *Maymand* would be programmed according to the following basis:



- Benefiting from support and sponsorship of high ranked responsible and related organizations as well as *Maymand* residents in order to implant management plan.
- Compilation and preparation of the strategic management deed and preserving all characteristics of the cultural landscape of *Maymand*.
- Documentation and registration of all existing potentials and chances at the cultural landscape of *Maymand* and identifying factors that endanger them.
- Interpretation, introduction of and emphasis on the exceptional global values of *Maymand* through correct introduction of the property and attempt to protect and preserve its genuine features by attracting general public's attention, education and research.

- **Policies**

The most important parts and headlines of management programs and policies of the Cultural Landscape of *Maymand* include recognition, conservation, revitalization and suitable utilization of existing resources as well as providing requires energies. Executive and restoration activities, preserving and protecting borders and zones, monitoring different aspects of Cultural Landscape of *Maymand* (Fig. 5.3), its introduction and providing capacities in order to train and experience the novel life style of *Maymand* in its original context form other parts of this management plan.

- **Objectives of Management Plan**

Short-term (2 years), mid-term (5 years) and long-term (10 years) objectives of *Maymand* Cultural Heritage Base are as follows:

It should be noted first that execution of the management plan and the present compiled structure, requires legal and administrative supports at a national level; such requirement can be maintained through introduced management-administrative structure.



❏ Short Term Plans

Considering proposed plans of 1389/2010, prospected plans will be executed and accomplished, should the defined budget and other necessary arrangements are maintained.

MCHB is currently trying to accomplish and complete half-done plans and programs, modification of children playground, organizing primary arrangements in order to design the first phase of village's main pathway as well as emergency restorations and other executive issues. Since the accomplishment of prospected plans require financial and administrative cooperation of many other organizations and institutions, a great amount of time and energy is spent to hold necessary justification meetings with them.

MCHB short term plans are categorized into four main groups of Research, Conservation and Restoration, Introduction and Education and Tourism, each consisting of different sub-divisions named below:

- *Research*
 - Geology
 - Archaeology
 - Digging Techniques
 - Mines and Slags
 - Tales and Legends
 - *Maymand* and Children



- *Conservation and Restoration*
 - Restoration of *Sarsoffehs* and Ceilings
 - Repairing and Developing Public Restroom Services
 - Changing and Making Wooden Doors
 - Removing Rubbish, Herds, Pest and unsightly Extensions
 - Starting the 1st Phase of Organizing Village's Main pathway
 - Conducting the 1st Phase of Electricity Networking
 - Performing Buffer Zone Marking
 - Improving Handicrafts production and Distribution System
 - Construction of Children Playground
 - Construction of Parking
 - Improvement and Equipping the Guesthouse
 - Starting to organize *Āghols* and *Āādīs*
- *Introduction and Education*
 - Launching *Maymand* Website
 - Connecting with Other National and International Sites and Properties



- Organizing Festivals, Congresses and Fairs
- Preparing Plans regarding the Spiritual Heritage (esp. for Children and Teenagers)
- Publication of books, brochures and CD
- Organizing Educational meetings and Courses for General Public and Staff
- *Tourism*
 - Correction of and proposing a new tourist pathway
 - Initiating the comprehensive tourism plan
 - Recovering older pathways that lead to *Āghols* and *Āādīs*
 - Designation and Equipping *Shahr-e Bābak* Base

▣ Mid Term Plans

MCHB mid term plans are categorized into three main groups of Conservation, Research and Introduction, Education and Tourism, each consisting of different sub-divisions named below:

- *Research*
 - Completing research on Digging Methods
 - Identifying and studying stone tools
 - Completing archaeological Research



- *Conservation*
 - Restoring *Sarsoffehs* and Ceilings
 - Improving Public Bathrooms
 - Changing and Making Wooden Doors
 - Conducting Suitable Electricity Networking
 - Injecting Necessary Functions based on plans
 - Reorganizing *Āghols* and *Ābādīs* and other structure like *Qanat* System, Watermills, Petroglyphs, Pre-Islamic Graves and supporting different aspects of seasonal migration and intangible heritage
 - Paving and Organizing the Main Pathway
 - Designing and Making of Guiding boards and Rustic Furniture
- *Introduction, Education and Tourism*
 - Improving the Cultural Landscape of *Maymand* website
 - Preparation and publication of a multi-lingual book
 - Publication of book, brochure and CD
 - Establishment of The Cultural Landscape of *Maymand* and other Troglodyte Architecture and Semi-Nomadic life style Research Center



- Membership in International Societies-
- Management Partnerships with other similar properties in Iran
- Organizing Festivals, Congresses and Fairs
- Organizing Educational Meetings and Courses for General Public and Staff
- Holding Architecture Competitions according to *Maymand* needs
- Preparing Tourism Comprehensive Plan
- Establishment of Botany Museum
- Establishment of Children Museum
- Establishment of Zoology Museum
- Establishment of Botanic Garden
- Establishment of Archaeology Museum
- Defying a Tourist Pathway in the Area
- Reinterpretation and Conservation Older and Ancient pathways
- Developing the Guesthouse
- Improving Handicrafts production and Distribution system



▣ Long Term Plans

According to the defined perspective for *Maymand*, MCHB long term plans for the cultural landscape of *Maymand* include:

- Economic Development considering a Home-oriented Outlook
- Protection and Improvement of Environmental Value
- Preserving and Strengthening Local Community and Teaching Local Knowledge to Tourists
- Compilation of the Cultural Landscape of *Maymand* Conservation Charter
- Transforming the Cultural Landscape of *Maymand* to a Home-Oriented Scientific, Research and Education Centre
- Connecting *Maymand* to Natural Tourism Network
- Providing Consular and Expert Services for other Similar Properties in Iran

○ The part of one of the annual report of MCHB activities is as follow:

▣ Conservation Operation of MCHB in 2010 -2011

- **Preparing Management Plan**
- **Executive Operation (Reorganization and Conservation)**
 - Reorganization of the village entrance: construction of walls alongside main routes of the village
 - Reorganization of the path ending in the hostel
 - Reorganization and expansion of public toilets



- Demolition or making indigenous (homogenization of) the new constructions
- Designing the Study and Assembly Center
- Founding Museum and Information Center
- Construction of a New Car Park
- Children's Play Ground
- Establishing Half Cooking Calk Kiln
- Expansion of Green Space
 - **Research Plans**
- Designing the Botanical Garden of *Meymand*
- Research Plan of Handmade Monuments Around *Meymand*
- Planning Preliminary Investigations About the Children Museum
 - **Introduction and Education**
- Provision and Distribution of a Trilingual Brochure on *Meymand*
- Holding an Exhibition
- Holding Educational Sessions With the Participation of Handicraft Makers in Order to Improve the System of Provision, Distribution and Presentation of Handicrafts
- Forming a Team for Training Nowrüz Tourist Guides
- Setting up the *Meymand* Website
- Providing a Three Dimensional Picture of *Meymand*
- Holding the Conference on Handmade Architecture
- Inspecting Operations Conducted in Rural Areas of Kurdistan



- **Reorganization of the Village Entrance**

Compared to previous years, it can be seen that the number of visitors to the village has increased but despite its huge benefits, this also causes irregularities in the village. Therefore, one of the first activities in this regard should be visitors' control which is underway in various dimensions.

It must be noted that based on the experience of many of us during such public visits of sites particularly tourist villages, often the shortage of facilities is revealed in particular when a large number of people are simultaneously involved. For example, car traffic which can be very slow, boring and disorderly or lack of enough clean public toilets as well as the scarce number of cultural and information centers. In many cases, the sole souvenir of visitors is the dreary memory of hours of staying in cars waiting to enter the village.

Thus the idea of reorganizing the entrance of the village can have a profound effect on the realization of the project goals and reorganization of its visitors.

- **Reorganization of the Village Entrance: construction of walls alongside main routes of the village**

One of the necessary activities in this regard has been the reorganization of the village entrance. As a matter of fact, the collapsing walls which due to rainfall or traffic spilled gravels and stones into the road tarnishing the image of the village were in dire need of more reorganization. Therefore, by resorting to local stone works at these spots, it has been attempted to prevent further erosion of the natural fabric in order to present a more pleasant image of the village at its point of entrance.

In this regard, operations unharmonious with the existing fabric or those merely imitating other sites were prevented because they result in unnecessary equalizing and destroying of values of each fabric. Any imitation of stone works in other areas would cause the disruption of the authenticity of the environment as well as the elimination of identity values and characteristics.

- **Reorganization and expansion of public toilets**

One of the requirements of a tourist rural site is the provision of public toilets. It seems that after the passage of ten years from the start of the project the need for expanding WCs is inevitable considering the increase in the number of visitors. Therefore,



because of the limitation of construction activities in the village the only remaining choice is to expand existing facilities. But at the same time it has been tried to prevent the enlargement of the buildings as much as possible so that the minimum intervention policy is enforced. Accordingly, expansion of WCs in the mosque and the car park was put on the agenda. Additionally, it was decided to find a proper place for adding a special separate WC to the inn. Moreover, a local public toilet previously ruined due to rainfall was reconstructed following a more modern style and at a spot near the restaurant; one of the existing WCs was earmarked for essential reconstruction.

- **Demolition or making indigenous (homogenization of) the new constructions**

Yet another operation deemed necessary concerning present constructions in the village was to destroy former additions unharmonious with the fabric and landscape of the village and/or to make them indigenous i.e. to homogenize them. In this regard, after due correspondences and administrative processes it was decided to recommend to the ICHHTO Base, the demolition or homogenization of three formerly constructed buildings i.e. the Telecommunication Building, the Educating and Training Camp as well as the Health Center. Finally, after holding several provincial sessions it was planned that *Meymand* ICHHTO Base is in charge of their demolition or homogenization.

Regarding the above mentioned buildings, it was decided that for Telecommunication Building no other choice but demolition remains because of these reasons: its position near the road entering the village, its obstruction of the general view of *Meymand*, usage of completely unharmonious building materials in its construction as well as its extreme height and volume. So it is necessary to demolish the building after procuring a suitable place where its equipment would be delivered. Thus more space would be provided for a car park helping the expansion of the newly constructed car park.

- **Designing the Study and Assembly Center**

The Education and Training Camp Complex can be prepared as the Study and Assembly Center because it was practically closed or scarcely used in recent years also due to its proximity to the botanical garden of *Meymand* as well as its location at the entrance point to the village. Recently, the need for a Study and Assembly Center has been felt because of regular presence of



various government authorities in the village, holding of several provincial conferences as well as various exhibitions and festivals. As a result, the above mentioned plan was put on the agenda of the ICHHTO Base after due consultations in several sessions. Among the proposed functions deems necessary for peripheral spaces within the complex were as follows: library, technical office, a relatively large conference room with a seating capacity of 50-100, a dining room having the same capacity, a kitchen etc. Additionally, designing appropriate facades in harmony with the village was put on the agenda of the counselor.

- **Founding Museum and Information Center**

In the meanwhile, choosing a proper function in accordance with the needs of the village has a special importance in future developments in *Meymand* particularly after being registered in the world heritage list. The first priority of a tourist and cultural site seen also in other world heritage sites is an Information Center for museum and exhibition. Immediately after the arrival of visitors in the village, it is necessary to present them required guidance and information so that not only a relative acquaintance with the site is gained but also they are informed about the characteristics of the location into which they have arrived; so that they would have a better outlook of the location and subsequently many of their questions would be answered quickly. As a result, the abandoned Health Center opposite the car park which had already lost its function due to the low population of local car owners was chosen as the Information Center for museum and exhibition. In this way, right after parking their cars, the visitors could have access to the Center.

Among the above mentioned spaces, the Information Center will be one of the most important of them all where data in the form of CDs, videos, books, brochures and oral guidance will be provided for visitors. Moreover, a store room will also be allocated to this purpose and those interested in visiting the museum can enter it via a door foreseen for this.

Based on researches conducted in recent years on regional vegetation, fauna, flora, medical herbs and insects, it was decided to set up a zoological and a botanical museum here. Furthermore, the Children Museum is also on the agenda of the ICHHTO Base to be opened in the near future. Finally, the above mentioned functions were submitted to the counselor and following multiple



sessions and discussions the plan was drawn up at last. Afterwards, based on the available funding part of the executive operations was initiated. In sum, these activities are as follows:

- Removing plasters from inner bodies of the buildings
- Removing old plasters from the ceiling
- Removing old construction materials from the rooftop in order to decrease the weight of the structure
- Strengthening (consolidation of) the ceiling of the building no.1
- Demolition and removal of the mosaic floor of the Health Center Complex

- **Construction of the New Car Park**

The need for constructing a new car park was considered as an emergency plan because of the large number of visitors. It was decided to build the new car park at a location near to the point of arrival into the village. In this regard, a vacant piece of land opposite the Telecommunication Building was selected for this purpose and necessary investigations were conducted.

One of the problems faced here was the proximity of the selected plot to the riverbank. Therefore, it was necessary to build a relatively long wall aimed at preserving the confines of the river as well as making it readable and providing security for car traffic. But the work load was unexpectedly great for example the huge amount of stones required to be moved surprised the operating team. As a result, several work shifts of laborers were deployed during the last days of Iranian year.

- **Children's Playground**

One of the spaces whose absence was immediately felt after arriving into the village was a playground for kids. For this reason, construction of it was put on the agenda of the ICHHTO Base.

The plot of land allocated for this purpose was near the old car park of the village; thus providing easy access for visitors. On the other hand, such a space could also be used by local children adding to the vitality of the place.



During the designing stage of the complex, special attention was paid to the indigenusness of spaces as well as avoidance of bringing unharmonious instruments into the rural fabric. Therefore, the entire designs were made in accordance with local methods and materials; for example usage of wood was given priority. The small size of the land led to the usage of the labyrinth form which not only provided more space but also added to the pleasant attraction of the environment and was usually more popular among children. All necessary instruments including swings, slides and other apparatus were designed locally and were put in an appropriate spot. In this regard, it was tried to present various novel games to children in an innovative and creative manner.

- **Establishing half cooking calk kiln**

The half cooked calk (or half grinded *calk*) is an indigenous mortar used for centuries by local builders for construction matters. It has proved its endurance and strength during all these years. If made correctly and used with suitable construction materials, this mortar is better, safer and more cost effective than cement. This mortar has also been used in *Sarooj* which is a traditional mortar of the old bath house of the village. In this regard, it can also be useful for making *Sarooj* applied in the new bath house foreseen on the agenda of the ICHHTO Base.

Moreover, many of the room floors of handmade spaces have multiple uneven surfaces for various reasons. Thus it is required to level those floors not compatible with modern functions. In this regard mixing the mortar with the local soil which has different grades and colors can be a proper option.

Also with the passage of time the natural bed has been exposed to various damages and erosions causing the thinning of some parts or the generating of holes in ceilings. Selecting a modern and appropriate method aimed at filling these holes as well as creating protective holes in parts under destruction is deemed an emergency operation and one of the necessities of the village. Until now, their covering was done by improving old indigenous methods which were done mostly with wood. But the point worth mentioning is the fact that in the current state of affairs, because of the inevitable natural erosions the landscape of the village might change completely with the passage of time. Additionally, usage of wood in these reorganizations can gradually increase the danger of termites. Moreover, if a more perfect policy is adopted for filling present and future holes in the ceilings,



then the general integrity of the bed will increase both from a structural and a visual point of view resulting in solving the problem of dusting as well as the penetration of insects and other animals from wood holes.

Concerning the above mentioned points and the ever increasing local knowledge of the ICHHTO base, it was decided to increase the use of those indigenous materials more compatible with natural fabric and climate so it was concluded that cement should be eliminated in improvements and restoration operations. It was tried to deploy master builders skilled in identifying and making local mortars. After the arrival of an old master builder named Taghi Cheraqi who was born in Zanjan, the idea of setting up a half cooking kiln was put into the operation. In this regard, the proper place for the kiln was specified with his help followed by its construction.

- **Expansion of Green Space**

Regarding the dry and rocky fabric of the village, one of the necessary operations was to expand its green space. At the beginning of the executive operations in the year 1381 SAH, the expansion of green space along the main road into the village was realized resulting in lush green spaces and cool shadows at the climax of summer heat. For this reason in 1389 SAH it was decided to expand the green space even more so the ICHHTO Base with the assistance of rural administrative office became engaged in propagating various species of indigenous trees and local plants during the last month of the Iranian year (Esfand/February-March). One of the tree types more favored by the Base for propagation was the pomegranate tree. Selection of this tree for planting was not only because of the beautiful color of its flowers and fruits but also for its lusty green leaves which added to the beauty of rural landscape. Another tree chosen for planting was the damask rose which has a familiar and pleasant fragrance for all Iranians as well as beautiful flowers. Furthermore, it is rooted in the beliefs of people thus enjoying great significance from a historical and cultural point of view.



- **Botanical Garden of *Meymand***

A cultural site must give priority to educational goals but achieving this requires identifying and gaining indigenous knowledge as well as finding suitable novel solutions in order to present them correctly to the public. For this reason, after due research on regional vegetation and herbal medicines, local data in this regard was collected and the idea of designing a botanical garden emerged and was put into operation.

- **Research Plan on Handmade Monuments around *Meymand***

Regarding the existence of several common points between regional and local (*Meymand*) handmade monuments, finding new outlooks is possible by gathering such data more precisely and their analysis. Moreover, these monuments enjoy inherent architectural and historical values but have only been dealt with sporadically and on a case by case basis.

In this plan, each handmade monument around the village is introduced and located individually and after obtaining suitable ground plans, cross sections and sketch maps, exact details of these spaces are provided.

One of the positive results of the above mentioned plan is the possibility of comparing other handmade peripheral spaces with *Meymand* spaces so that searching historical, stylistic and structural bonds and relations among them would be feasible. Moreover, they can serve as a quite useful source for future research plans. In this research, handmade ofwill be studied and after defining their location, architectural interpretation and documentation, architectural characteristics of these villages will be investigated.

- **The Preliminary Studies Plan of the Children Museum**

Knowing the past, paves the way for future. So in order to move toward progress and growth, a historical awareness is required. If our kids are made aware of the lifestyle of their mothers, fathers, grandmothers and grandfathers, then they can establish a more stable and intimate relationship with them and this contributes to their knowledge of their own cultural identity; an identity that helps them to build a better future. For this reason, the ICHHTO Base in the historical village of *Meymand* decided



to inaugurate a Children Museum in the near future. Therefore, by launching researches and sending invitations, the Base has asked all those interested in cultural heritage to deliver to the Base all the items belonging to their childhood i.e.: cradles, clothes, stationary, toys, photos, books, educational tools, dairies, instruments used previously for punishing or encouraging them as well as official documents such as: school reports and papers. These items will be put on public display in the museum in a desirable form under the name of the dedicators. In the meanwhile, the educational class of cultural heritage was held for *Meymand* kids, well received by children and their families.

- **Holding an Exhibition**

One of other provisions made for these days was to hold an exhibition on activities performed in the village as well as local monuments. The venue of the exhibition was the Education Office at the entrance to *Meymand*. Among the attractions of the exhibition, mention can be made of spreading the *Haftsīn* (It is a collection of seven items whose names begin with the s sound in Farsi and is part of the *Nowrūz* ritual held at the beginning of the new Iranian year)

- **Providing a Three Dimensional Picture of *Meymand***

As to the historical status of *Meymand* Village and the importance of its introduction to visitors coming from Iran and abroad as well as due to the day by day progress of the field of the virtual world in the introduction of tourist cities and areas, it was decided to introduce digitally the village of *Meymand* and its historical places using a software made by *Mayla-Pars* Company so that users anywhere in the world could experience a virtual visit of the historical village using the software.



7.c Form and date of most recent records or inventory of property

The most important records and documents of Cultural Landscape of *Maymand* which are kept in MCHB are as follows:

- “*Maymand* Glossory” , (1383/2004-1388/2009)
- Report of “Great Project of Architectural Studies of *Maymand*”, (1384/2005-1388/2009)
- Report of “Aga Khan Award for Architecture” Competition, (1385/2006)
- Report of “The Charter of *Maymand* Restoration”, (1385/2006)
- Report of “*Maymand* and Health”, (1381/2002-1385/2006)
- Report of “*Maymand* Geology”, (1384/2005-1385/2006)
- Report of “*Maymand’s* Watermill”,(1385/2006)
- Report of “*Maymand* region flora”, (1385/2006)
- Report of “Comprehensive Review of Cultural Landscape of *Maymand’s* Handicrafts”, (1384/2005)
- Report of “A Review of Reorganization Experiences in *Maymand*”, (1382/2005)
- Report of “Great Project of Historical Village of *Maymand*”, (1384/2005)
- Report of “Ethnology of *Maymand*”, (1384/2005)
- Report of “ *Rez Malek* Watermill”, (1384/2005)



- Report of “Conservation and Restoration Activities in *Maymand*”, (1381/2002-1384/2005)
- Report of “Diversity of living species of the historical village of *Maymand*”, (1383/2004)
- Report of “Diversity of living species of the historical village of *Maymand*”, (1383/2004)
- Report of “Rock Arts of Cultural Landscape of *Maymand*’s Handicrafts”, (1383/2004)
- Report of “MCHB operation”, (1383/2004)
- Report of “Reorganization Plan of Main Pathway of Troglodyte *Maymand* and Designing Children Play Ground ”, (1382/2003)
- Report of “Distribution of Population in Cultural Landscape of *Maymand* ”, (1382/2003)
- The Maps of “Troglodyte *Maymand*’s *Kīchehs* Plan”, (1382/2003)
- Report of “Matera Trip”, (1382/2003)
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- Report of “Some Experiences in Conservation and Reorganization”, (1381/2002)
- Report of “Study of Specific Spots in *Maymand*”, (1381/2002)
- Report of “Cappadocia Trip”, (1381/2002)



- Report of “Defining Core Zone and Buffer Zone of Cultural Landscape of *Maymand* ”, (1380/2001)
- Thesis for Bachelor Degree: “*Maymand as a Eco-Museum*”, (2008)
- Thesis for Master Degree: “Charter of Restoration & Designing in Context of Historic Village of *Maymand*”, (2006)
- Thesis for Master Degree: “Study of Watermills”, (2005)

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Chapter 8



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Chapter 9



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Appendix



Appendix I



Glossary

Appendix I

Glossary

(A)

Ābādī آبادی

Hamlet

Abbāsīhā عباسی ها

Name of a Āghol

Āb-Garmū آب گرمو

A local dish

Āftāb-gīr آفتاب گیر

Sun-shade

Āghol آغل

Fold

Ājīdeh-duzī آجیده دوزی

Sewing galloons

Ākhor آخور

Manger

Ākhshīgān آخشیگان

Four elements (Earth,

Beneh-Nazrī بنه نظری

Name of a Beneh tree

Beneshk بنشک

Beneh's resin

Benūshū بنوشو

Unripe Bene

Bījeh بیجه

Sapling

Bolūk-kardan بلوک کردن

A local food storage method

Bon بن

End, bottom or root

Bon-e-lā بن لا

Name of a river and a ābādī

Bon-e-Maymand بن میمند

An area in the end of Maymand

Band-e-Tombān بندتبان

Drawers' string used traditionally instead of a belt

Borsh برش

Twig

Wrapper for bedclothes

Chahārpāyeh چهارپایه

A very simple shed

Chākū چاکو

Toilet seat and hole

Chāq-Kardan چاق کردن

Each movement of the crowbar

Chaghūt چغوت

(C)

Chādor-shab چادر شب

چیل احمدی Chil-Ahmadi
Name of a water-mill

(D)

دلو Dalv

Bucket

دماغه Damāgheh

Parting bead

دره بید Dar-e-Bīd

Espār اسپار
Type of dairy
Evarzeh اورزه
Lateral beam
Eyvān ايوان
Veranda
Eyvāncheh ايوانچه
Arched verandas

(F)

Fatīr فطير
A kind of local bread

(G)

Gālū-beneh گالوبنه
A local dish
Gangū گنگو
Big metal staples
Garmkhaneh گرمخانه
The hot chamber
Gāz گز
Stony wedge
Gedā گدا
Name of a Āghol

Ghāb قاب
Half
Ghāyemdān قايمدان
Where precious objects are kept
Ghabā قبا
A long dress
Qanat قنات
Subterranean
Ghandīl قنديل
Beehive
Garjīn گرجين
Thrasher
Ghal'h- Marj قلعه مرج
Kamar-e-Marj; Name of a mountain
Ghiyāsīhā قياسيها
Name of a Āghol
Ghons قنس
Kind of almond tree
Ghormeh قرمه
Cooked diced lamb

(J)

Jadū جدو

Wild almond's resin

Jāviyeh جاويه

A place to collect water for the sheep

Jāz جاز

Grassy plant with many usages in construction

Jirehdān جيره دان

Kapar کپر
Wattle
Kārbāfī کاربافی
Cloth-weaving
Kāshkor کاشکر
Grooves direct the rain water towards both sides of Kīchehs
Kāseh Kleydūn کاسه کلیدون
Socket
Keleh کله
Roofless place to keep the cattle
Kel-e-dūshāb کله دوشاب
Two pits on the slope of hills for making Dūshāb
Kel-e-sang کل سنگ
Bowl-like rocks to hold rain water
Kelūr کلور
Name of a forage plant
Kelow (Kelū) کل او (کلو)
A bowl-like cavity in the ground
Kereshkhāneh کرشخانه
A set of two Kel-e-Dūshābs and a wood stove
Kerneh کرنه
A kind of tick
Kerū کرو
Kind of grain bigger than vetch
Khākeshīr کاشکر

Name of a medicinal plant
Khalameh خلمه
Newly born lamb
Khalameh-Cherān خلمه چران
The shepherd of the newly born cattle
Khar-e-Bār خربار
A horizontal bar fastened to the Akhīyeh on the ceiling
Khārkhāsak خارخاسک
Name of a medicinal plant
Kharman- kamarī خرمن کمری
A levelled place in Kamar for harvest sifting and crushing
Kharpeleh خرپله
Deposited Dūshāb soil
Khat-khatū Kilim گلیم خط خطو
Striped Kilim
khātun-Ābād خاتون آباد
A plain around Maymand
Khazineh خزینه
Water reservoir of a bath-house

Khorjīn خورجین

Saddle bag

Khoshkeh خشکه

Shepherd wage

Kicheh کیچه

Maymandies' houses

Kīcheh-do-bandī کیچه دوبندی

Other name of Ātashkadeh

Kilim گلیم

A woven rug with richly colored geometric patterns, made in Southwest Asia

Kleydūn کلیدون

A large wooden lock and key

Sahan کماج سهن

Lākhorīn لاکورین

Name of a ābādī

Lāshkorgūyeh

Name of a ābādī

Lāshūk لاشوک

Name of a forage plant

Lateh (Lateh-Sarū or Lachakū) لته (لته سرو - لچکو)

(لچکو)

A triangular cloth

Lotfīhā لطفی ها

Name of a Āghol

Līsū لیسو

Name of a medicinal plant

Lodeh لوده

Kind of basket

Liquorice, Name of a medicinal plant

Maktab khāneh مکتب خانه

The old name for Iranian traditional schools

Manbar منبر

Pulpit

Mar مر

Wild almond

Markhāneh مرخانه

A human dwelling space dug in the ground in Sar-e-Āghol

Mashadīhā مشهدی

(M)

Magas-e-asal مگس عسل

Honey bee

Makhshīf مخشیف

A worn-out piece of Kilim

Makkī مکی

Mashk-e-Spār مشك اسپار

A water-skin used to keep Spār cool and fresh

Mashk-e Zenā مشك زنا

A large water-skin used to make butter out of yogurt

Mashkdān مشك دان

A place to keep Mashk cool

Mashk-zadan مشك زدن

(O)

Odūr-Sowzū اودور سوزو

Name of a medicinal plant

Otāq اتاق

Room

Otāq-e-Bālāyī اتاق بالایی

Upper room

Otāq-e-Bonī اتاق بنی

A room located behind another room or at the end of Kicheh

Otāq-e-Jeloyī اتاق جلویی

Front room

Otāq-e-Zirī اتاق زیری

The room underneath

Owrīz اوریز

Local Toilet

(P)

Pach پچ

Crush

Pādeh پاده

Small wooden pillar

Pāpīch پاپیچ

Foot-band

Palghāndan پلغاندن

Crushing grapes

Panāhbād پناباد

Wind shelter

Pardeh-Dashtī پرده دشتی

A curtain made of Esfand's seeds and color cloth

Panjeh پنجه

A period of time in the end of July to hire a shepherd in Āqol

Parvārband پرواربند

Where the sheep are fattened for food

Parvār-Bandī پرواربندی

Fattening the sheep

Pāshneh-Gardūn پاشنه گردون

Pivot heel

Patāq پاتاق

The highest level of the mountain foot inside which houses are carved

Pazdūn پزدون

A room next to the Gambeh used to store the products

Pelās پلاس

Tents woven from goat's hair and string

Pellechīn پله چين

Stone stairs

Pest پست

Flour

Petroglyph

A rock carving, especially one made in prehistoric times

Pichūk پيچوک

Name of a forage plant

Sarbineh سرینه

Dressing room in bath-house

Sar-e-Āghol سر آغل

Temporary residence in Āqols

Sar-e-Bāgh سر باغ

Ābādīes; Temporary dwelling of the villagers in hamlets

Sarsoffeh سرصفه

A roof made of wood and dust over Eyvān

Sārūj ساروج

Plaster of lime and ashes like today's cement

Seh-Tāyī سه تایی

Triple pond

Senjed سنجد

Name of a medicinal plant

Seh-Pāyeh سه پایه

Tripod

Semshūr سمشور

Shalgham Pokhtū شلغم پختو

Boiled turnip

Shang شنگ

Cucumber

Shonber شمبری

Tāsu'ā and Ashurā تاسوعا و عاشورا

Appendix II



Four Elements and Four
Migration Stages in
Maymand

Appendix II

Four Elements & Four Migration Stages in *Maymand*

A comparative analysis of the pattern of *Maymand* Migration stages in relation to the Four Elements

Fire

Wind

Water

Earth

Kiarash Eghtesadi*

Abstract

The author understands and utilises the four elements (*Ākhshīgān*¹) model mostly with regard to its practicality in categorizing and analysing a wide range of implicit and explicit topics within the four stages of migration in *Maymand*.

In this text the four-staged migration of the people of *Maymand* (Kerman Province, Shahr-e-Babak town) is compared to and examined using the four-element prototype. In each of these four stages, various aspects of the *Maymandi'es* life transforms along with seasons. These include a change of altitude, the shape and condition of the habitat, ways of making a living, architecture, dispersion, wealth and ... of the people which have been categorised in a table under the names of the four elements as they change four times within a year.

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1. *Ākhshīgān*; plural form of *Ākhshīg* which means the four elements in old Persian (Moin Dictionary)

Each quadrangle in this table have been interpreted based on an initial hypothesis to observe to what extent the changes of *Mamaynd* life in each stage is consistent with the corresponding element related to that stage.

Background

The most significant experiences that have made the viability of this hypothesis probable is on the one a 10-year span of life, research and practical work and hands- on experience within the various aspects of life in *Maymand*, on the other it is the outcome of about 4 years of study and deliberation on the subject of the four elements and their relationship to the tangible and intangible phenomena within different fields. These all came together and finally crystallised as a thesis in autumn 2009 while preparing *Maymand* nominating dossier for inscription on the World Heritage List. Many drafts were made and eventually a last draft was formed as it stands now in autumn 2010.

Methodology

The methodology used in this text seems to be closer to a phenomenological approach to the subject, since it is the result of several years of living and conversation with the native people of *Maymand*, and touching closely upon the many angles of life there by the author and his colleagues, accompanied with the author's attempt to write down, document and manage the findings and consistently revisiting them. Thus, before coming up with the vast amount of data and the resultant findings obtained from the practical work and research within the area, the author had started with no clear hypothesis in mind. It is the very nature of the data found on the work/research ground of *Maymand* that has reached us to the level of understanding and analysis we have now come up with².

² -Partovi, P (1387-2008), PP. 174, 203& 204

Before my acquaintance with the phenomenological research, in which no hypothesis is made beforehand, the aforementioned process of observation, deliberation and understanding the many phenomena within the four stages of *Maymand* life brought me to shape the aforementioned table. At the time, and to be consistent with the routine positivist approaches to research, I found the table as most appropriate to define and elaborate the hypothesis the verification of which could have been pivotal especially in underpinning the criteria to international recording of *Maymand*.

Furthermore, with the help of my partner (*Maryam Taghavi Shirazi*) who has been involved in this project from inception, appropriate sources have been provided and added to the work in footnotes. This was until I came up with the possibility of using other/mixed methodologies which could assist me in demonstrating my points:

‘Despite the difficulties of simultaneous employment of both phenomenological and positivistic approaches in spatial studies, it seems that if there is enough knowledge and awareness on the similarities and differences between the two methods and with careful consideration of the type and aims of the investigation, in certain circumstances it is possible to benefit from both methods of investigation’³.

Up to now, the author has not been able to sufficiently elaborate such a qualitative argument – which is typical of phenomenological research – without the assistance of intuition, intellectual cognition and logic. That is why, he is in need of suggestions and comments from others to propose other/different methods to interpret and explain such a hypothesis, in order to convince those who may see such approach and logic insufficient.

Hypothesis

It is assumed that many aspects of life in each four stages of migration in *Maymand* follow a significant pattern that is possible to describe, as in table 1:

3. Ibid. P 203

Migration Place		Sar-Aghol	Esham	Sar-e-Bagh	Troglodyte Maymand
Closest Element		Water	Wind	Fire	Earth
Time	Season	Winter	Spring	Summer	Winter
	Period length	Middle	Shortest	Middle	Longest
Geographical situation	Altitude changes				
	Geological Base	Field- Deepest	Green hills-Soft base	Orchards Most projected	<i>Kamar</i> Firm Base
	Water Source altitude	Highest, Pool(<i>Ghadir</i>)	Middle Spring	Lowest Mountain Spring	Middle Spring (<i>Kelū</i>)
Population	Population	Lowest (of the family members)	Average	Highest	Average
	Habitation Dispersion	Half-condensed	Scattered	Most Scattered	Most Condensed
Architecture	Architecture	Deepest <i>Markhāneh, Kūz and Darkūz</i>	Lightest <i>Kapar, Palās</i>	Highest <i>Gombeh</i>	Most Condensed <i>Kamari Room</i>
	Home/Property Stability	Half-shared and floating	Least stable, Fully shared	Distinct boundaries	Distinct boundaries
Economy	Socio-economical Relations	Contractual-Sharing	Common-Sharing	Ownership separation Cooperation	Ownership separation-Regulation
	Economical Affordability	lowest income	Beginning prosperity Selling Dairy Products	Highest income Warmest	Low income
The body organ in making a living		Height-less	Busiest	Longest and tallest The right hand	Most compact Bottom

Table 1

Four-Element categorisation of 4 stages of migration in the various aspects of Maymand life

It is important to note that the aim of **this thesis is not to 'prove' the correctness of table 2**; rather it is meant to show the **homogeneity of Table 1 with the hypothesis of Table 2**

The implications of the four elements in this text

Although an initial understanding of the conventional meanings of the four elements has guided this writing, the author has no intention to prove that his manner of using the model is totally in accordance with the classical notions of the concept of the four elements. This is a model devised and utilised based on the author's perception of the four elements in relation to his own insight and comprehension of the four element thesis that is mostly suited to describe and analyse the specific order by which each four stages of *Maymand* life is ruled in a four-columned table. Despite this, every attempt has been made to assure that the nature of each element is consistent with the specific stage and aspect of *Maymand* life in question.

In other words, if the definition of each element of the four is accepted, the details of the hypothesis in the table would seem plausible and acceptable if only the features of each stage of life and migration are closest to the attributed element with its specific definition. Eventually the author maintains that his specific though personal exploitation of the four elements thesis is closely consistent with his method of application and attribution to the four stages of migration in *Maymand* life.

Definition of each of the four elements

In table 2 some keywords have been defined in relation to each of the four elements. The keywords used for each element are of homogeneous nature. The presence of such uniformity within each column will reinforce the hypothesis of this text.

'In each element of the four, one quality approaches its extreme. Fire is the symbol of an object that approaches excessive warmth in its nature while water stands for one that moves towards extreme coldness. Air is a symbol for utter fluidity and wetness while earth symbolises extreme solidity and dryness. In addition to their explicit and superior quality, each element has an implicit and inferior quality, too. The explicit quality of fire is its warmth while the hidden quality is dryness. The obvious quality of air is dampness while its hidden quality is its warmth. The explicit quality of water is coldness and its hidden one is dampness. The explicit property of earth is dryness as its implicit one is coldness'⁴. (Chart 1)

4- For classical philosophers the element consists of a unified object that cannot be broken down to other objects but itself and is the building compartment of all creatures and things including humans, animals, plants and objects. Elements consist of four groups:

- 1- Earth element: Cold and Dry
- 2- Water Element: Cold and Wet
- 3- Air Element: Warm and Wet
- 4- Fire Element: Warm and Dry

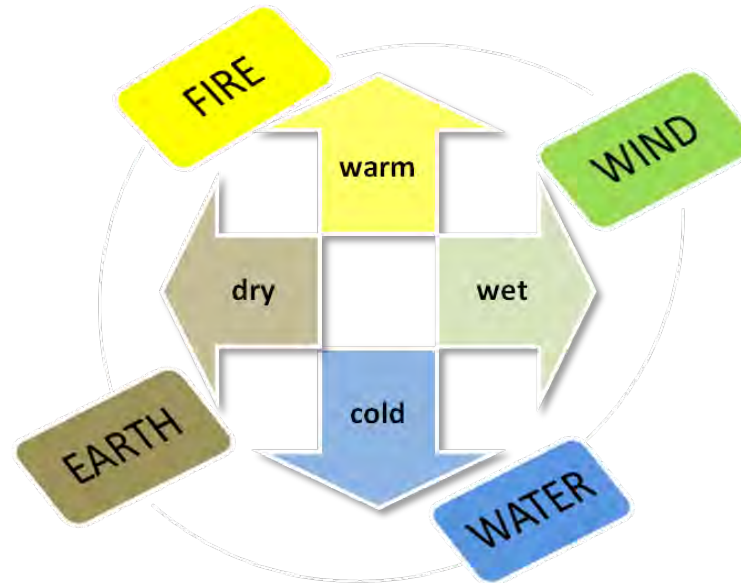
Each element has a function:

- 1- Earth element: Its function is to create stability and shaping things and maintaining the form of objects.
- 2- Water Element: its function is to create the possibility of formation and malleability of objects.
- 3- Air Element: Has a much more fluidity and faster formational possibility and its function is to make holes and space between the particles of objects to make them lighter and finer
- 4- Fire Element: Its function is to create fineness and lightness and to decrease coldness. Thus a creature with greater Fire element enjoys more movement. (Nasseri, M(1388-2009), PP. 24-26)

Water	Wind	Fire	Earth
Cold and Wet	Wet and Warm	Warm and Dry	Dry and Cold
Weakest	Most flexible	Most powerful	Most long-lasting
Descending	Progressive Equilibrium	Ascending (Departing the centre of gravity)	Stable Equilibrium
Converging	Most Free	Diverging	Most Condensed

Table 2
The definition of the four elements used in this text

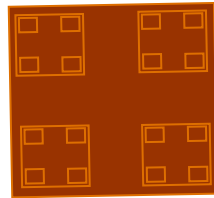
Chart 1 -1
The Superior/Explicit quality of each four elements





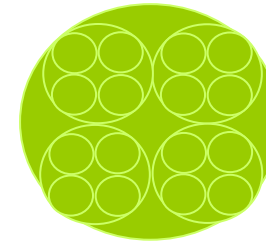
Fire

Warm and dry – unwavering, constant divergence from the centre of gravity



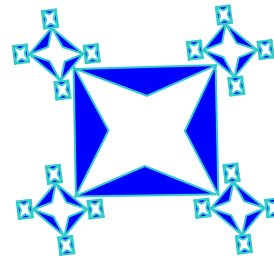
Earth

Cold and dry – concrete, solidified with the least motion in the centre of gravity



Wind

Warm and wet – flexible motion, on the loose and in harmony with the rotating particles round the centre of gravity



Water

Cold and wet – convergent tensions in groups inclined towards the centre of gravity

Chart 1-2

About *Maymand*

In this text, the migration in *Maymand* in its four stages has been studied without considering the effects of contemporary modernity (and modernism) which has changed the situation in recent decades from their 'original' conditions.

The original migration in *Maymand* has had four stages each year, which takes place periodically in four different living habitats including *Sar-e-Āghol*, *Eshām*, *Sar-e-Bāgh* and troglodyte *Maymand*⁵.

From mid-winter till early spring a few of the family members mostly men would stay in *Sar-e-Āghol* to take care of the sheep and their needs (foddering, giving birth and feeding the newly born lambs or *Khalameh*). As the spring arrives and spring plants grow, the family would move to *Eshām* for a short while to obtain fresh pastures and water resources and to preserve the pastures in *Sar-e-Āghol*; they spend the time in *Eshām* to also prepare dairy products, collect new plants and herbs and wild almond.

From late June till late October, family members migrate to *Sar-e-Bāgh* for gardening and agriculture.

Finally and with the start of the cold season in autumn, they choose troglodyte *Maymand* for habitation and get busy with making handicrafts.

5- *Sar-e-Āhol* : Temporary residence in *Āqols*

Sare-Bāgh: Temporary dwelling of the villagers in hamlets

Eshām or *Yūrt*: A piece of land where nomad tribes would camp (Dehkhoda Encyclopedia)

Development of the work

There are a range of changes in the pattern of migration due to the change of climate and development of urbanisation, which include:

A- Gradual waning of spring migration or *Eshām*: provision of water by water tankers has decreased the motivation to search for spring water resources in *Eshām*. It seems also that the method of hand-feeding of the cattle has reduced the need to search for or maintain natural pastures.

B- In the last three decades, cheap lands at the town sold by the government and a legal requirement to build houses in them to confirm ownership had encouraged more and more *Maymandies* to choose the town for living. Further, urbanisation brought about a cultural change which favoured urban life, academic education and other priorities that necessitated living in the towns and cities rather than villages.

However, there are still attractions in *Maymand* life that draws people to come and live in the region. These are farming, more importantly cultivating fruit orchards and the cooler, nicer weather of *Maymand* compared to the town especially in the time of school/college closures still brings in many people to the original parts of *Maymand* at the summer.

Yet, exactly because of the same reasons it leaves *Maymand* with minimum population as natural ways of earning living (mainly farming and agriculture) is scant at the cold season and urban houses are better providing people with their needs including education and a proper job.

About the Four-Elements categorisation table of the aspects of life in four stages of *Maymand* migration

- **General Notes:** (in Table 1)

Each of the four coloured columns represents one aspect of the migration. In the first row there are the four elements (as defined above), represented each with a selected colour. The column underneath each element comes in the same colour; as each element represents a specific 'shared' nature for other components of the same column. That is, it roughly demonstrates the main temperament of life in that specific period of migration.

The first column (in white) illustrates various aspects of *Maymandies* life that goes under transformation during the four periods of migration. Thus, each row compares and contrasts one aspect of *Maymand* life within the four stages of migration.

It is important to consider that such 'compare and contrast' would only mean *relatively*; that is, each four compartment of every row, relatively and in comparison to the other three, is deemed as closest in nature to the element indicated in that column rather than showing an 'absolute' temperament of that element or making sense within any other evaluation system. This is because, by definition, a pure or absolute quality of each of the four elements cannot and does not exist, implicitly or explicitly, in any single phenomenon, as these are four abstract concepts.

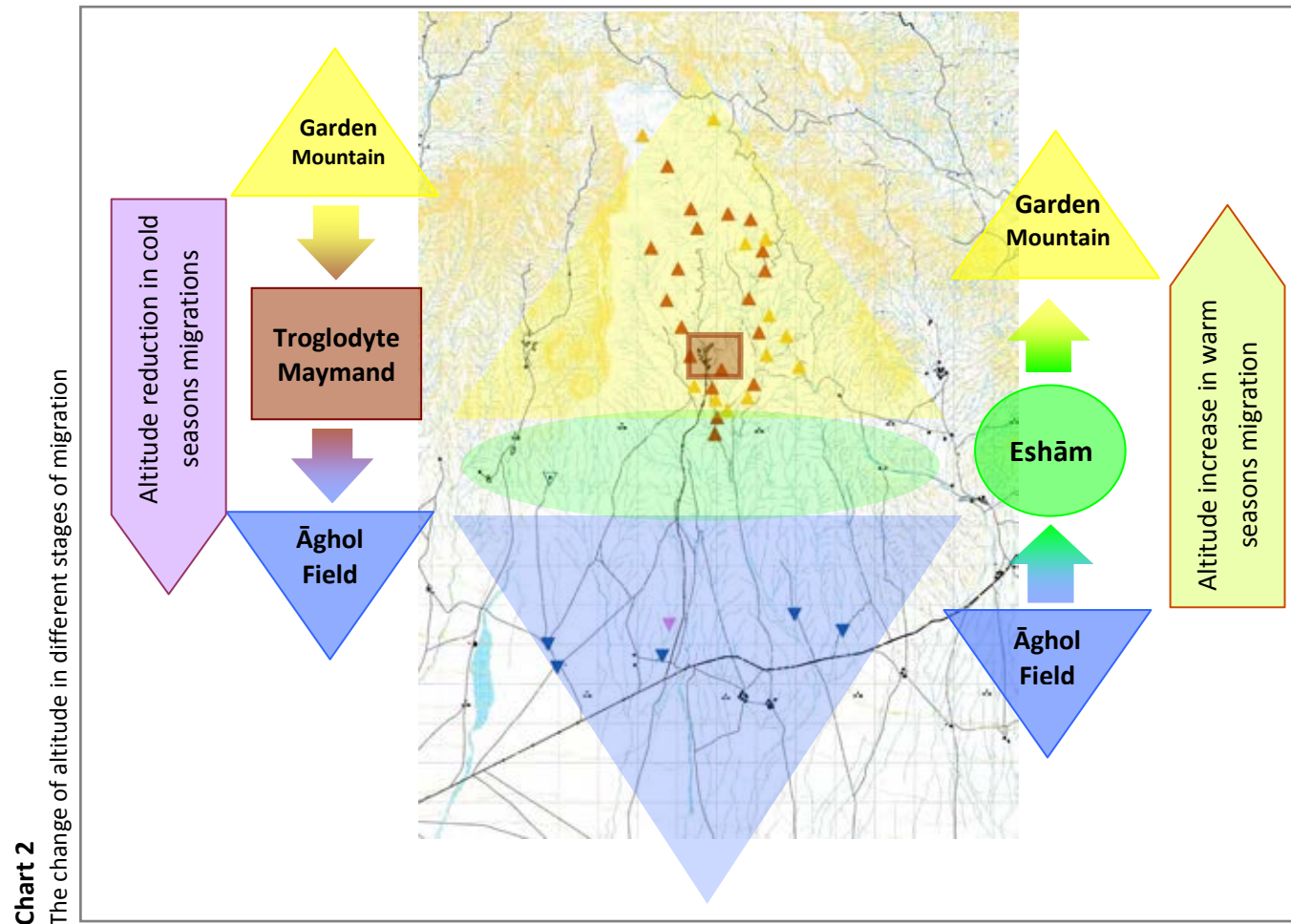
- **Description of each row** (aspect of life)

Duration

The duration of each migration period, is proportionate to the degree of permanence of the corresponding element. Thus, the shortest period of residence is in *Eshām* while the longest is in troglodyte *Maymand*. In the winter till early spring, it is mostly the head of the family who goes to *Sar-e-Āghol*.

Change of Altitude

The course of altitude change from the sea level has a direct relation to coldness and warmness. In warmer seasons (Spring; *warm* and wet – Summer; *warm* and dry), the consequent direction of movement is towards more altitude as it is directed towards less altitude in colder seasons (Autumn; *cold* and dry – Winter; *cold* and wet). (Chart 2)



Geological base

The most projected and convex shape that the earth has taken due to the power of its inner fire, has become the basis for summer habitats; the *Maymandies* sometimes use the term '*Kuhestun*'(the mountains) interchangeably to refer to *Sar-e-Bāgh*.

As opposed to that, is the most concave part, where the water gathers and settles (*Howz* and *Qadīr*⁶) is the place for winter habitation. Nowadays *Gūrow* – possibly meaning where the water settles and stays still – is the name of a *Sar-e-Āhol* which is most in operation.

The geological quality of the autumn bed (*Kamar*⁷) facilitates work of carving homes inside the earth. Finally, the roundness and softness of the fairly green, mild hills is the floor for spring habitation.

The altitude of water resources

An increase in the water resources altitude from the sea level signifies a potential for saving more gravitational energy or an increase in the fire element which has a direct relation to the corresponding element of the migration period. Nearly all water resources in *Sare-Bāgh* are mountain springs that have the highest altitude among other water resources available in *Maymand*. In *Maymand*, the springs and *Kelū*⁸ are situated in a middle ground in terms of altitude.

While in *Sar-e-Āghol*, they use the water in *Ghadīr* or pools, that is the waters gathered in the lowest parts of the land, before they exit from *Maymand* region.

The springs in *Eshām* are also flowing in middle ground heights.

6- *Howz*: pool

Qadīr: Holes dug in highlands to collect rain water

7- Mountain

8 - A bowl-like cavity in the ground to collect water

Population

Not all the population or the whole members of a family take part in migration as there is a direct relation between the population going to a certain migration destination with a power of the corresponding element in question. Thus, the maximum population is seen in Sare-Bāgh, that is the warmest and most energetic while the least population can be seen in Sar-e-Āghol (where only the head of the family is present) in the coldest and weakest period. (Table 3)

Settling period	First Period Early winter to late spring	Third Period (Early spring)	Third Period Early summer till early autumn)	Fourth Period Early autumn till late winter
Sar-e-Āghol	320		18	18
Eshām		limited		
Sar-e-Bāgh			426	
Troglodyte Maymand	16		16	130

Table3

The population Dispersion within a year (2009)

The population dispersion in *Sar-e-Āghol* has hanged due to the desertion of *Eshām*. Nowadays, the people of *Maymand* spend the milking period also in *Sar-e-Āghol*. In fact, the population of *Eshām* period must be added up to that of *Sar-e-Āghol* (ref. MCHB)

Dispersion

The level of dispersion of habitats and houses has a reverse relationship with that of the density of the element belonging to each period. With the reduction in density, centrifuge and dispersion increase. (See the footnote on P. 6, also chart No 2)

The *Sare-Bāghs* are the most numerous habitation complexes in the summer (fire)

Next are the *Eshāms* in the spring (wind)

Then are *Sar-e-Āghols* in the winters (water)

And finally troglodyte *Maymand* is the densest in the autumn (earth).

Architecture (height)

The highest architectural site in *Sar-e-Āhol* relates to the warmest element or season of the year, summer (fire) which can be seen in *Gombeh*⁹ with *Chel-mardi*¹⁰ covering. As opposed to this, is the most curved architectural site in *Sar-e-Āhol* which relates to the coldest element or season of the year (water). To build the *Markhāneh*, *Kūz* and *Darkūz*¹¹ they make a hollow in the ground. In the mild seasons of spring and autumn, the mild heights of *Eshām* (*Pelās* or *Kapar*¹²) and the troglodyte *Maymand* are the middle grounds to stay.

Stability of properties and houses

The most durable structures inside the ground in the autumn season (earth) are seen in troglodyte *Maymand* houses that indicate the stillness of the nature of cold and dry.

Next, are the properties and buildings in *Sare-Bāgh* with an initial 'dry' ownership which are renewed and refurbished (warmed up) every few years.

9- A covered living space with stone walls in *Sare-Bāgh*.

10- A firm tree trunk is used at the center of the plan as a pillar (*Chehel-Mardi*) so that the roof leans both against the walls as well as the pillar.

11- *Markhāneh*: A human dwelling space dug in the ground in *Sar-e-Āghol*

Kūz and *Darkūz* : Two covered and open spaces to keep lambs in *Sar-e-Āghol*

12- *Kapar*: is the habitual space with tree twigs and branches which create a pleasant shade and let the air flow inside.

The stability of the pastures and houses in *Sar-e-Āghol* for the share-holders depends on the annual contracts (cold) and is of a flexible/floating nature (wet).

The least stable shelter, which has the lightest, most flexible and most portable structure can be seen in *Eshām* in spring (wind); this involves erection of the tents (*Palās*) and temporary *Kapars* which are leant against the *Mar*¹³ trees in the shared lands.

Socio-economical Relations

Socio-economical Relations in the summers are 'dry' and based on a precise division of the ownership of the land, water resources and fruit orchards products. The agricultural products during the process of growing, ripening and harvesting are indicative of warmth and movement.

The ownership in the autumn, too, is dry; however, there is no flow of growth in it. Yet, the *Kamari* rooms especially *bonī* and *Bālākhaneh*¹⁴ are the best places to keep and preserve them. With the increase in the social density, civil regulations that epitomize collective behaviour are revealed more significantly in the social relations.

During the winter, the contracts are floating and flexible, getting renewed each year in *Panjeh*¹⁵, subject to change. The conditions of partnership are determined in these agreements. The use of pastures is shared among the share holders of one *Aghol*. Sharing and partnership demonstrates wetness.

In spring, people would benefit from shared vegetation resources; that is indicative of high wetness. Flowers, low-rise vegetation and edible/medicinal bushes as well as the wild almond trees belong to whoever exploits them.

13- Wild Almond

14- *Kamari* room: a room carved inside *Kamar*

Bonī room: the room situated at the bottom of *kicheh* or other rooms

Bālākhaneh: upper room

15- A period of time in the end of July to hire a shepherd in *Āqol*

Wealth and possessions

The course of change in the level of wealth within the various stages of migration has a direct relation to the coldness/warmth of the season. In warmer seasons (spring; *warm* and wet – summer; *warm* and dry) wealth and possessions (dairy products, fruits) would increase gradually and reaches its highest level in the summer. In the cold seasons (autumn; *cold* and dry – winter; *cold* and wet) the possessions are spent and the *Maymandies* live their poorest periods in the winters.

The condition of organs in the livelihood (vegetation):

There is roughly a direct relation between the conditions of the organ involved in the work with the corresponding element of that migration period.

Sar-e-Bāgh, during the time of harvesting and collection of fruits such as walnuts, almonds and *Senjet*, not only the organ is situated in an extended condition and in a height, but also the use of tools such as *Eshkīl*¹⁶ extends the arm a few meters longer. The height of the plants and trees used in the spring and autumn (such as wild almond, quince and pomegranate) are in middle ground. Eventually in the winter, the buried or dried fruits are used that have no real/live height.

16- A long wooden rod used for fruit picking

Conclusion

Such four-staged interpretation and analysis of *Maymand* life is not a subject that people of *Maymand* themselves speak about consciously or explicitly. Yet, they have lived it for centuries and continue to do so, as they use terms such as coldness and warmth frequently in their conversations to describe the condition of their body, their animals and also the plants¹⁷ and vegetations. They also mention wetness and dryness a lot as for instance they have specific terms such as *Khoshkeh* (the dry) and *Tareh*¹⁸ (the wet).

Thus it is possible to suggest that people of *Maymand* have been shaped and closely attached to such a structured system of life due to the genuine and innate bond they have with nature. They have also traditionally benefited from and understood the four-element logic that has a few thousand years history in Iran, at least at the level of folklore literature, and have still maintained it to the present time.

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17- The dried-out tree that no longer grows is called *Khoshkeh* and the live, growing branches are called *Tareh*.

18- In the annual contract which is made between the owners and the share-holders of an *Aghol*:

Khoshkeh: is a type of communal contract in which they pay money to get exempt from *Gomāri* (taking turns to look after the cattle) and feeding the shepherd and the sheepdog.

Tareh: is a type of communal contract in which a group share the *Gomāri*, feeding the shepherd and the sheepdog and other jobs of the cattle. They also provide the rest of the shepherd's wage after paying the *Khoshkeh* money.

Appendix III



Maymand Rock Arts

Appendix III

Maymand Rock Arts

Maymand rock arts have been investigated since 1979 through several attempts. In 1979 Dr. Ruhalamini discovered the famous *Gorgondar* petroglyph located to the northeast of *Maymand*. (Figs. 1)

The most important investigations were carried out in 2003 and fall 2007 in collaboration with MCHHT Base¹. More than 30 cases and 15 tomb stones were discovered in five areas (i.e. *Maymand* village, north, west and northeast of the village, *Korom* village to the northwest of *Maymand*) during the first stage of investigations. (Figs. 2-12)

31 individual rock bearing petroglyph scattered in 8 areas to the east, north, northwest and south of *Maymand* village were examined in 2007 during the first stage of investigations. (Figs.13-21)

62 of the 128 examined individual petroglyphs, depict ibex. It should be noted here that the figures given here are not unconditional as in some cases it was not easy to identify an image for sure. For instance, petroglyphs resembling dogs, could in some cases be considered ibex as well, or those recognized as ibex, may represent other mammals. Humans - both on foot, armed on horse or on foot with bow and arrow-, geometric designs, candies, horse or mule, felines, and birds respectively are the most common motifs. More than 14 different types of ibex have been identified based on the horn, tail and the body outline among *Maymand* petroglyphs.



Fig.1
Gorgondar Petroglyph

1. Karimi, F. 1383/2004

Petroglyphs Examined during the First Stage of Investigations

Maymand village



Fig. 2
Shahsavār Rekhneh petroglyphs



Fig. 3
Ney-Rīzū valley petroglyphs



Fig. 4
A grave stone in Maymand's southern cemetery

Northeast



Fig. 5
Markhazineh petroglyphs



Fig. 6
Pūrāz petroglyphs



Fig. 7
Gorgondar petroglyphs

Northwest



Fig. 8
Bon-e-lākhīs petroglyphs



Fig. 9
Bon-e-Lākhorīn petroglyphs



Fig. 10
Bandhay-e-Bārān petroglyphs

North



Fig. 11
Eshkaft petroglyph



Fig. 12
Korom cemetery petroglyph

Petroglyphs Examined during the Second Stage of Investigations

Figs. 13- Eshkaft lashkorguiyeh



Figs. 14-Gorgondar petroglyphs



Figs. 15-Gorgondar petroglyphs



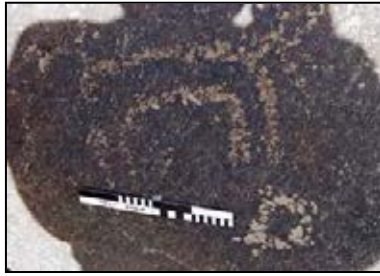
Figs. 16- Alī-mehdī petroglyphs



Probably wolf



Figs. 17- Darbeneh road petroglyphs



Figs. 18- Pūrāz petroglyphs



Figs. 19- Trdūyeh petroglyphs



Probably dog



Representation of Dog in petroglyphs might be in relation to the husbandry life of the settlers rather than hunting.

Figs. 20- Darbeneh- unknown animal probably reptile



Figs. 21- Bon-e-Lā petroglyphs



Another investigation was carried out in spring 2010 on the petroglyphs and pictographs of *Maymand* discovered in *Lāshkorgūīyeh*, a natural cave located in *Khorrīn* Mountains to the north of *Maymand*². (Figs.22-23)



Fig.22
Eshkaft-e Lāshkorgūīyeh, general view



Fig.23
Eshkaft-e Lāshkorgūīyeh, view from inside the cave

Maymand pictographs and petroglyphs indicated an older date for the settlement history in *Maymand* than the date attributed to the foundation of the village itself.

2. M. Naseri Fard has conducted a comprehensive study of the pictographs and petroglyphs of Iran. Results of these studies are available on www.Homayen.com.

It seems that *Eshkaft-e Lāshkorgūyeh* was a holy place in the past. A rock slip measuring 4 x 0.50 m that had probably had a sacred and divine, might point to this fact that it had functioned as a reproduction rituals. Traces of human body rubbing practices are visible on the rock surface. (Fig.24)

Fig.24
Rock Slip in Eshkaft-e Lāshkorgūyeh



More than 100 pictographs were discovered in the area. Most of them are symbolic with dot motives dominating the patterns in black, red and orange. According to the studies, those in black color are the most ancient ones dating to 6th millennium B.C. Red pictographs can be dated to about 2300 B.C. due to linear pattern in them.

In front of the cave's entrance there are scattered rocks with petroglyphs depicting ibexes (more than 60 cases). These seems to be older than the pictographs since they were easier to create with more simple tools and show simpler designs with lower artistic technical skills needed.

In sum, these can be dated to different times; nevertheless compared with other similar examples found in his area and in other parts of Iran, they can be as old as 10th thousand B.C. Unfortunately these important items are endangered by different agents, mostly by human and natural factors. (Fig.25)

Fig.25
Traces of fire burning near the pictographs
It has damaged some of the pictographs.



Significant pictographs of Maymand include:

- 1- Two direction-finder motifs/designs (showing four main directions) similar to examples found in *Timareh* (Iran), Switzerland and England. (Fig.26)



Fig.26
Direction-finder motif

- 2- A birth-giving scene that is the first and only pictograph in Iran depicting this event. It is comparable to a petroglyph found in *Timareh*. (Fig.27)



Fig.27
Birth-giving scene

3- Dot motif pictographs those are multi-functional. Black and red dotted pictographs have been discovered in the area. (Fig.28-29)



Fig.28
Black cross-shaped dot motif pictograph; it might be a direction-finder pointing to main four main directions



Fig.29
Two rows of dot motif designs; it might represent 12 months of the year

4- Arrow-shaped pictograph (Fig.30)



Fig.30
Arrow-shaped pictograph

5-Cup Marks: A rock is located in front of troglodytes, with 15 carvings have been created in a close distance from each other. These carving are known as cup marks and have had different functions such as grinding dried leaves and seeds, extraction of sacred plants or pouring the extracts inside them for performing rituals and religious ceremonies. They might also represent constellations; connecting a group of them resembles one. (Figs. 31-32)



Fig.31
A cup mark in the edge of the slipping rock that might have functioned as sacred plant (Hum) holder



Fig.32-
A Rock with different cup marks; connecting them together resembles Ursa Major constellation

Appendix IV



A Comparative Study of
Handicrafts in the
Historic Village of
Maymand

Appendix IV

A Comprehensive Study of Handicrafts in the Historic Village of Maymand

This study is to review the handicrafts of the village such as blacksmithing, tools of farming, leather and *Pustine* (sheepskin), clothing, spinning and dyeing, stone carving, carpet weaving, cloth weaving, *Kilim* weaving (a small coarse rug), *Gīveh* making (light cotton summer shoes), carpentry, felt making, weaving *Band-e-Tombān* (drawers' string making-used traditionally instead of a belt), swaddling-band making, *Pelās* making (thick piece of cloth used in tents) and *Pardeh-Dashtī* making (a kind of curtain made of *Esfand's* seeds and color cloth). This includes the work's history, introduction of the producers, production processes, introduction of the employed tools and materials, methodology, trainings, rehabilitative efforts (to revive these local crafts) and the innovations made within the modern ways of their production. The following is a summary of the report. The methodology is not mentioned in the summary, for its technicality and local terminology. It is only mentioned briefly at "Leather & *Pustine*".¹

1.

1- Blacksmithing

History

Blacksmithing was traditionally done by the gypsies who passed by the village. The blacksmiths workshop used to be in *Kīcheh-Abbās-Fath*. Ali Shah *Karam Foyuj*, *Sa'adollah Foyuj* and *Kheyrollah Foyuj* were among blacksmith gypsies. Blacksmithing suffered a long period of regression before it was revived by the establishment of the MCHBase making the craft to flourish again.

Artisans: The late *Reza Ebrahimi*, *Ali Fatehi*, the late *Abdolkarim Zeinoddini*

Apprentices: *Ali Yazdi*, *Enayat Bagheri* and *Moslem Ebrahimi* (Fig.1)



Fig. 1

The late artisan Abdolkarim Zeinoddini and his apprentice

Blacksmith Tools

Among the tools traditionally used hammer, anvil, nail mould, blade, tongs, ramrod, nail extractor, blower and cloth can be mentioned. (Figs.2)



Productions

Smithy productions include *Choft* (a metal ring), *Pā-Choft* (an iron chain attached to a door leaf which is locked into *Choft*), *Bahreh* (a flat and broad spoon), gun barrel, *Kowch-Līsū* (a device to carve wooden spoons), bread pan (a round and fairly deep plate on which bread dough is spread and put on fire), knife blade, tripod and metal nail. (Figs.3)



2- Agricultural tools

History

In addition to gardening, the agriculture of *Maymand* is bound to growing wheat, barley and legumes like lentils, peas and mung beans. Many tools were once used for each purpose in agriculture, but nowadays they are mainly replaced by tractors.

Agricultural tools

Garjīn (thrasher) is a tool for stack threshing tied to a cow. It has several parts (such as arm, plate, yoke, dragging part, pin and bench) which is elaborated in the main report in detail, *Khīsh* is a tool to plough narrow pieces of land composed of two parts of *Ejdār* and *Noghārom*, *Owchīn* is used to winnow wheat or barley, saddle, saddle-like saw, types of shovel like: *Kaft* (a small shovel used in gardening) and *Bīlko* (a small dibber for finer diggings), *Kemū* and *Kemūdāneh* (two types of sieves the former of which is used to winnow wheat and barley while the latter is used to separate the tender crust of wild almond), *Kolukh-kū* (a mallet to crush clods) and *Kūtīnū* (a tool for winnowing grains) (Figs. 4)

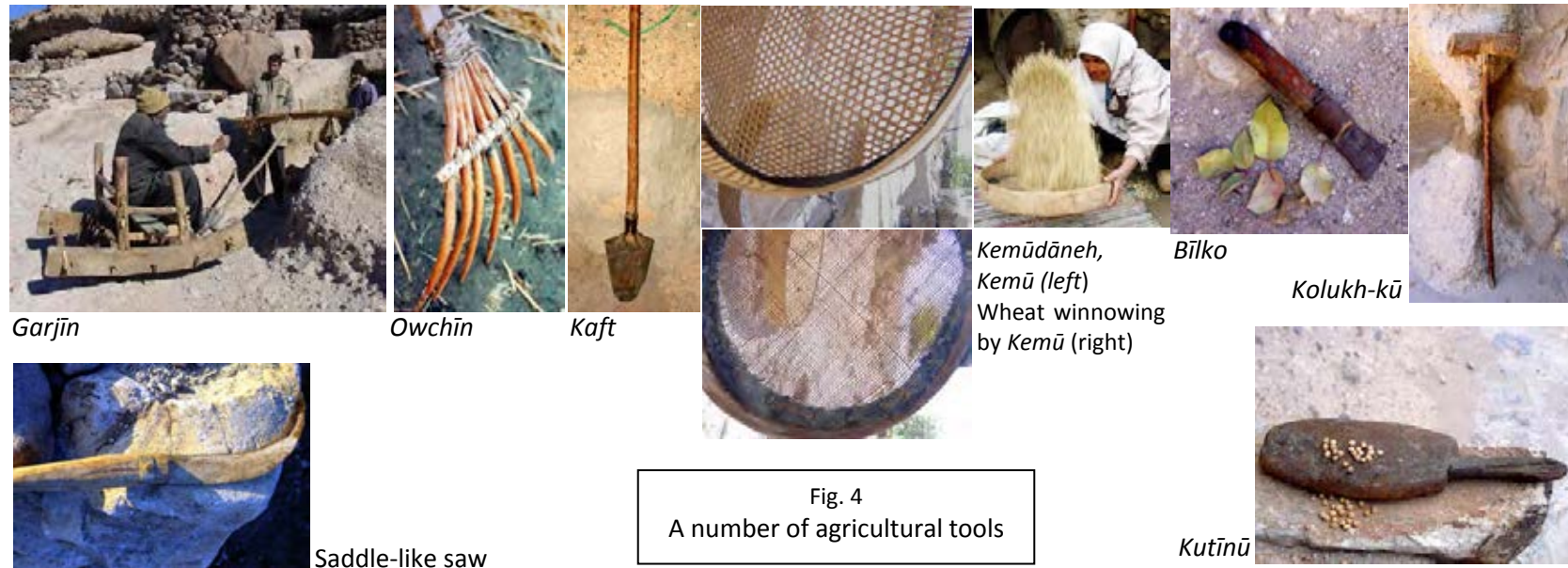


Fig. 4
A number of agricultural tools

3- Cattle Breeding

History

Cattle breeding is still an important occupation and source of income for villagers.

Cattle Breeding Tools

Tūgardū (a metal or wooden ring to fasten the animal's foot), *Kareh-Gīrī* (a cane-like tool to separate lamb from mother), *Dokārd* (a kind of scissors for sheep shearing), *Ālak* (a piece of wood put into the mouth of goat's kid to prevent suckling) and *Jāleh* (a triangular piece of cloth tied round the ewe's belly to prevent suckling) (Figs. 5)

Figs.



Wooden and Metal *Tūgardū*



Ālak



Jāleh



Dokārd

4- Leather and Pustine (Fur Cloak)

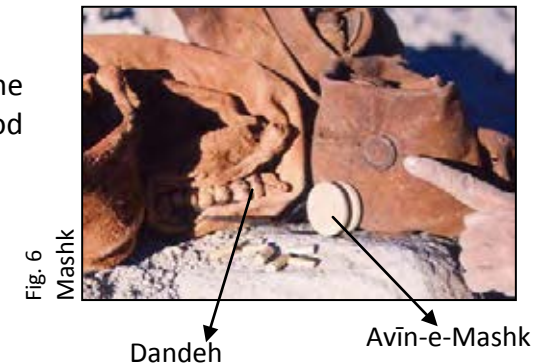
History

Considering the flourishing condition of cattle breeding in the region, the villagers are normally able use animal skin to produce their everyday equipment.

Tools

Types of knives, *Dandeh* (small pieces of date stone or grapes stick to fasten the end of the water-skin), *Mūdī* thread (thread woven from goat's wool), *Avīn-e-Mashk* (a piece of wood usually of grapes vine to cover the water-skin's opening)

They also use ash, *Beneh* leaves, *Mar* root's coating, alum, salt and barley flour. (Figs. 6)



Skin Preparation

Having separated the skin from the sheep's corpse, all skin holes are covered. Then, the skin is filled with ash for five days so that the wool's roots are weakened and removed easily. The skin is soaked into a mixture of water and wood ashes afterwards. Finally, salt is poured on the skin and the wool is removed by a knife (*Kārd-Keshī*). (Fig. 7)

For further strengthening of the skin, it is soaked into a mixture of water and mashed dry *Beneh* leaves for another day.

Mar root's coating, *Ghoms* and *Archan* roots are used for dyeing. A special soil (*Dūshāb* or *Dūqū* soil) is added to the dye to colour the skin totally black.



Productions

1- Types of *Mashk* (skin):

Mashk-e-Spār (used for keeping *spār*, the fluffy side of skin forms the inside of *Mashk*. The end is fastened by *Dandeh*), *Mashk-e-Ow* (used to hold water, the fluffy side of skin forms the outside of *Mashk*. The end is fastened by *Mūdī* thread.), *Mashk-e-Zenā* (a large *Mashk* for *Maskeh* (butter) production, similar to *Mashk-e-Spār*), *Dūqdūn* (a small *Mashk* of goat's skin to hold *Dūq* (diluted yoghurt)) (Figs. 8)



Fig. 2, 8
Leather productions

2- *Hamāneh* and *Hamyān*:

Hamāneh is a large leather sack to hold grains and aliments. It is whitened by a paste of salt, alum and white flour.

Hamyān is a small leather bag once used to hold documents. (Figs. 8)

3- **Ketūr**: A small pail to hold black mulberry made from old *Mashks*. (Fig. 9)

4- **Dalv**: A leather pail made from old *Mashks* used to draw water (or soil) from a well.

5- **Sunshade**: A hand-made leathern sunshade worn over the forehead to avoid sunshine. (Fig. 10)



Fig. 9
Gathering black mulberry in *Ketūr*



Fig. 10
Sunshade



New types sunshades

6- Clothing

Full explanation at "Clothing" chapter 2

7- Spinning and Dyeing

* Spinning

History

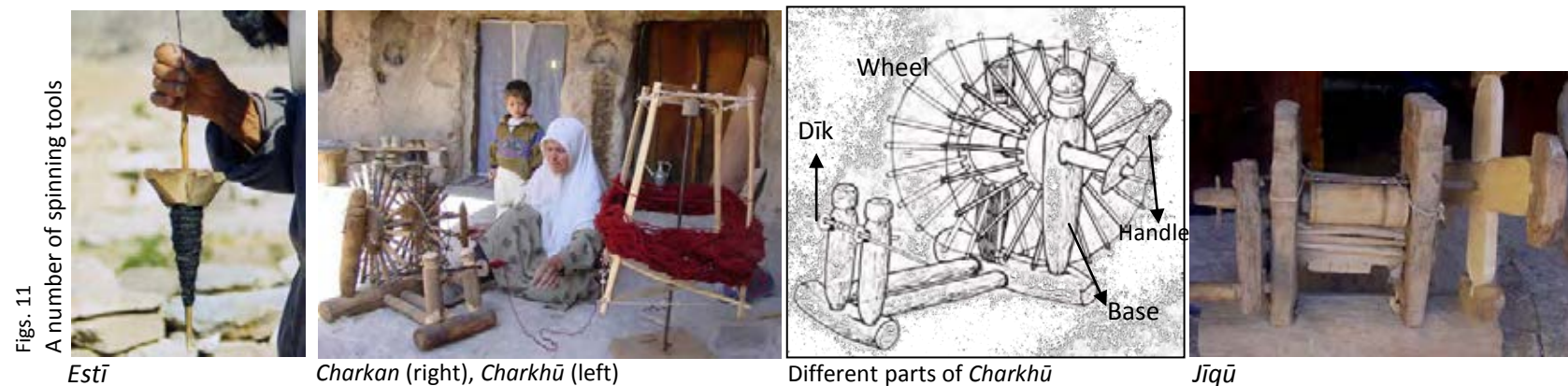
Spinning is regarded as the villagers' occupations as the raw materials (goat's hair and sheep's wool) are still available. Recommended by MCHBase, production of *Estī* and *Charkhū* as a source of income has newly started by the artisans of the village.

Artisans

Abdollah Zeinoddini, *Ali Khan Zeinoddini* and his brothers *Abbas*, *Hashem* and *Ali Reza*, now, *Ali Zeinoddini*, son of *Abdollah Zeinoddini*, has been collaborating with the Base for four years in *Mūd* spinning.

Tools

Estī (a device for spinning, the smaller type is used for sheep's wool spinning while the larger type is used for spinning goat's hair. It has two parts of *Mīleh* and *Chahārpāreh.*), *Charkan* (a tool for opening the skein), *Charkhū* (a tool for cotton and wool thread spinning), *Jīqū* (a wooden wheel to separate cotton from its seeds) (Figs. 11)



Figs. 11
A number of spinning tools

Estī

Charkan (right), *Charkhū* (left)

Different parts of *Charkhū*

Jīqū

Productions

There are types of woven rope such as *Gīs̄bāf* rope, *Morbāf* rope and *Eshkālū* rope made from goat's hair with several usages in fastening and also as *Tūbreh* (feed bag) string. (Figs. 12)

*Dyeing

History

About 200 years ago, a man called *Hassani* set up a dyeing workshop. Two vats were used in the workshop to dye types of thread, unbleached calico and canvas. All sorts of pigmented herbal dye except for blue family could be found around the village. The workshop ceased working after a while for some specific reasons. Thereafter, villagers began dyeing for themselves. Today, carpet and *Kilim* weavers procure their colored threads from *Shahr-e-Babak* and there are only the felt makers who make their own dyes. They use some 'inky' type of dyestuff which is not much durable or lucid.

Tools

The tools are a dyeing tub (a large copper container with a hole in the bottom to drain the dye) and a wooden rod to stir up natural dyeing substances such as walnut skin (brown), madder (red) and turmeric (yellow). Previously, they used *Keīyā* (taken from burning of *Oshnūn* plant) as a dye stabilizer. Now, *Tarf* (dried black curds) is used for this purpose. (Figs. 13)



Fig. 12
Rope usages



Figs. 13
Wool dyeing by the late felt maker Tayebi – Left
Drying dyed threads - Right

7-Cloth Weaving (Kār-Bāfi)

History

Cloth weaving has been among those useful arts and crafts of the people of *Maymand*. Clothing, tablecloth and wrapper for beddings (*Chādor-Shab*: a large thick piece of patterned cloth to wrap mattresses, pillows and bedding tidy) which are of the living necessities were the productions of this craft. In 2006, two local experts – trained by the cloth weavers of Maybod – have established a workshop in Mohammad Mahmudi's *Kīcheh* where there used to exit an old cloth-weaving pit (*Gowd-e-Kārbāfi*). (Fig. 14)



Fig. 14
Training of cloth weaving in Maybod

Artisans

Mainly consisted of women including Bibi Ebrahimi, Bibi Akbari, Soqra Ebrahimi and Habibeh Ebrahimi none of whom at the moment occupies this job anymore

Tools

The weaving machine is hung from the ceiling over a small hole in the ground in which the wooden pedals and feet are inserted (*Pāchālū*). The machine contains several parts such as: *Shāneh* (hackle), *Tūn*, *Tarmī*, *Mākū* (shuttle), *Māsūreh* (bobbin), *Pīshārū* (pedal), *Bālākārū* (wooden rod) and pulley. Full explanation of these parts is elaborated in the main report. (Figs. 15)



Fig. 15
Establishment of the cloth weaving workshop, weaving hollow – left, *Gowd-e-Kārbāfi*-Right

Productions

White canvas of cotton thread was dyed in different colors and used in clothes, tablecloths, sacks and handkerchiefs. Colored-woven *Chādor-Shab* was used as women's veil, wrapper for bedding and *Dolū* (a small cloth sack). (Fig. 16)



Fig. 16
Dolū of canvas – left
Chādor Shab – right

8-Carpet Weaving

History

As the villagers say, this craft does not date back to ancient times in *Maymand* but it was brought from the village of *Khātūn-Ābād* about 60-70 years ago. At present, the high cost of raw material and the low purchasing power of people have led this craft to decline.

Artisans

Zeinab Bagheri and Kheir-on-nesa Bagheri were the pioneer carpet weavers. Now, Sakineh Fathi, Salma Fathi, Sakineh Mahmudi, Fatemeh Bustani, Ameneh Asadi and etc. engage in this craft.

Tools

Horizontal weaving loom is small which is portable is used for weaving small rugs and doormats. These days, wooden looms are replaced by metal ones. Horizontal loom is composed of several parts such as: *Sardār* &



Fig., 17
Metal horizontal loom; in metal loom, warps are wrapped around a rod called *Fandak* (instead of *Sardār*)



Fig. 18
Knife and scissors of *Qorbatī* (made by gypsies)

Productions

In *Maymand*, a variety of designs and patterns are used in carpets such as *Nīm- Naghsh*, *Sūzanī*, *Makkehī*, *Būteh-Ketrī*, *Jangalī*, *Kheshtī*, *Botteh-Kaj*, *Leilī va Majnūn*, *Som-Gāvī*, *Barg-e-Goldanī* etc. (Figs. 19)



Figs. 19
Carpet designs from right to left: *Būteh-Ketrī*, *Kheshtī*, *Leilī va Majnūn*, *Barg-e-Goldanī* and *Kalaqī*

The carpets woven find different usages including: floor throws, *Khorjīn* or sack (surface of some sacks are made of rug) and *Kowcheh-Dān* or bag of cutlery (either both sides are made of rug or one side from rug and the other side from *Kilim*) (Figs. 20-21)



Fig. 20
Kowcheh-Dān



Fig., 21
Khorjīn

9-Kilim Weaving

History

Villagers have been familiar with *Kilim* weaving from ancient times. At present, Kilim weaving loom is set up at some houses for women to weave. *Kilim* is also regarded as a source of income.

Artisans

Salma Fathi and her daughter *Sakineh*, *Habibeh Morteza Zadeh*, *Ziba Ebrahimi*, *Ameneh Asadi* and others occupy this craft today.

Tools

Horizontal loom (formerly was composed of two wooden rods, now made of metal), knife, *Daftīn*, *Jowāl-Dūz* (long needle with a rather curved point used for thick *Kilim* weaving), *Kuāldūn* or *Kaf-Dastī* (wooden or iron, used for thicker *Kilim* weaving) and *Tamneh* (straight iron needle for weaving finer products). (Figs. 22-23)



Figs. 23
Wooden and iron *Kaf Dastī*



Fig. 22
Horizontal *Kilim* weaving loom

Kilim types are different depending on the material from which warp and woof are made which can be goat's hair (*Mūd*), cotton, wool or narrow cloth strips (*Rezheneh*). These include: *Kilim-e-Mūdī* (warp and woof are made of goat's hair which was more popular in the past), *Kilim-e-Pashmī* (either both warp and woof are woollen or warp is from cotton and woof from wool. The latter type is more common, though), *Kilim-e-Panbeh-ī* (warp and woof are of cotton), *Kilim-e-Lateī* (*Lateh* or worn out cloths were cut into narrow strips and used as woofs) and *Kilim-e-Kāmvāī* (woofs are of knitting yarns.) (Figs. 24)



Figs. 24

Kilim-e-Pashmī with a die-like design (right), *Kilim-e-Kāmvāī* with a striped design (middle), small *Kilim-e-Lateī* called *Makhshif* (left)

Productions

Similar to carpets, *Kilims* have different designs and patterns such as *Gol-Sharīkī* (partner flowers, due to the similar colors of the flowers), *Kalleh-Ghandī*, *Parreh-Estī* (like spinning spindle wings), *Gol-Bādāmī* (almond blossom) and etc.

Kilim has several usages such as: floor spreads, prayer rugs, *Kowcheh-Dān* or cutlery bag (its *Kilim* type is easier to make), salt container (cotton *Kilim* to hold salt), dried nuts container (a bit bigger than salt container), *Sofreh Ārdī*, *Tūbreh* (small sack to hold light objects. It has some different types such as: *Tūbreh- Spārī* which is made of wool to hold *Spār*, *Tūbreh-Poshtī* or *Torbeh* which is roped to the body), *Khorjīn* (donkey sack), *Khoreh* (a sack to carry fodder and small loads), *Kīseh-Khelāl* (small wooden nails to attach two *Khorehs*), *Kudī* (a sack bigger than *Khorjīn* and smaller than *Khoreh* to carry heavy loads), *Juāl* (a sack to contain flour), *Shāl-e-Olāq* (spread over donkey's back while carrying loads) and *Pāchūk* or cradle (spread at the bottom of cradle). (Figs. 25)



Right to left: *Shāl-e-Olāq*, *Juāl*, method of fastening *Torbeh*



Figs. 25

Right to left: *Sofreh Ārdī*, *Tūbreh-Spārī*, salt container, *Kīseh-Khelāl* and *Kowcheh-Dān*

10- Felt Making (Namad-Māli)

History

Felt making is an ancient craft of the villagers. Fortunately and after a period of 40-year decline, with the establishment of the MCHBase it began to flourish again.

Artisans

Late *Mehdi Ehsani*, late *Abbas Tayebi* and *Abdolhamid Ebrahimi*

Apprentices

Hossein Ebrahimi, *Hossein Gheshmian* and *Mohammad Zeinoddini*

Tools

Kamān (or bow for cotton beating and carding of wool; It includes several parts such as wooden rod, *Zerū* (rope), *Gowd* (leathern band), belt, *Tāb*, *Pas-Tāb*, *Pish-Tāb*, *Kelāv* (handle) and *Moshteh*), *Pashm-Bor* (wool shear), *Pīzūr* (mould), *Kelk* (a wooden piece to spread wool on *Pīzūr*), stool, *Dokārd*, cap mould, *Pishkār* felt (a simple plain felt spread on the floor), *Namad-Band* (rope of *Mūdī*) and *Tarkeh-Hallājī*.

In addition, wool (esp. coarser autumn wool), soap, brine and gum tragacanth are used for felt-making. (Figs. 26)



Figs. 26

Left to right: *Kamān* & *Moshteh*, *Pīzūr*, *PishKār* felt, cap mould and *Dokārd*

Productions

Various patterns are used on felts such as: *Gol-Bādāmī* (almond blossom-pattern), *Samāvarī* (samovar-pattern), *Ghors-Khorshīdī* (sun-pattern) and *Argehī* (Figs. 27)



Figs. 27

Felt produced is used in various types of garments such as *Abā-Namamd* (used as a cap or sunshade. Also, it is used to cover the head in the rain), *Baqal-Band* (garment with shorter sleeves than *Abā-Namamd*) and *Namad-Kūl* (worn by shepherds on the shoulders). Other felt productions are puttees, wristbands and caps. (Figs. 28)



Figs. 28

Left to right: *Abā-Namamd*, *Baqal-Band*, *Namad-Kūl* and felt cap

11- Stone Cutting

History

The first handmade stone-cut productions are the stone houses of Maymand elaborated in detail in Chapter 2. Using different stones found in neighboring mountains, villagers make various tools.

Artisans

Molla Ebrahim, Molla Abdollah, Molla Mohammad and Molla Mahmud used to work on gravestones. Now, encouraged by the MCHBase, Hossein Ebrahimi sells his own small handmade stone-cut vessels.

Tools

Rod or wedge, hammer, pick, adze and stone; Many different stones can be found around Maymand like: Granite, *Kākū* (a resistant stone cut into different shapes) and *Sowzū* (green stone) (Figs. 29)



Figs. 29

Left to right: *Kākū*, *Sowzū* and Granite

Productions

Pāshneh-Gardān stone (inside which door hinge turns), *Kel-e-Morq* (a bowl for chicken feedstuff), *kel-e-Ow* (a large and deep stone vessel to hold water near a spring), *Kel-e-Sang* (a vessel in which shepherds collect rainwater)², *Kel-e-Jokūyī* (to mash barley, meat etc.), *Kel-e-Dūshāb*³, *Sang-e-Dūdکش* (chimney stone), *Gadūn & Owerq* (two stone pieces, one is small and round, the other bigger and flat used for cracking the shell of walnuts, almonds etc.), *Joghan* (smaller than *Gadūn* to mash walnut kernel and spices), *Dastās* (hand mill), gravestone (two types of marble and black stone), *Sārū* (stone pan), tanning stone, weighing stone and fetters stone (to fasten the cattle feet) (Figs. 30-31)

2.



Figs. 30
 Left to right: *Pāshneh-Gardān* stone, *Kel-e-Morq*, *Gadūn & Owerq*, *Joghan* and *Kel-e-Jokūyī*



Figs. 31
 Left to right: *Sang-e-Dūdkehsh*, *Dastās*, black gravestone and new hand made stones

12- Saftū-Bāfī (Basketry)

History

The baskets and vessels woven from twigs and wickers of myrrh tree (or sometimes willow) are called *Saftū*. Weaving *Saftū* is now a source of income for the villagers.

Artisans

Reza Zeinoddini, Kheirollah Zeinoddini and Ghorban Mohammad Hassan were the elder basket weavers. Today, Hossein Ebrahimi, Akbar, Safar & Abbas and Ali Zeinoddini are doing this job.

Productions

Damī (for rice steaming), *Taghīh* (on which whey is dried), *Kot-e-Morgh* (a basket to keep chickens), *Gombar* (a tub-like basket to preserve foodstuff), *Lūdeh* (a basket to keep grapes) and other new productions encouraged by the MCHBase. (Figs. 32-33)

Figs., 32
Left to right: *Damī*, *Kot-e-Morgh*, *Lūdeh*, *Gombar* and *Taghīh*



Figs. 33
Samples of new productions

13-Carpentry

History

Growth of several trees like *Beneh*, quince, willow, *Mar*, *Senjet* in the village has encouraged people to make their own living tools and utensils.

Artisans

Since 200 years ago, the following people have been doing this job: Alireza & Abdollah Farsinezhad, Ali Hossein Molla, Mahdi Ebrahimi, Reza Zeinoddini, Hassan Fattahi and finally, artisan Habibollah Ebrahimi and his apprentice Hossein Gheshmian.

Tools

Double bladed saw, hand saw, adze, hammer, axe, hatchet, gouge, hand drill, *Chūb-Sū*, *Kon-Eshkāf* and new carpentry equipment

Productions

Various types of door, *Keleydūn*, *Kharbār*⁴, types of *Kowcheh* (wooden spoon), dough bowl, wooden *Ghābū* (yoghurt bowl), *Takhteh-Ashī* (pottage board) (on which some kind of noodle is produced for the pottages), *Tīrāsh* (a long rod to spread the dough), lectern for Koran, gunstock, types of *Kelāk* (a wooden rod with a curved end for fruit picking), *Eshkīl* (a long wooden rod used for fruit picking), shepherd's stick, *Gīveh* mould (sole), *Sar-Mashkī* (a type of funnel) and many other utensils. (Figs. 34)

4- Full explanation at "Architectural Elements", Chapter 2



Figs. 34

Left to right: multiple hooked Kelāk, Kelāk, pottage board, Tirāsh, Kowcheh for pottage & dough and new innovations of MCHB

14. Other Crafts

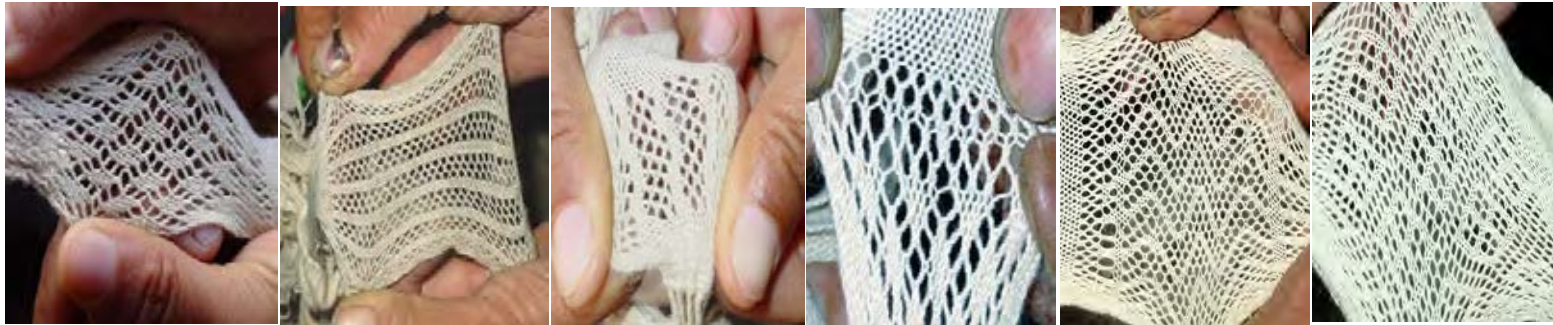
- **Gīveh-Chīnī** (making summer cotton shoes) is an ancient craft in the village comprised of three stages of *Takht-Keshī* (preparation of the sole), *Rīvār-Bāfī* (weaving the upper shell) and *Kamar-Kardan* (attaching the body to the sole) done by three individuals. Late Reza Ebrahimi and Ali Asadi are among the *Gīveh* makers who had the help of their wives in *Rīvār-Bāfī*. (Figs. 35)



Figs. 35

Rīvār (upper shell), *Gīveh*

• **Drawers' string weaving** was previously a part of preparation of men's and women's garments. For women, it was simple and fastened under the garment while for men, it was patterned. Using threads of cotton or *Ney-Ketreh* (short reeds); it was woven in various patters like: *Chādor-Pī* «*Kord-Bāqī*, *Ghalamdānī*, *Khom-e-Abrū*, *Changāl-Sagū*, *Kalākī* and *Tās*. (Figs. 36)



Figs. 36

Drawers' string patterns from left to right: *Kord-Bāqī*, *Ghalamdānī*, *Khom-e-Abrū*, *Changāl-Sagū*, *Kalākī* and *Tās*



Figs. 37
Swaddling band

- **Crocheting** has been practiced not only by women but also men including: Bibi Ebrahimi, Alireza Fathi, Nurali Zeinoddini and Amir Ebrahimi. Using crocheting needles and threads of cotton, wool or *Rezheneh* (narrow cloth strips), they make *Rīvār* for *Gīveh*, sweater, socks, waist shawls, book covers for Koran and *Gū* (kind of ball to play a local game). (Figs. 38)



Figs. 38
Gū and Koran cover

- **Pelās** is a coarse hand-woven cloth used as a tent or shelter in *Sar-e-Āqol* or *Sar-e-Bāq*. It has a long loom erected during spring migrations and summer time. It is woven by threads of *Mūdī* (black) and cotton (white). (Fig. 39)



Fig. 39
Pelās

- **Making decorative curtains** is among the handicrafts of the girls and women of *Maymand*. Based on the raw material used in these curtains, they are classified as: *Dashtī* (from fresh green wild rue seeds), *Korīk* (from the fruits of a type of rose called *Korīk-Baqī*), Damask Rose (from dried buds of damask rose) and varied curtain which is combined by *Saftū*. Colorful cloths are usually used to create more beautiful curtains. (Figs. 40)



Fig. 40
Types of curtain from left to right: Rectangular, triangular and circular *Dashtī* curtain, Damask Rose and mixed curtains.

- **Bookbinding** which was done years ago by the only clergyman of the village, Molla Mohammad Madih-ol-Maktabi *Maymandi*, on the books mostly in his own handwriting (Fig. 41)



Fig. 41
A binded book

Appendix V



Maymand and Health

Appendix V

Maymand and Health

The research titled “Maymand and Health” consists of several sections naming medicinal plants, traditional medicine and public health and nutrition conditions examination¹. More than 40 medicinal plants are introduced in the section on this subject. Their scientific, English and Arabic names, chemical composition, botanic characteristics, as well as their therapeutic usages are all explained using important related references and local therapies.

In section on traditional medicine, local treatments of common diseases (including stomach, head, kidney, hand, foot and tooth aches), diarrhea, fever and cold, breaks and spasms, wounds, burns, insects’ bites, women and children diseases are presented. Other local treatments with psychological and spiritual roots such as heating practice, *Tīq-e-Pākī*, *Halq-Dardī* (sore throat), *Cheshm-Zakhm* (including the function of *Pardeh-Dashtī* made Of *Esfand’s* seeds) are also explained.

In section on health conditions examination, effects of sun on skin scientifically known as photo ageing, as well as osteoarthritis are particularly discussed.

In section on nutrition, daily meal times, coldness and warmness definitions, basic food preparation such as dairy, bread, meat, pomegranate and grape preparations, food and drink recopies and local preservation methods of foodstuff are explained.

Below is a summary of the research on *Maymand* and Health.

1.This report was prepared in more than 150 pages in 2004-5 by M. Taghavi and her colleagues in MCHB (K. Eghtesadi and Ms. Tayyebi) and a number of local residents of Maymand especially Salma Fathi and Habibeh Morteza Zadeh.

Medicinal plants

More than 40 different types of plants including are introduced here. Some of these species include: Ālāleh, thymus, lavender, *Aklīlol-Molk*, fig, *Angūr-Bāū*, *Adūr-Sowsū* (holy thistle), almond, fennel, yarrow, *Parsāvosh*, *Beneh* (wild pistachio), black cumin, *Panārak* (common mallow), *Jadbā* (ginger), *Khākeshīr* (flixweed), marshmallow, cinnamon, curcuma, barberry, saffron, *Zoufā* (hyssop), *Salmeh*, fenugreek, licorice, clove, jujube, *Ghoms* (Kind of almond), *Ghantarān*, *Keserk*, *Kalpūreh* (Germander), nettle, borage, cardamom, fumitory, pepper, *Oshnūn* and *Semshūr*.

Some of these such as turmeric and *Qaranfol* (clove) are not local species and are bought for medicinal purposes:

Qaranfol

Scientific Name: *Dianthus barbatus*

English Name: Clove tree

Arabic Name: قُرْنِفْل أبيض (*Qaranfol-Abyaz*)

Local Name: *Qalamfor* (Fig. 1)



Fig. 1
Qaranfol

As recorded in old medical texts, petals of this decorative beautiful plant were used to make a kind of syrup and extract which was used to treat thirst in feverish patients. It was also good for the skin.

Usage in Maymand village: Here brewed *Qaranfol* is used to heal toothache or its seeds are place directly on tooth.

Zardchūbeh

Scientific Name: *Curcuma Turmeric*

English Name: Curcuma

Arabic Name:



Fig. 2
Zarchūbeh

Introduction
The purpose of this report is to provide a comprehensive overview of the current state of the industry and to identify key trends and challenges. This report is intended for use by senior management and is based on a thorough analysis of internal and external data. The findings presented here are based on the most up-to-date information available and are subject to change as more data becomes available. The report is organized into several sections, each focusing on a different aspect of the industry. The first section provides an overview of the industry, followed by a detailed analysis of the market. The final section discusses the implications of the findings and provides recommendations for future action.

Curcuma is a

Diarrhea:

Brewed marshmallow and *Ālāleh* is used to cure the diarrhea caused by warmness. If it is caused by coldness, brewed *Gol-Zardū* (yarrow)

Wounds and wound infection:

If the wound is the result of break (especially in the head) they cut a piece of sheep's hair, burn it and place it on the wound. Then frequently use yellow oil (ghee) and curcuma mixture to keep it greasy or soft. This practice causes the wound to heal. This method is locally known as *Polūsh- Dāq*.

To cure infectious wound, mixture of flour, yoghurt and grape extract is placed on the wound. They also put wild almond resin (*Jadū*) on the wound and then wrap it with a piece of cloth which works like modern band aids.

Children illnesses:

To treat oral thrush in babies, powdered or grinded *Odūr-sowzū*⁸ is placed on the spot.

To treat babies' body pimples or rashes, *Maymandies* put *Kalpūreh*⁹ in fire and then hold the baby skin in front of the fire. To treat Diaper rash, they soak *Kalpūreh* seeds and rub the resulted water on the spot.

Women illnesses:

Halq-Dardī:

In the past villagers dampened back of a copper pot and then would place the residue on the throat of the baby who suffers sore throat.

Cheshm-Zakhm:

Villagers pass fresh seeds of *Dashtī*



Fig. 3
Making a *Pardeh-Dashtī*



Figs. 4
Cheshm-Zakhm

Public Health Survey

Most of *Maymandies* elderly enjoy a healthy physical and mental condition. They usually live long and healthy due to physical activity, clean and fresh mountain weather, fresh and nutritious food substances. (Fig. 5)



Fig. 5
115 years old Bakhsh Ali believed the secret of his long life was eating the same kind of foods for all his life (he has recently deceased).

Personal health, especially oral care, is however in a weak status. Most of the villagers even young residents have decayed or missing teeth. Smoking is also very common among middle aged and elderly.

Joints pains:

One of major and common problems among elderly is joints pains especially in knee, hand fingers and waist area. Hard work and frequent and long-term pressure on the joints along with aging are major causing factors of what is scientifically known as osteoarthritis. In this problem, the cartilage between bones would gradually vanish and lack of this substance causes the bones to rub against each other in the joint area. Villagers use hand and foot bandages to heal their pain during cold weather and while working (Figs. 6)



Figs. 6
Moch-Band& *Pā-Pīch* (Hand and Feet Bandages)

Effects of Sun on the Skin:

Since *Maymandies* normally work in opens space and under sunlight, their skin has been affected by these factors. They have wrinkled, thick, yellowish and spotted skins (Figs. 7)



Fig. 7
Effects of sun on late Abbas Zeineddini's skin.

Nutrition

In general, *Maymandies* pay a special attention to nutrition and type of their consumed food whit taking the following factors in to consideration: the right proportion of coldness and warmness, season, need and body condition. Their average long age and health are supporting evidence to their proper life style and eating habits¹⁰. (Table 1)

Some Local Warm and Cold Foods	
Warm	Ābgarmū, Dūshāb, Zīrjūshū, Ghormeh and Sīr-ow-Beneh
Cold	Kashk and Espār

For those who are interested in preparing and consuming organic and natural food stuff as well as for new age travelers,

Basic Food

Bread

Due to a decrease in the amount of barley and wheat farming, most of villagers buy their required flour and wheat.

Bread Types

**Tāveh* Bread: thick bread that is baked on a *Tāveh* (a round metal plate) that is placed on top of fire.

**Tīrī* Bread: Dough of this bread is thinned and prepared using rolling pin (*Tīr*) (Figs. 8)

**Fatīr* Bread: This bread is usually thin and its dough is made without yeast.



Figs. 8

Baking *Tāveh* Bread (left), *Tīrī* Bread; thinning the dough using rolling pin (*Tīr*) and baking it on fire (right)

**Kornū* Bread: *Kornū* bread's dough resembles that of *Tāveh* but its baking method is different. It is baked inside *Kornū* oven measuring 1.5 m width and 80 cm depth, with two openings. The upper opening with 30-40cm diameter is used to put in and out the bread. The second one is located on the side of the oven and functions as air flowing agent. It is called *Dom-e- kornū* and has 15 cm width. The oven is built by stone and mud as mortar. To make fire, dried desert plants are collected, placed inside the oven and let. *Dom-e- kornū* is left open until the fire becomes short or as they call it gets *Khol*, when they close the opening with stone.

The dough is set on small pebbles that have already been placed inside the oven. Then they close the oven opening and wait for an hour. The *Kornū* bread is relatively 5 cm thick and 25 cm in diameter. There is one *Kornū* oven per each family in the village. (Figs. 9-10)



Fig., 9
Kornū oven



Preparing the fire



Taking bread out of the oven



Throwing pebble in the oven



Kornū bread

Fig., 10
Baking process

11. Refer to Toqoldiscussion in Chapter 2

**Komāj* Bread: *Komāj* is also baked in *Kornū* oven but its dough differs from that of *Kornū*. It contains milk, spices such as curcuma, fennel, black cumin, and thyme and it is usually baked on 13th day of Farvardin. For making a specific type of *Komāj* known as *Komāj-e Sahan*, flour of bean, wheat and barley sprout is added to normal flour. Sometimes it is also filled with walnut or dates. *Komāj-e Sahan* is usually baked midwinter (mid February).

Dairy Products

Milking start from early April and lasts until August. Extracted milk is filtered by passing through a cloth called *Shīrpalā*. Some of the milk is boiled for daily consumption. The rest of it is used for preparing other dairy products: (Figs. 11)



Figs. 11
Milking (left) and boiling milk (right)

**Felleh* (*Jatk* milk): some of the liquid that comes in the beginning of milking (known as *Āqoz*-foremilk) is put aside for the lamb and the rest is salted, warmed and eaten with bread.

**Maskeh*: After making yogurt they put some of it aside for daily purposes, the rest of it are poured into a musk known as *Zenā* (large musk); the remaining space of the musk is filled by blowing into it. They move the musk in a rhythmic movement backward and forward. After a while butter forms on top of the yogurt, this is called *Maskeh*. Some of *Maskeh* is poured in a bowl of water and is stored in a cool place (normally in a hole under the water musk) for a few months. The rest of *Maskeh* is melted and produces what is known as yellow oil (butter ghee). (Figs. 12)



Figs. 12

Blowing into the musk (left), putting some cookies and sugar cubes near the musk before beating (middle), shaping *Maskeh* into small balls (right).

**Kashk* and *Espār*: after making butter, *Dūgh* is boiled and whisk it with *Shabpū*¹² to make it thick. Then it is poured into *Torbeh-Espārī* 13. After distilling, it is removed and shaped into small balls. These are then dried under sun. The resulted product is a long-lasting *Kashk*. (Figs. 13-14)

12



Figs. 13

Dūgh or yogurt water is distilled; Kashk is shaped into balls and dried in the sun



Fig. 14

Whisking with Shabpū

Spices and plants such as clove, fennel, black cumin, cumin, fenugreek and nutmeg are added to the liquid in the *Torbeh*. The liquid is kept in *Torbeh* for 2-3 months for the *Espār* to get ready. *Espār* is usually becomes ready in late summer and early fall (Figs. 15)



Figs. 15

Torbeh with *Espāri* sticks to extract water from yogurt (left) and *Espār* (right)

**Tarf*: The water that has come out of *Torbeh* is heated and whisked until it hardens and gets brown. This is called *Tarf* which is also known as *Qare Qrut*.

**Chees*: fresh milk and cheese starter is poured into a cloth bag that is hanged to dry. Before that spices are added to fresh milk. Cheese starter or *Panīrū* comes from a lamb that has been fed with *Āghoz* for the first 4 days of his life and then has died.

Meat

**Ghormeh*: after cutting (*Torsāndan*) into smaller pieces, lamb meat is cooked for 2-3 hours. Normally it is cooked until all the water is removed and only meat, fat and bones remain. This is called *Oqūnī*. Then they put *Ghormeh* inside the lamb's *Eshkambeh* or



Putting bread in *Oqūnī* and *Ghormeh's* Fat



Cooking meat and bones



Torsāndan or cutting the meat



Preserving *Ghormeh* inside the belly



Ghormeh and Cooked Bone (*Parvāri* bone)

**Jegarū*: *Rītū* (intestines), *Gordeh* (liver and kidneys), *Eshkambeh* (belly), and *Sā* (lungs) are diced and cooked with a little amount of water.

**Chāl-Kardan*: this is cooking technique popular by the herders. They cook the lamb inside its skin and in a hole filled with hot ash.

Sometimes fresh meat is directly put on hot stone. (Fig. 17)



Fig.17
Cooking meat on hot stone

Grape

In midsummer different kinds of grape is consumed. Grape *Dūshāb*¹⁴ and paste (Rob) are two by-products of grape. *Dūshāb* is used in many different foods such as *Halvā*¹⁵ (*Dūshāb* is used instead of sugar), *Ārd-e Bereshteh* (fried flour and *Dūshāb*) and *Pī-Dūshāb* (*Ghormeh* fat, *Dūshāb* and spices such as black cumin and coriander).

To make grape paste (*Torsh-Angūr*), *Dūshāb* soil isn't used. So compared with *Dūshāb*, Rob is sour.

14 Full description is provided in Chapter 2, *Kel-e-Dūshāb* discussion

15 A kind of Persian sweet made from fried flour, oil and spices.

Local Foods

Like any other part of the country, *Maymand* has some exclusive special foods; some of them are introduced below:

Āsh:

Different types of *Āsh* are cooked depending on the available herbs of that season like *Jowbā* (with barley), *Sershū* (with *Sershū* herb), *Lakhshak* or *Torshak* (with *Torshak* herb), *Kowk* (with partridge meat) and *Bolmāj* (with flour, *Tarf* and herbs such as *Lisū* as well as spices) (Figs. 18)



Figs. 18
(Right to left) *Sershū*, *Jowbā* and *Reshteh Āsh*

Ābgarmū:

Diced potato and onion are fried using yellow oil. These are then cooked in water with tomato paste or sun dried tomato¹⁶, *Ghormeh* and spices like curcuma, cumin, and sometimes a little *Tarf*) (Fig. 19)

Fig. 19
Ābgarmū



16. One way to preserve tomato is sundry it after dicing and putting it under sunlight

Ow-Dāqū:

Ghormeh fat or yellow oil is heated and cooked with curcuma, cumin, *Tarf* and water. It is eaten with bread that is soaked in the dish's liquid.

Ow-Roqan:

Mixture of yellow oil, herbs and spices like curcuma, thyme, warm cardamom, rock candy is called *Ow-Roqan* and it is specially given to women who had just given birth.

Barnū-Sershū:

Sershū herb is boiled with *Ghormeh's* fat and *Ghormeh* itself. It is eaten with *Kashk*.

Pest:

This is fruit flour like berry and sea-buckthorn kept in musk¹⁷.

Pī-Sībū:

Ghormeh is cooked with potato and onion. The dish is eaten with *Espār*.

Changmāl (or *Choymāl*):

Yellow oil is heated, thyme and sugar (sometimes *Dūshāb*) are added, and then these are rubbed with hand and eaten.

Rīmālū:

Yellow oil and *Ghormeh* fat are spread on warm bread and eaten.

Zīr-jūshū:

This dish consists of water, yellow oil, *Ghormeh* fat, flour and spices such as black pepper, and *Parsāvosh*. Sometimes they add a few eggs into it as well. It is served with bread.

Kal-Jūsh or *Kam-Jūsh*:

Kashk is grounded and is cooked with yellow oil. Dried herbs such as *Talkhūnī* or mint and walnut are added to the mix. Then it is brought to boil and cooked for a while. It is served with bread (Fig. 20).



Fig.20
Kal-jūsh

17 Full explanation on Pest-Senjet is given in Ethno-botany Appendix

***Sīr-ow-Beneh* and *Gālū-Beneh*:**

Two local foods, these are explained in ethno-botany appendix VII

Qorbā:

Ghor-e-Sershū or *sershū* plant fruits are boiled. These are then fried and cooked with *Kashk* (Figs. 21).



Figs. 21
Preparing Qorbā

***Gūrmāst*:**

Yogurt and milk are mixed together. The mixture is eaten with some *Līsū* herb.

***Gūrdūq*:**

Doūgh and milk are mixed together. Herbs such as *Līsū* and *Talkhūnī* are added to it. The dish is eaten with bread.

***Nokhod-Pokhtū*:**

Chick pea is soaked in water for half a day, drained and then heated until fried. Sometimes it is placed directly on fire. This process is called *Balel* (Fig. 22)



Fig. 22
Balel-kardan of Chick Pea

Local Cooking Methods

Ker-Kardan:

Clods are arranged in form of an about 30 cm height mound in the farm or desert and then it is let with fire. After fire gets low, potato, turnip, etc. are placed on top of fire and then covered with more clods until vegetables are completely cooked. In the past egg was cooked in ash rather than boiling in water.

Pokhtū-Kardan:

Cooking vegetables with water (Fig. 23)



Fig. 23
Pokhtū-kardan of turnip

Drinks

Most foods are in liquid form. In addition villagers brew some herbs such as thyme, pepper, cardamom, and *Ālāleh* with tea or alone and consume as drink or medicine.

Local Traditional Food Preserving Methods

Due to their living style, villagers need to preserve food stuff using traditional techniques¹⁸ in form of sundried items, *Ghormeh*, pickles, paste, *Chāl-kardan* or *Ker-Kardan* and *Bolūk-Kardan*.

Sun drying is one of the most popular methods used to preserve fruits and vegetables (like walnut, berries, almond, tomato, thyme, *Ālāleh* and *Līsū*) and dairy products (like *Kashk*).

Bolūk-kardan:

Branches of fruits and nut trees (like walnut or pomegranate) with a few fruits on them are hanged to dry (Figs. 24).

To preserve and cool water, it is poured into musk or Mashk-e-Ow¹⁹.



Figs.24
Bolūk-kardan of Walnut pomegranate

¹⁸ Today however, modern cooling facilities such as refrigerator are widely used by the residents of troglodyte *Maymand*

Appendix VI



Ethnobotany

Appendix VI

Ethnobotany of Maymand Village

Ethnobotany of *Maymand* Village research introduces 100 plant species which names are identical to their local names and includes plants English names, scientific explanation, local recognition, usable section and also therapeutic usages (human and animal), food, handicrafts, architecture, beliefs, local faith, poems and proverbs utilization. Additionally, more than 40 local plants with various utilization will be introduced which are not yet scientifically studied. In this regard, tables regarding plants local, scientific and English names are provided with 40 plant species as following:¹ (Figs.1)



¹ . Maryam Taghavi Shirazi along with Anthropology Research Center, Abdolbaset Ghorbani and the cooperation of MCHHT Base (Leila Sadeghi, Salma fathi, Kiarash Eghtesadi) and some of village local people provided a report of more than 300 pages in 2007-2009.

	Scientific Latin name	Local name	English name
1	<i>Achillea eriophora</i> DC.	Gol-bowdū	-
2	<i>Achillea wilhelmsii</i> C.Koch.	Gol-zardū	Lavander cotton
3	<i>Adiantum capillus veneris</i> L.	Parsīyāvoshān	Maidenhair
4	<i>Alhagi persarum</i> Boiss.&Buhs	Ādūr-sowzū	Camel's-thorn
5	<i>Allium cepa</i> L.	Līsū	Onion
6	<i>Amygdalus eburnean</i> Spach.	Qons	-
7	<i>Amygdalus erioclada</i> Bornm.	Archan	-
8	<i>Amygdalus scoparia</i> Spach.	Mar	Mountain almond
9	<i>Berberis vulgaris</i> L. <i>Berberis integerrima</i> Bge.	Zereshk	Barberry -
10	<i>Capparis spinosa</i> L.	Kavar	Common capers
11	<i>Carum carvi</i> L.	Zīreh	Caraway
12	<i>Chenopodium album</i> L.	Salmeh	Lamb's squarters goosefoot
13	<i>Colchicum speciosum</i> Steven.	Kalghāshk	-
14	<i>Crataegus microphylla</i> C.Koch	Zālzālak, Kelkūhī	-
15	<i>Echinops robustus</i> Bunge.	Khartīizak	-
16	<i>Elaeagnus angustifolia</i> L.	Senjet	Oleaster
17		Sershū	-

	Scientific Latin name	Local name	English name
18	<i>Ferula assa-foetida</i> L.	Anqozeh	Asafetida giant fennel
19	<i>Ferula Ovina</i> Boiss.	Kemā	-
20	<i>Geranium stepporum</i> Davis.	Pan-kalāghū	-
21	<i>Glycyrrhiza glabera</i> L.	Makī	Common Licorice
22	<i>Gundelia tournfortii</i> L.	Kangar	-
23	<i>Lamium amplexicaule</i> L.	Ostokhodūs	Henbit dead nettle
24	<i>Mentha longifolia</i> (L) Hudso	Pūneh Pūdeneh	Horsemint Hairy willow weed
25	<i>Nepeta glomerulosa</i>	Bāderanj	-
26	<i>Onopordon acanthium</i> L.	Qāsedak	Cotton thistle
27	<i>Peganum hermala var. hermal</i>	Espanđ	Syrian rue
28	<i>Pistacia atlantica ssp. Kurdica</i>	Beneh	Mount Atlas pistachio
30	<i>Plantago major</i> L.	Kowchak	Great plantain
31	<i>Punica granatum</i> L.	Anār	Pomegranate
32	<i>Rheum ribes</i> L.	Rīvās	Rhubarb
33	<i>Sanguisorba minor</i> Scop.	Qantarān	Small burnet
34	<i>Scariola orientalis</i> (Boiss.) Sojak.	Chemzū	-
35	<i>Solanum alatum</i> Moench.	Angūr bāū	-

	Scientific Latin name	Local name	English name
34	<i>Scariola orientalis</i> (Boiss.) Sojak.	Chemzū	-
35	<i>Solanum alatum</i> Moench.	Angūr bāū	-
36	<i>Teucrium polium</i> L.	Kalpūreh	Cat thyme
37	<i>Tribulus terrestris</i> L.	Khārkhāsak	Land caltrops
38	<i>Vitis vinifera</i> L.	Angūr -	Grape
39	<i>Ziziphora clinopodoides</i> Lam.	Ālāleh	-
40	<i>Ziziphora tenuior</i> L.	Kākol-kūtī	-

Table 1
40 Plant species

Here is an abstract of the abovementioned report:

Ethnobotany is to study and recognize human and plant relation. Knowledge of one region plants will provide much information regarding people culture of the region. *Maymand* village with its troglodyte houses, *Aghols* and *Abadies* is a plant treasure of our country. Local people have experienced an ancient background of living with plants; they cure with plant leaves, flowers and resin; they make axes, hammer and *Dastās* (hand mill) from plant wood; they eat plant fresh leaves and put them into their *Āsh* (Persian vegetable soup); They take colors from plant roots and color wool and *Mashk*. They even use plants in their ceremonies and know many stories and poems about plants.

1- Wild almond



Fig.2
Mar trees

Figs. 3
Talkhū preparation



2- Breaking wooden shell with
Godon and *Averg*

Fig. 4
Talkhū with other nuts



Treatment

Jadū, wild almond resin, is used as a cure for different diseases. Grounded pea or wheat flour is mixed with *Jadū* and is put over the tooth while toothache. It is also used to cure cracks resulting from coldness on hands and feet. Additionally, *Jadū* is put in the water and then is put over the wound. Then the wound is covered with a cloth as the function of today band-aid. Its resin can be solved in water and used to form hair.

Handicrafts

Saftū-Bāfī is one of the important utilizations of wild almond. *Saftū* is a vessel or baskets woven from green narrow fresh flexible branches. Sometimes Willow brown branches are used to make *Saftū* more variable and beautiful. *Saftū* is in different forms according to its use: (Figs.5)



Figs.5
Saftū utilization

Kot-e-Morgh (Hen nest)

Iodeh for grape keeping

Gombar for grains, walnut and/or almond keeping

Other utilization

Mar root is used in carpet and Kilim rug red color preparation. Mountain almond branches are used to make *Kapar* and *Gombeh*.

Mountain almond resin or *Jadū* is used to fix and forming felt hat in felt weaving². (Fig.6)

Fig. 6
Hat forming with *Jadū*



2 . Complete explanation in handicrafts Appendix

2- Beneh

Scientific name: *Pistacia atlantica* ssp. *Kurdica*

Beneh or wild pistachio trees in south east of *Maymand* are growing in vast area. Variety of uses can be made from different parts of the tree includes wood, fruit, leaf and resin (*Beneshk*). (Fig.7)



Fig. 7
Beneh

Utilization:

Food

Its food is first blue green and then it becomes red. *Beneh* is used in different local dishes:

Sir-ow-Beneh or *Sir-ow*: Dry *Beneh* is grounded and rubbed with some water or squeezed (*Changmāl*) in order for the oil to come out of it. This oil is filtered so that the skin (*Kelīk*) is removed. Remaining oily water is eaten with fresh chopped bread and salt. (Fig.8)

Gālū-Beneh: *Beneh* is grounded, filtered and eaten along with bread and grape syrup or *Doshāb*.



Fig. 8
Sir-ow-Beneh

Treatment

Beneshk, *Beneh* resin, is good for toothache and foot cracks. (Fig.9)



Fig. 9
Beneshk

Other utilization

Mashk is put in the water mixed with grounded *Beneh* leaves and boiled in order to be fixed. (Fig.10)



Fig.10
Putting *Mashk* in *Beneh* leaves

3- Chellā

Scientific name

Fig.11
Chellā



Fig.12
Chellā root



4- Semsūr

Scientific name: *Acanthophyllum microcephalum* Boiss

Other local name: *Khārkop*

It grows in the end of the spring and its root is usable. (Fig.13)

Utilization:

Semsūr root is grounded and its powder is used to wash cloths. (Figs.14)



Figs.14
Root grounding and washing

Fig.13
Semsūr



5- Senjet (Oleaster)

Scientific name: *Elagnus angustifolia* L

It blossoms in April/May. Its fruit is gathered in September. (Fig.15)

Utilization:

Food

Senjet is among confectionaries and a kind of dish called *Pest-e-Senjet* is made by it. It is milled with hand (*Dastās*) in order for its *Dandeh* (core) to be removed. *Senjet* flour is put in a unusable *Mashk*. its opening is closed. It is put over a smooth stone surface and a heavy thing is put on it to make the inner content hard and in a shape of cylinder. It takes 6 month for it to get prepared. The *Mashk* is cut and chopped when is used. (Fig.16)



Fig.16
Pest-e-Senjet



Figs.15
Senjet

Treatment

When there is a fracture in human body, *Senjet* skin is used with wax or *Makkī* (licorice) resin as *Ātel* in order for the broken part to be fixed. *Senjet* skin is separated from the tree in parts and it is very hard and can be used as *Ātel*. (Fig.17)



Fig.17
Senjet skin

Appendix VII



Maymand Eco-Museum

Appendix VII

Maymand Ecomuseum

'Ecomuseum term is derived from French word Écomuséum. Éco is the brief form of Écologie which explains the relation of life organisms with the natural environment.

Therefore, Ecomuseum is a kind of museum which includes environment with life. Additionally, it pays attention to the relation of live creations with their environment (natural and social) in past and in present. It also makes a window to the future. Ecomuseum is an organization which pays respect to heritage, nature, history, culture and industry and protect and improve them. Its main goal is human in the priority and then cultural and natural heritage.

Ecomuseum is a special museum which is founded on the basis of compromise with local community for that place safeguarding. (Fig.1)

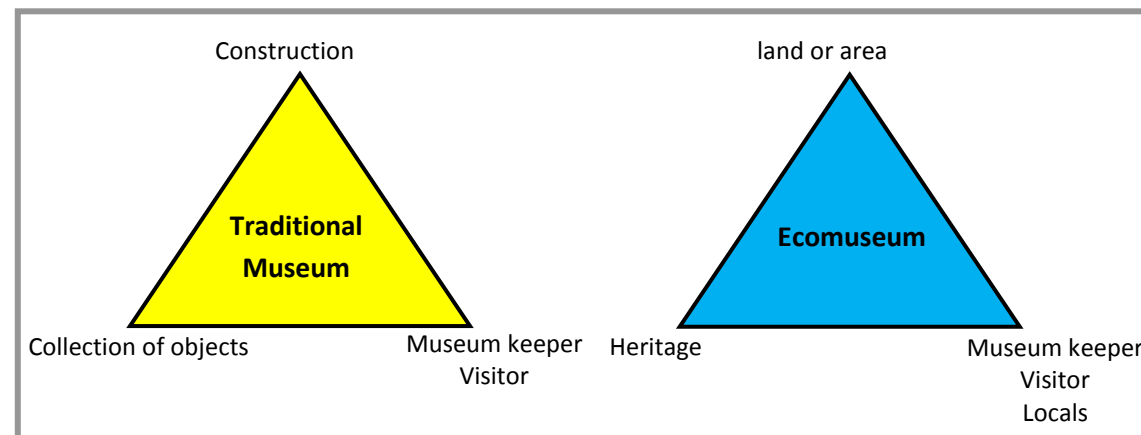


Fig.1
Difference between Ecomuseum and traditional museum

According to these explanations *Maymand* Ecomuseum can be called one of Iran future Ecomuseums as *Maymand* Cultural Heritage Base (MCHB) was able to help the village and absorb more tourists into the village with appropriate plans and also along with local people. MCHB can be called the core of Ecomuseum in future Ecomuseum'.¹

Zahra Habibizad in *Ecomuseum, Human and Environment* has introduced *Maymand* as one of Iran future Ecomuseums which is based on good cooperation between local people and experts.²

Professor Piter Davis, Museumology Professor of Newcastle University, England, is interested to *Maymand* village natural and extraordinary outdoor. Previously, he decided to edit his new book *Ecomuseums: A Sense of Place*, most complete source in this content in English,³ with a chapter specified for Iran. Therefore, Iran's name with explanation and photos of *Maymand* village will be published in March 2011 new edition. He believes *Maymand* village is the only place in Iran which took the right step towards being an Ecomuseum.

Hereby is what Peter Davis has written about Iran:

1 . Habibizad, Zahra (1389-2011)

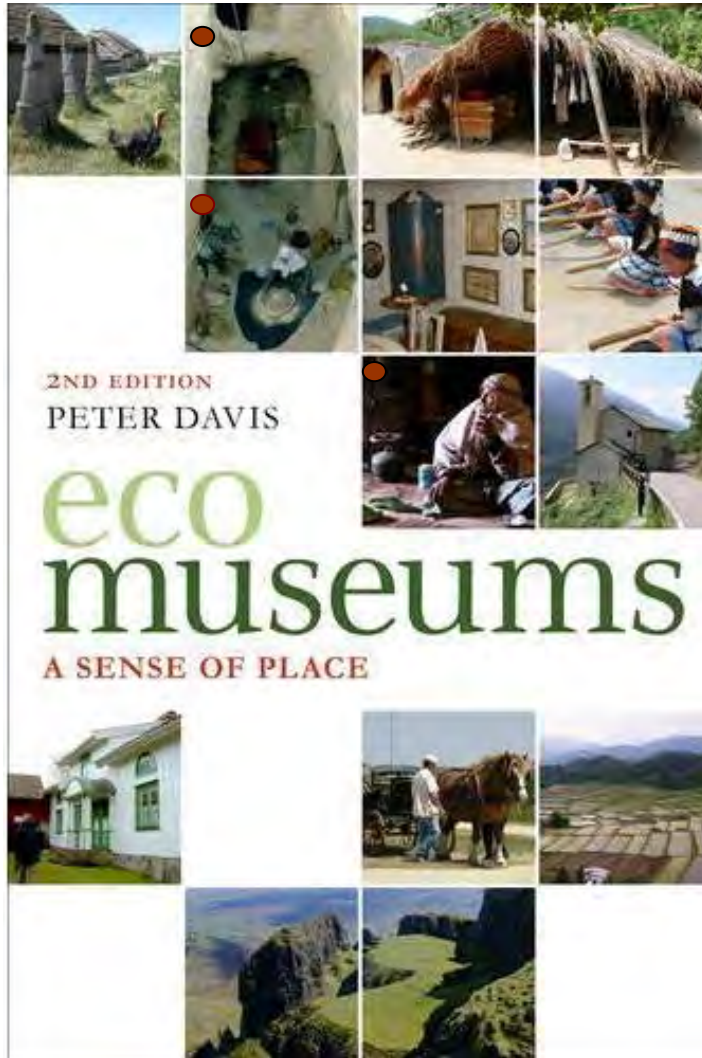


Fig. 2
 Second edition cover of *Ecomuseums: A Sense of Place*
 In upper part of the cover there are tree photos of Maymand Village

Ecomuseums in Iran

Habibzad (2010) examines the phenomenon of the ecomuseum in Iran, exploring its relationship to local identity. She demonstrates, using numerous examples, how the ecomuseum approach has enabled local communities to identify their own 'sense of place'. Although none of the sites utilise the name 'ecomuseum' (preferring 'cultural village') and have benefited considerably from 'top-down' professional expertise and guidance, they largely follow ecomuseum principles and processes. The first Iranian ecomuseums were created without governmental financial or specialist help, being supported entirely by non-governmental & personal investments under the name of the Khooshehsar-e-BodmGardi Network. This type of approach is somewhat unusual, as most ecomuseums are developed and managed as a joint venture between local communities and a local governmental (or quasi-governmental) authority.

The impact of ecomuseum activity, especially in terms of providing a boost to economic development, has been considerable. The ecomuseums in Maymand village (Kerman), Garmeh village and Kashan city (Esfahan), Chalarasr village (Mazandaran) and Ghasemabad village (Gilan) have encouraged local communities to act independently, becoming guardians of their cultural heritage and local ecosystems. Generating low-level tourism and economic well-being through the promotion of traditional crafts and local cuisine, the changes have done much to protect and enhance regional culture. Vernacular architecture has been valued, the rights of indigenous groups have been respected, and above all, local people have been given a democratic voice, becoming deeply involved with their own heritage.

Creating and operating an ecomuseum is not an easy task. The Iranian ecomuseums demonstrate the ways in which local people have acquired new skills, developing, for example, their negotiating capabilities to create influential networks, and the ability to plan strategically to deliver demanding projects. Such cultural capital is difficult to measure, but it is evident that it has grown significantly over the last few years; similarly the growth of social capital can be seen in the creation of new friendships and the sharing of experience and expertise. The success of the ecomuseum activities is difficult to measure, but there is good evidence that the projects thus far have promoted pride and self-confidence amongst residents, decreased social problems, discouraged emigration, and promoted training for young people in rural localities.

It is interesting to see ecomuseum-like approaches being adopted in areas, often rural, isolated or deprived, where traditional mainstream practices would sit uneasily. Conservation of natural and cultural resources need to go hand in hand with community development and sustainability. The ecomuseums in Iran have much in common with recent ecomuseum and community museum developments in China, Vietnam and Mexico; although they are rather 'top-down' and are oriented towards promoting cultural tourism, they nevertheless set guidelines for the ways in which communities can value, conserve and benefit from their heritage assets.

Maymand Historical Village

Maymand village ecomuseum is located some forty kilometers north-east of Shahr-e Babak city in the north west of Kerman Province. The site is famous for its troglodyte dwellings, caves carved out of limestone rock are the homes of local people during the winter months. In spring the people and their livestock move to Sar-e-Aqol on the lower plains; in summer and early autumn they migrate to Abadis where some forty simple stone houses are scattered in the fertile valleys in the vicinity.

An old school in the troglodyte village, partly carved into the rock and known as Kicheh-Mahdiha was repaired in 2001 is used as the ecomuseum headquarters. Maymand has received significant financial and professional support, enabling the formation of a library and documentation centre for the area. Comprehensive village surveys have focused on the identification of natural and cultural sites, village architecture, craft skills, literature and linguistics and traditional medicines. Developments to enable tourism have included guest houses and hostels, a small anthropology museum, a restaurant and craft workshops; considerable support has been given to encouraging traditional crafts, including felt-making, textile weaving, basket weaving and carpentry.

For tourists the area holds many attractions, including magnificent natural caves, fortresses, rock-art sites, water mills and outstanding natural history. There is some evidence that the development here is benefiting local people; they have been deeply engaged in the project and have acquired confidence in their abilities. Training provided by the cultural heritage team has led to many local people being employed as guides, researchers and facilitators. There has been a significant increase in the local population and a renewed effort to rebuild traditional cave houses. In 2005 Maymand was awarded UNESCO's Melina Mercouri International Prize for the Safeguarding and Management of Cultural Landscapes.

Appendix VIII



Maymand Region Flora

Appendix VIII

***Maymand* Region Flora**

Various plant diversities, from medicine and edible, to pasture plants are being investigated in this vegetation study of *Maymand* region. An abstract of the full report shall be presented bellow¹:

Differences in topographical features of *Maymand* have given rise to diversity of vegetations; such as heathy, arboraceous, pastures and mountainous ones distributed in residential sites, gardens and farms. (Fig.1)

North and north-western domains of the region have poor vegetations due to high slope and low-width soil. But the north eastern extreme has a suitable slope and good soil widths. Thus the diversity of existing plants has given rise to creation of mountainous germinations as well as of arboraceous and also almond heathies in flat areas. In the south and south-western parts, the dominant vegetations are those of mountainous shrubs growing in semi-dry conditions due to existence of Eboulis-cone sediments.



Fig.1
A view of the village; the river passing through and the dominant plant vegetation

1 . The report was compiled in 2005-2006 in more than 300 pages by Reza Ramzannejad Ghadi

Plant units of the region:

- 1- Arboraceous: Including *Beneh* (*Pistacia atlantica sub.sp mutrica*) in south-western and wild almond (*Amygdalus scoparia*) in the east and north-eastern parts. The latter has a more fertile soil and thus more diverse vegetation. (Figs.2-3)
- 2- Thorny Balesh-vash as well as shrub-like formations such *Gavan* (*Astragalus*). A greater part of pastures at the south and east of *Maymand* may be found side by side of these species. (Figs.4)



Fig.2
Beneh



Fig.3
Wild almond (*Mar*)



Fig.4
Shrub-like formations

- 3- Farming Lands: Dry farming exists restrictedly, as the majority of farming lands are close to *Qanats* and springs. Most plantations belong to those being more compatible with the region's dry weather and low-water deposits; wheat, grain, chickpea and potato for example.

4- Gardens: Gardens may be seen close to seasonal rivers, springs and *Qanats* in an irregular manner. Among most important garden-plants in *Maymand* one can mention almond, oleaster, wild plum, pear, apple, quince, pomegranate, grape, mulberry, walnut, barberry, and fig. (Fig.5)



Fig.5
Gardens

The inventory of plants (the flora):

An inventory including more than 150 plant species with their properties and application as well as with a brief comment on each has been already provided. Some photos of plants in *Maymand* are presented here: (Figs.6-17)



Achillea wilhelmsii (Gol-zardū) 6



Allium cepa 7



Amygdalus eburnean (Qons) 8



Colchicum speciosum (Kalghāshk) 9



Glycyrrhiza glabra (Maki)



Gundelia tournfortii (Kangar)



Echinops robustus (Khartīzak)



Eremurus Luteus (Sershū)



Rheum ribes (Rīvās)



Tribulus terrestris (Khārkhāsak)



Ziziphora tenuior (Kākol-kūtī)



Amygdalus eburnean (Qons)

Figs. 6-17
Some plant species

Investigation of aggressive and devastating plants in *Maymand*:

The influence of plants on historical and ancient sites maybe divided to two following categories:

1. Devastating effects;
2. Change of region's natural flora and producing an unfavorable and unhealthy landscape.

Both effects have been observed in *Maymand*, and in particular, aquatic seaweeds in the central river of *Maymand*, lichens (*Gol-e-Sang*), as well as some kinds of surplus- plants and shrubs should be noted among.

Elimination of these effects is possible through chemical methods or by cutting and eradicating and even burning them. (Figs.18-20)

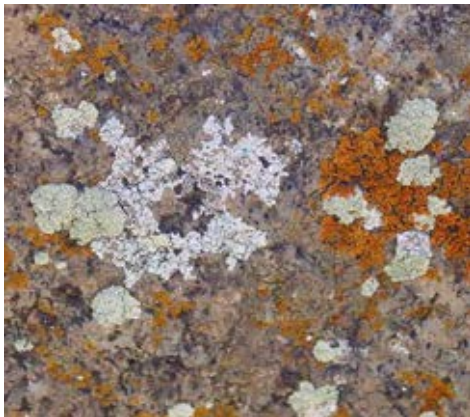


Fig.18
Lichens which could have destructive effects on stones and on walls



Fig.19
Aquatic plants could have precluding effects on water courses to produce unfavourable and unhealthy landscapes.



Fig.20
Almond and Beneh trees with their thick and branched roots capable of soil destruction

Indigenous Management:

Every thing one sees in the village, gardens and pastures, denotes on local people true managements as well as on their homogeneity and mental accommodation with the region's natural sources.

One can divide the managements into three categories:

1- Traditional managements in agriculture:

Among difficulties in the village agriculture, are shortages of water and rainfalls, semi-dry and cold weather, negative effects of destructive-nocuous vermin in gardens and pastures, low areas of plantable lands, lack of permanent rivers, and the low-level of under-ground waters.

One sees the traces of traditional management in following cases:

- Separation of human forces (gardening, watering and ploughing for men, and seeding, harvesting and winding [of product] for women);
- Restriction of plantable lands has prompted the shared-land-ownerships among natives.
- Dry and watery cultivation: The latter belongs to lands close to seasonal rivers and *Qanats*. For farer lands with dry cultivations, just one land becomes planted and the next one remains unplanted. This contributes to the soil recovery and its ability to reproduce its fertilizing materials.
- Pools as water deposits. Water divisions are carried out at dry seasons and according to each owner's area of the land (Example: Each part ("*Dāng*") of a 3200 m² land has a 24 hours right of water exploitations).
- Integration of under-cultivation lands to save energy, human force, seed, fertilizer and agriculture apparatus [saving money in short]. In this way, the process of plantation becomes integrated and the product becomes divided. This method is seen mostly in lands for chickpea cultivation.
- Plantation of lands alternating for the sake of soil enrichments.
- Stepped plantings in sloped lands of *Maymand* so as to increase plantable area and water penetrations, as well as to reduce soil's erosions;
- Soil enrichments by organic fertilizers brought from folds (animal excrements or bodies) or those bought from the city;
- Entering the cattle within the plantation-land after cropping, so as the left seeds to be come eaten and also the soil becomes enriched by their excrements (as organic fertilizer);

- Full using of land or garden spaces by planting such useful trees as oleaster and almond at their margin space or at garden borders;
- Confrontation with wild animals such as boar and crow by erecting scarecrows, or making colorful cloth-enclosures, or by flaming rubbish round the gardens.
- Increasing the qualities of products by grafting;
- Cultivation of tree and plant species with most economical efficiency (such as oleaster);
- Using trees as fuel is one of the most important causes of forest-lands-destructions. People of *Maymand* secure their needed firewood by cutting dried or damaged branches of wild almond or *Mar*; being itself a symbol of true indigenous management;
- People traditional believe about plants play an important role for their protection; for example, breaking trees' limb considered as a sine, or they plant a tree over their dead's tombs.

2- Traditional management of pastures:

Pasture owning and animal husbandry play important roles in the region's economy due to recent recessions in agriculture.

- Planted lands are welcomed by cattle after cropping;
- Shepherds bring cattle to different spots of the pasture alternating so as to give an opportunity for plants to grow once more;
- Natives of *Maymand* try to feed their cattle with dry provender or by buying provender in pastures.

3- Animal husbandry Managements:

Four-Phase nomadic life-style of villagers affects cattle's feedings; namely, they are being grazed in pastures in spring and summer, while at winter and Autumn, they are held unmoved and fed by dry provender, as well as leaves and other plants' limbs.

Plant exploitations in animal husbandry:

The plant known as Scarila Orientalis (*Chemzū*) is used for covering cattle's residents, which causes their urine penetrated into the soil and leaves excrements over it to be used as fertilizer. This, in addition, prevents the cattle's resident to become muddy and wet, and also prevents it from becoming smelliness and from outbreak of sicknesses.

Bee cultivation has also been successful in *Maymand* because of existence as well diversity of Medical and fragrant plants such as garden-thyme, *Gavan*, walnut, almond, grape, *Bīd* (willow), *Ālāleh*, milfoil and etc.

Appendix IX



Diversity of Living
Species of the
Historical Village of
Maymand

Appendix IX

Diversity of living Species (Fauna) of the Historical Village of *Maymand*

The region of *Maymand* has an invaluable reserve of living species' diversity according to field studies as well as existing and some of which are subjected to destruction. No doubt one appropriate programming and employing well defined managements.

Various species of mammalian, birds, reptiles, amphibian and fishes, as well as plenty of invertebrate species have been seen in the region of *Maymand* in the study or their existence have been confirmed according to scientific sources or on the basis of conversations with the region's experts¹. A number of living species shall be mentioned as follows:

Invertebrates:

Arthropods are among most important invertebrate identified in the region. Field studies have given rise to identification of various species of scorpion, tarantulas, ticks (*Acari*) and spiders (*Araneae*), as well as such insects as butterflies (Lepidoptera), beetles (*Coleoptera*), dragonflies (*Odonata*), *Mantodea*, Locusts, crickets (*Orthoptera*), *Heteroptera*, ants and bees (*Hymenoptera*). A number of them shall be mentioned bellow with their local names:

1-Tarantula (Order *Suligugae*), which in spite of its bizarre appearance and contrary to popular believes, is not a sever threat to human health. Two species of tarantula have been identified in *Maymand* which were active at night. They call it as *Ghavi-Tak* spider, as they believe that it is stronger than spiders. (Figs.1)



Fig.1
Two tarantula species in *Maymand*

1 . The report was compiled in 2004 in more than 100 pages by Reza Omid Paknia

2-Scorpions (Order *Scorpionida*), which have a long-three-parts body. A number of their species has been identified in *Maymand* (Figs.2-3).



Fig.2
Yellow scorpions (*Mesobuthus*)



Fig.3
Black scorpions (*Androctonus*)

3-Mantis (Order *Mantida*), which are relatively large-scale insect. The most important specification of them is their front legs which are deformed, fork-like and large, to be used for feedings and for defensive purposes. A species of them, called locally *Darvīsho*, has been found in the region which usually appears in agricultural lands in summer. (Fig.4)



Fig.4
Darvīsho



Fig.5
Parparū

4-Order *Neuroptera*, from *Myrmeleonidae* family, whose fully-grown is similar to dragonfly, but the head is completely stuck to the chest and the neck is not identifiable. (Fig.5)

Vertebrates

1-Fishes

Fishes exist in the valleys of the mountains round *Maymand* and even in a pond south of the *Maymand* village, in spite of the fact that existing water is not so eye-catching in its quantity. This has caused an attention of experts towards this species-enriched region. One should take seriously the conservation of general *Maymand* region waters as well as of Fishes species. Two species of fishes have been identified, both belonging to *Cyprinidae* families. (Fig.6)

2-Amphibian

Just one kind of toad with a scientific name of *Bufo Viridis* ("green frog", locally known as *Bak*) has been identified due to restriction of water sources in the *Maymand* region. It is usually found in cold and wet places. (Fig.7)

3-Reptiles

*Turtles (order *Tetudines*): Just one kind of Dry-living tortoise has been found in *Maymand*, with the local name of *Kāseh-Posht*, being scattered through whole of the country. The local villagers use the egg of *Kāseh-Posht* as a remedy for stomach and foot pains. (Fig.8)



Fig.6
Black Fish (*Capoeta*)



Fig.7
A toad in *Maymand*



Fig.8
Testudo perses species

*Order *Squamata*, as a sub-order of lizards (*lacertilian*), which may be found in various species due to their consistency with dry climates. Five species of *Agama* family have been identified in Maymand. White *Agama* lizard (*Trapelus agilis*), with the local name of *Kelīs*

Fig.9
White Agama lizard



Fig.10
Mār-Eshkālū



Figs.11
Left to right: *Scotocerca inquieta* Kamar-Kulīs and sparrow

5-Mammals

There exists a huge diversity of mammals in the region to which we refer shortly:

*Order *Isectivora* from hedgehog family, a kind of which, of Iranian type, has been observed, known as *Hemiechinus (Paraechinus) hypomelas* with the local name of *Jejūk*. For their feed they take snake and infant *Kelīs* [noted above], then hitting them firmly on their thorns to kill the victim. Then it is ready to be eaten. (Fig.12)



Fig.12
Iranian hedgehog

*Order *Carnivora*, from *Canidae* family, the wolf known as *Canis Lupus*: As many people in *Maymand* are engaged in animal husbandry, they cannot welcome wolves. Hunters are prized with *Kaleh-Gorgī* [“a head of wolf”] to be received after hunting a wolf or wolf cub. (Fig.13)



Fig.13
Chīrī-Gorg (a wolf cub)

Appendix X



Geographical Coordinates
and Population

Appendix X

	Name	Longitude	Latitude	Height	Population
Hamlets (Ābādīs / Sar-e-Bāgh)	<i>Pīsh Rūdkhāneh</i>	55°20'22"	30°11'24"	2099	5
	<i>Pādezh</i>	55°22'41"	30°12'48"	2150	9
	<i>Kahnamūr</i>	55°23'53"	30°13'45"	2267	1
	<i>Mowreng</i>	55°20'53"	30°18'29"	2664	19
	<i>Sarjang</i>	55°22'55"	30°15'09"	2407	2
	<i>Rezmalek</i>	55°23'21"	30°13'47"	2255	7
	<i>Poshtkor</i>	55°23'07"	30°14'22"	2296	9
	<i>Razar</i>	55°23'05"	30°14'30"	2296	6
	<i>Gharībān</i>	55°23'14"	30°14'37"	2305	6
	<i>Pūrāz</i>	55°23'27"	30°15'09"	2406	13
	<i>Kalmandūiyeh</i>	55°23'20"	30°15'25"	2432	14
	<i>Lākhorrīn</i>	55°21'53"	30°14'20"	2285	19
	<i>Dargūiyeh</i>	55°22'20"	30°13'18"	2111	10
	<i>Gozgestūn</i>	55°22'40"	30°13'02"	2166	8
	<i>Bonelā</i>	55°21'33"	30°14'58"	2423	17
	<i>Lelān</i>	55°22'28"	30°15'21"	2387	11
<i>Hadkonūiyeh</i>	55°22'38"	30°13'24"	2201	7	

	Name	Longitude	Latitude	Height	Population
Hamlets (Ābādīs / Sar-e-Bāgh)	<i>Lashkorgūyeh</i>	55°21'58"	30°14'32"	2260	43
	<i>Darebīd</i>	55°24'36"	20°13'23"	2313	20
	<i>Edāntīt</i>	55°23'17"	30°14'03"	2261	19
	<i>Bonedar</i>	55°21'33"	30°16'27"	2632	25
	<i>Bīskeh Rezā</i>	55°22'38"	30°12'45"	2153	5
	<i>Tilā</i>	55°23'14"	30°14'57"	2350	16
	<i>Darbaneh</i>	55°22'17"	30°17'19"	2550	37
	<i>Deh-e-shams</i>	55°22'29"	30°13'59"	2180	7
	<i>Deh-e-zāher</i>	55°22'32"	30°15'08"	2387	35
	<i>Rūgazū</i>	55°23'26"	30°13'37"	2231	40
	<i>Kal Hossein</i>	55°23'50"	30°13'45"	2281	10
	<i>Kemūchak</i>	55°21'56"	30°16'10"	2437	4
	<i>Lākhīs</i>	55°22'07"	30°13'45"	2248	2
	Folds (Sar-e-Āghols)	<i>Ṭālebīhā</i>	55° 20' 17"	30° 09' 29"	-
<i>Loṭfīhā</i>		55°23'37"	30°08'59"	1991	50
<i>Darkhānīhā</i>		55° 21' 56"	30° 09' 39"	-	48
<i>Mortezā</i>		55°26'17"	30°09'44"	2031	51
<i>Bakhshīhā</i>		55° 24' 01"	30° 10' 15"	-	35
<i>Hājī Ebrahim</i>		55° 22' 02"	30° 10' 05"	-	41
Dezh	Dezh	55°22'26"	30°12'36"	2197	-
	Sarkamar castle	55°22'46"	30°14'01"	2342	-

	Name	Longitude	Latitude	Height	Population
Watermill	Water Mill	55°22' 43"	30°1256	3173	-
	Water Mill	55°22' 15"	30°1210	2140	-
	Water Mill	55°22' 39"	30°1244	2148	-
	Water Mill	55°22' 27"	30°1240	2137	-
	Water Mill	55°23' 24"	30°1339	2238	-
	Water Mill	55°23' 03"	30°1301	2163	-
Cemetery	cemetery	55°23' 08"	30°14' 15"	2318	-
	cemetery	55°22' 28"	30°17' 18"	2546	-
	cemetery	55°23' 58"	30°15'37"	2466	-
	cemetery	55°22'26"	30°13'48"	2236	-
	cemetery	55°22'36"	30°13'32"	2199	-
	cemetery	55°22'36"	30°13'04"	2180	-
	cemetery	55°22'05"	30°13'31"	2240	-
Hoz	Hoz reza	55°19'16"	30°10'09"	2034	-
	Hoz hajiha	55°21'29"	30:07:04	1951	-
	Hoz sarta	55°23'25"	30°09'32"	2018	-
Grottoes	Eshkaft	55°22'06"	30°15'18"	2437	-
	Eshkaft	55°23'34"	30°17'54"	2667	-

Appendix XI



Slides

Appendix XI



01- General View of Cultural Landscape of Maymand



02- General View of Cultural Landscape of Maymand



03- General View of Troglodyte Maymand



04- General View of Troglodyte Maymand



05-Migration to Abadis



06-Migration to Abadis



07- View of Old Bath



08- Life in Troglodyte Maymand



09- Life in Troglodyte Maymand



10- Life in Troglodyte Maymand



11- Life in Āghols



12- Life in Ābādīs



13- Life in Ābādīs



14- Life in Ābādīs



15- Life in Ābādīs



16- A View of Troglodyte Maymand



17- Troglodyte Maymand



18- Life in Troglodyte Maymand



19- Life in Troglodyte Maymand



20- General View of Ābādī-ye Pīsh Rūdkhāneh



21- Āghols



22- Life in Āghols



23- Life in Ābādīs



24- Landscape of Pīsh Rūdkhāneh Valley



25- Traditional Life of Maymandis People



26- Traditional Life of Maymandis People



27- Traditional Life of Maymandis People



28- Traditional Life of Maymandis People



29- Traditional Life of Maymandis People



30- Traditional Life of Maymandis People



31- Traditional Life of Maymandis People



32- Traditional Life of Maymandis People



33- Traditional Life of Maymandis People



34- Traditional Life of Maymandis People



35- Traditional Life of Maymandis People



36- Traditional Life of Maymandis People



37- Traditional Life of Maymandis People



38- Traditional Cermonies in Maymand



39- Traditional Cermonies in Maymand



40- Sheykh Mahmud Madih-al Maktabi Emām Jom'e of Maymand



41- Felt-Makers



42- Felt-Making



43- Felt-Making



44- Vintage



45- Pastoralism in Maymand



46- Pastoralism in Maymand



47- Pastoralism in Maymand



48- Kel-e Dūshāb



49- Collecting Branches



50- Collecting Branches



51- Collecting Fruit



52- Children in Maymand



53- Children in Maymand



54- Troglodyte Maymand



55- Troglodyte Maymand



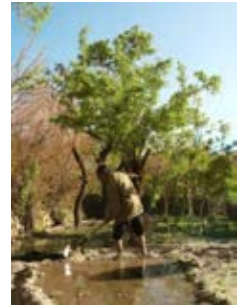
56- Life in Maymand



57- Life in Maymand



58- Spinning



59- Irrigation



60- Life in Maymand



61- Making Dūshāb



62- Baking Bread



63- Grinding Wheat



64- Making Mashk



65- Maymandis People



66- Maymandis People



67- Felt-Making



68- Fruit Collecting



69- Old Bath



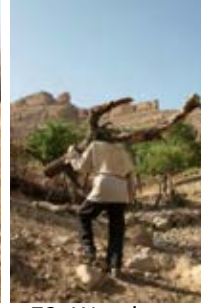
70- Lāshkorgūyeh Grottoe



71- Tīr-e Khorīn Montain



72- Water Collecting



73- Wood Collecting



74- Life in Maymand



75- Life in Abādīs



76- Life in Abādīs



77- Life in Aghols



78- Life in Aghols



79- Life in Aghols



80- Life in Aghols



81- Life in Troglodyte Maymand

Islamic Republic of Iran
Iranian Cultural Heritage, Handicrafts and Tourism Organization
ICHHTO

Additional Information for Nomination of
The Cultural Landscape of Maymand
for Inscription on the World Heritage List

UNESCO
World Heritage Convention
TEHRAN 2015



In The Name of God



Title	Page
Preface	3
Report 1 : Complementary Report for World Heritage Nomination of The <i>Cultural Landscape of Maymand</i> <i>Maymand</i> Cultural Landscape	11
Nomadism in <i>Maymand</i>	12
Sustainable Management of <i>Maymand</i> Cultural Landscape	14
Some of the measures undertaken by <i>Maymand</i> Cultural Heritage Base in 2013-2014	15
Statistics for the visitors to <i>Maymand</i> (2012-14)	20
The biannual budget for MCHB	37
The biannual budget for MCHB	39
Report 2 : History and Archeology of <i>Maymand</i>	40
History and Archeology Report	41
Photos and Maps of Report	50
Report 3 : Agro-pastoral Lifestyle - Descriptive and Comparative Study	66
Chapter 1- Description of <i>Maymand's</i> Agro-pastoral System	67
Introduction	67
Summary of the report	69
<i>Cultural Landscape of Maymand</i>	70
Migratory agro-pastoral system of <i>Maymand</i>	72
Tangible culture	82
Intangible culture	99
Self-sufficiency / domestic livelihood	107
Other aspects of <i>Maymand's</i> Culture	108

Title	Page
Chapter 2- Comparative analysis of cultural heritage values	109
Cultural heritage values	109
Comparative analysis	110
Global Scale	110
Regional Scale	123
Conclusion of the criteria for World Heritage Nomination	127
Maps	130
Report 4 : <i>Cultural Landscape of Maymand</i> Ecological Capability Evaluation	136
Ecological Capability Evaluation	137
Ecological land capability evaluation	142
Conclusion	149
Attachment	150

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In 2012 the nomination dossier of the cultural landscape of *Meymand* was submitted to UNESCO by the government of the Islamic Republic of Iran. It was reviewed at the 37th Session of the World Heritage Committee held in Cambodia and was added to the list of referral dossiers.

In order to respond to inquiries made by the World Heritage Committee, an emergency session was held in which representatives of ICHHTO, the Cultural Heritage Base of *Meymand* and the Bureau of Compiling Dossiers Nominated for World Heritage Registration participated. In this specialized meeting, all the controversial issues pointed out by UNESCO and ICOMOS were discussed and the required research topics were defined and prioritized. During the previous two years, all the reports needed were prepared and finalized with collaboration of relevant academic and scientific organizations and institutions of Iran. As a result, the subjects demanded by UNESCO have been included within the framework of the following reports:

-“Complementary Report of the Cultural Landscape Base of *Meymand*” has reviewed and discussed various issues including the concept of desert cultural landscape of *Meymand* aimed at making clear any potential ambiguities. In this report, the management Methodology and the approach taken for the cultural landscape as well as the activities conducted during the previous two years have been mentioned. General topics of the report include the concept of the cultural landscape of *Meymand*, seasonal migration within the cultural landscape of *Meymand* and sustainable management of the cultural landscape of *Meymand*; furthermore, a number of scientific programs and conferences as well as projects underway about the cultural landscape of *Meymand* **have been** introduced.

- The” History and Archaeology of *Meymand*” has been prepared in cooperation with the Department of Archaeology of the University of Tehran. In this report, the history of the cultural landscape of *Meymand* and its related territorial boundaries has been briefly discussed based on archaeological evidence as well as historical texts and findings.

- The report “Review of the subsistence system of (crop and livestock) farmers through comparative studies and analysis of status” includes: an introduction of the migrant farmer system in *Meymand*, a review of its seasonal migration calendar, an explanation of the material and spiritual culture of the cultural landscape as well as comparison of its subsistence system with similar examples in Iran and the world. Finally, working procedures have been recommended aimed at its sustainable maintenance and development. The report has been prepared with cooperation of the University of Natural Resources and Agricultural Sciences of Gorgan.

- The report on “Evaluation of the Ecological Potential of the Cultural Landscape of *Meymand*” has been finalized with cooperation of the University of Tehran. In this report, not only the concept of ecological potential has been defined but also the

vegetation type map of *Meymand* and its combinational units have been provided. Additionally, the ecological potential of the cultural landscape of *Meymand* has been described with relevant maps regarding: agriculture, forestry, management of pasturelands function, expansive and concentrated recreational function, as well as rural development function. All the above-mentioned reports have been submitted as attachments.



I. Fig. 1: Aerial photo of troglodytic village of *Maymand*

Preface

The *Cultural Landscape of Maymand* is located in the Western part of Kerman Province in southeastern Iran. The area is relatively concentrated (some 20 x 20km) on the southern slopes of Iran's central mountains, Mount *Shirkūh*, which surrounds the area on northern, western and eastern sides, and rises up to some 3000 m. The difference of altitude in the landscape area is about 1000m from north to south, providing diverse climate conditions to benefit living in the different seasons. It is an unspoiled region, which bears testimony to the different forms of interaction of man and nature living in harmony over millennia. Indeed, it is an exceptional and outstanding example of a cultural landscape, where 'three-phased' seasonal and 'inner' migration (transhumance) has continued to be practiced in the traditional form until today. While this type of lifestyle will have been common in many parts of the world, including Iran, it has been mostly lost, leaving only a relict landscape or individual elements often turned into museums. Therefore, *Maymand* remains a rare if not unique example still living.

The focal point in the center section of the cultural landscape consists of the troglodytic village of *Maymand*, representing a great variety of types of winter habitation, i.e. cave-like dwellings excavated into the slopes of natural depressions in the ground, thus also providing places for hiding in case of enemy attack. Following the seasonal movement of the livestock towards higher or lower altitudes according to requirements, the cultural landscape has grown to provide all the necessities to humans and animals. Indeed, the territory bears testimony to the gradual development of a great diversity of different types of shelters for humans and animals (*Sar-e-Āghol*) associated with a specifically adapted lifestyle. The area includes water sources (wells and *qanāts*) and gardens (*Sar-e-Bāgh*), means to provide for food, medicine, clothing, tools, and objects using locally developed techniques and handicrafts, and based on a thorough knowledge and understanding of nature and the ingenious use of natural resources. Consequently, the landscape can rightly be claimed as fully qualified to accept the title "Cultural Space", from an Intangible Cultural Heritage viewpoint.

The troglodytic village of *Maymand*, was inscribed on Iran's National Heritage Inventory of the Islamic Republic of Iran in 2001.

Here, all natural elements and their properties are known and understood; with especial attention to 'places' where they can be used, they are employed wisely and appropriately to meet human needs.

Based on the available studies and research, it can be stated that *Maymand* is a cultural landscape with Outstanding Universal Value due to its maintenance of cultural originality and uniformity, e.g. in the preservation of the traditional lifestyle and the three-phase migration, and its survival as an active and live cultural space. It encompasses both permanent (troglodyte village) and temporary architectural spaces and along with natural cycles, their residents spend time in three different natural environments.

Nomadic and migrating life style is a regular way of life in Iran due to its natural and climatic conditions which has been common in many parts of this country from Azerbaijan to the north to Fars in the south. The nomadic lifestyle however, lacks permanent architecture in the first place and or it is connected to permanent architectural spaces which are located in their village camps, between which nomads migrate in two phases during a year to spend cold and warm seasons. This style still exists in some parts of Iran, although affected by modern facilities and conditions. In other parts of the world, as far as studies have shown, no other site exists which encompasses, as a unified collection, all characteristics present at *Cultural Landscape of Maymand*. In fact, the uniqueness of *Maymand* resides in its encompassing a rich network of cultural elements that are not found together in any other cultural space. Few of such elements can be traced, sporadically, in some cultures, but they never form a unified set to direct towards a determined cultural destination.

Since many centuries ago, residents of the *Cultural Landscape of Maymand* have founded a life style according to their natural environment by utilizing natural resources and capabilities in the most efficient and creative way.

Environmental and natural differentiations that exist in one larger unit along with a distinct rocky bed in the heart of this area, have let the residents of this region to be able to change their living location according to seasonal cycles and hence, enabled them to utilize available resources in the best and the most efficient way to respond to the diverse necessities of life.

Living in troglodytic spaces during cold seasons – from mid fall to late winter- which provides a security against harsh natural conditions, migration to southern plains in late winter/early spring to enjoy fresh spring weather, green pasturelands and seasonal rivers and the perfect environment for cattle regeneration, and in the end migrating toward mountain foothills in early summer to mid fall to do gardening activities is a lifestyle which has been practiced in this region for centuries up to present.

A remarkable point is that in spite of migration of many *Maymandis* to the nearby *Shahr-e Bābak* and their lack of presence in troglodyte *Maymand*, this seasonal migration cycle has continued to exist and many of *Maymandis* who now live in *Shahr-e Bābak*, return to *Maymand* in Summer to spend this time of the year in their gardens and *Ābādī*.

Survival of such a life style up to the modern era indicates its originality as well as the close and ancient interactions that have existed in this region between these people and their surrounding environment.

Considering the aforementioned points, *Maymand* can be considered as the only example of a life tradition based on a three-phased migration cycle along with residence in a permanent residential site , namely, the troglodytic village, all having survived to the present time in their original forms.

Maymand is also remarkable since, due to its specific social and natural characteristics, it has accepted the introduction of different architectural forms with local and novel features. The architecture at *Maymand* includes a diverse range of forms and types, each suitable for a specific time of the year and in accordance with the surrounding natural environment.

Maymand is a unique example of human ingenuity in creating a nature-based troglodytic architecture, which attracts attention of everyone who enters this region. The systematic structure of troglodyte spaces which are located methodically next to or on top of each other, *Maymand* village access passages hierarchy, specific spaces and elements created within the rock, nomadic lifestyle-related and nature-based architectural forms, detailed structures founded in natural and local forms, thousands of years old petroglyphs and pictographs scattered all around the landscape, have all formed a living complex which is the result of human creativity that has lasted for centuries.

The *Cultural Landscape of Maymand* represents a living complex that reflects important stages of human history and settlement background from two important angles:

i: Quality of settlement in the nature: three phases of human settlement history are still visible in *Maymand*. The process of humans' walking out of inside the earth to the surface of the earth, as mentioned by 'Jean-Paul Loubes' in his book titled '*Maison creusées' Du Fleuve Jaune*¹, is till noticeably visible in *Maymand*. Troglodytic *Maymand* is a representation of human residence inside cave, while *Sar-e-Āghol* symbolizes a midpoint stage when humans were coming out to live in the plains but still resided in semi-cave shape spaces and *Sar-e-Bāgh* is reflection of the final stage when humans were settled down on the earth surface and created architectural forms on top of the soil.

ii: Application of troglodytic architectural techniques: all three phases of human settlement history have connection with troglodytic architecture in some way. In *Sar-e-Āghols*, most of human and animal housing spaces have been created using spaces dug in the ground. *Sar-e-Āghols* are clear representations of 'Habitation enterrée et semi enterrée, Habitation creusée en fosses et en poche'². In *Sar-e-Bāghs*, although less space have been founded by digging the ground and natural bed, and architecture forms such as *Kapar* and *Gombeh* have been created on the surface of the earth using

¹ Loubes J., (1984)

² Loubes J. (1984)

available material, but their floor has been somehow hollowed in order to preserve them against some natural threats. Even many associated spaces such *Dīdān*, *Dūshab* workshops, flour mills and their attached troglodyte furnace, sick and weak animals treatment rooms, etc. have all been dug inside the natural bed. Finally, winter residence of villagers in form of numerous houses dug within the rock, is a complete illustration of the application of troglodytic architecture. All necessary spaces required in a residential complex have been constructed in the troglodytic village including service centers such as bath, school, mosque, and *Hosseiniyeh*, as well as commercial units such as dyeing shops, etc.

Religious and ceremonial rituals were practiced in *Cultural Landscape of Maymand* and its connected natural rocky grottos such as *Eshkaft-e Lāshkorgūyeh* for a long time. Remaining pictographs and petroglyphs with a diverse range of motifs and designs witness this claim.

In Colorado of the United States, larger constructions in form of dwellings have been created in rocky structures of that region. These are considered by experts as examples of troglodyte architecture and are known as under rock dwelling or ‘Habitation sous roche’ in French. It can be stated therefore, that the collection of different types of troglodyte architecture applications in one region is one of exceptional features of *Cultural Landscape of Maymand*³. *Maymand* is also an outstanding example of a specific natural landscape that has been transformed to a new manifestation as the result of humans’ interactions with the nature. Methods of exploiting natural resources and nature’s potential capacities to basic human needs such as creation of *qanāts* and mills, land use policies for creating gardens and agriculture fields, grazing approaches and pasture lands protecting methods, as well as using wild plants of the area for numerous purposes are all examples on human-nature interactions taken place in this region.

As the result of their knowledge of regions environment and natural capacities, *Maymandi* people have invented and used the most efficient, practical, natural and simplest techniques for many centuries. The most important factor has always been respect for nature and common effort to protect and preserve it. *Maymandi* land use

³ Ashrafi, M., (2008)

methods and their exploitation techniques never threatened the nature and were never against it. Arrangement of gardens, agriculture fields, mills, qanats, architectural spaces, grazing policies, tool and furniture making and all other life-related issues have been in close and direct connection with the nature in the most genuine form, causing the least amount of change in the environment and natural landscape. This approach is even today visible in all aspects of *Maymandis* life and in the *Cultural Landscape of Maymand*. Plains and pasture land management, friendly relation with other herd owners, inventing and using creative methods in order to reinforce and reviving pasture lands during drought (like hanging seed bags from animals' necks in order to spread them in the plain using less time and energy), or planting local fruit trees among thorny bushes in order to keep them from getting eaten by animals, are all representations of important values of this site.

Urge to use available water sources such as seasonal rivers and springs' water in this arid and dry landscape has resulted in the foundation of many gardens and villages. Numerous mills have for long times been operational in this country to ground wheat and barley and prepare flour for the main village and its neighboring settlements by intelligent utilization of little available water. Water was directed through a shaft dug inside rocky bed and created energy to move the millstone. These and many other exploitation techniques are all examples of *Maymandis* creativity and ingenuity in utilizing available resources.

Apart from aforementioned issues, strategic location of *Maymand* in the intersection of three historical provinces of Fars, Kerman, and Yazd has added to its exceptional quality for many centuries. *Maymand* that is now included in Kerman province, was once part of Yazd province. These issues point to its strong historical and cultural connections with the mentioned three provinces. On the other side, Persepolis and *Maymand* are both located on one latitude and discovery of ancient graves and other dated remains that strengthen the possibility of *Maymand's* Achaemenid background, may indicate cultural relationships between these two important sites. This theory however needs more evidence and identification of possible ancient routes. All these features, point to the important and specific location of *Maymand*.

Cultural Landscape of Maymand is one of the most ancient residential sites in Iran and the world with several thousand years old. Pre-Islamic graves and numerous pictographs and petroglyphs as well as potsherds all point to a live historical, cultural and social background enriched by many historical events. Each of mentioned pictographs and petroglyphs is unique in its own and further research on them would lead to identification of evidence towards a better understanding of human history.

Research and studies undertaken on the pottery collection from this site, verify existence of settlements dates to Achaemenid in this site and as mentioned earlier, pictographs and petroglyphs point to an earlier date of about 12000 years ago (according to Andre Leroi-Gourhan).

The *Cultural Landscape of Maymand* is a rare example of transhumance territory that has retained its traditional functions alive, and that continues to bear testimony to the historical evolution of the habitat, consisting of troglodytic residences, and a variety of service spaces and structures of which many still in use. The nominated area comprises all the significant elements that document the traditional transhumance functions, as well as the associated residential and non-residential structures. Furthermore, these elements have kept their traditional form and are in good state of conservation. The traditional techniques, materials and craftsmanship have continued in use until the present, and the landscape has maintained the spirit of the traditional ensemble, expressed in the continuity of farming and animal husbandry. The landscape area has also retained significant sources of information of the different phases of development of this lifestyle.



1. Fig. 2: General view of *Cultural Landscape of Maymand*



I. Fig. 3: A view of troglodytic village of *Maymand*



I. Fig. 4: General view of *Sar-e Āghol*



I. Fig. 5: General view of *Sar-e Bāghs (Ābādīs)*

Report 1

Complementary Report for World Heritage
Nomination of The Cultural Landscape of Maymand

❖ *Maymand Cultural Landscape*

Maymand cultural landscape is rooted in hard natural conditions. According to De Martonne/Martin and Amberg classification, the study zone is situated in an arid climate. Considering the variety of elevation and topography observed here, this region enjoys a significant degree of microclimate and microhabitat features. Since desert is an elusive term which often refers to a hot burning lowland and there are numerous interpretations for it at domestic and global levels, in order to have an exact documentation for *Maymand* cultural landscape, we decided to use the term “arid” here as a subcategory of Desert Landscape⁴, a term which better describes the climate of *Maymand*. It needs to be noted here that this term was also approved in a workshop attended by experts from different disciplines. These prevailing geographical and climatic conditions make human beings to adapt themselves with harsh climatic conditions of the region. Here to make it habitable, optimal use of available resources should be made without inflicting damages to the nature. And that is why settlement zones like *Maymand* show an exceptional case of man-nature interaction, a kind of friendly relationship which is manifested in the innovative architecture used in the lodging places of arid climates.

The ecological diversity of the study zone has enabled the communities living there to lead a self-sufficient life. The situation of *Maymand* which lies between desert, steppe and mountains give it a unique position. It is away from low land deserts and is located on steppe areas of 1900 m above sea level, which is an ideal condition for livestock raising. The study zone leads to wild almond and pistachio forests in the north. Climatic conditions of this area are so perfect that herds can remain there for a yearlong stay.

The presence of volcanic geological beds which is softer than stone but harder than soil allows the construction of safe winter dwellings to bear harsh atmospheric disturbances. Despite the presence of high mountains in the northern parts of the study zone (2000-3000 meters high), there are plains for crop cultivation. This kind of diverse landscape is seen in few places on earth. These mountains have created a different ecological

⁴ Refer to World Heritage Desert Landscape, IUCN (International Union for Conservation of Nature).
2011

setting here; the presence of wild animals attracts poachers and thus the regulations regarding hunting restrictions and nature protection. Hunting rifle manufacturing as one of the rare handicrafts which can be found in few other villages of Iran has been widely practiced here up to 10 years ago.

The results of studies on ecological capacity of this region have shown that there is significant ecological diversity in this arid and relatively small region. This diversity has created a cultural domain with different livelihood and settlement patterns, as a result of which a migratory lifestyle has been developed and continued over years. Various lifestyles can be observed at different parts of this region which have been formed on the basis of the natural and environmental conditions of that spot. This lifestyle is so varied that during cattle raising activities at *Sar-Āghols*, men often visit their orchards and farms and do some of the works related to farming. In this internal migratory system, factors such as livestock and lodging places are fixed and stable, and this is man who is constantly on the move from one place to another, which makes it as one of the most significant differences of *Maymand* migration system from its counterparts in other parts of the world. During a workshop held in 2013, the participants came to the conclusion that this region is an “Ecoton”. As Gille Clement maintains “the earth is a garden, a desert a mountain and a forest”. This definition matches with *Maymand* at a smaller scale. The conclusion of two specialized workshops and the results of a research project undertaken by Natural Resources Faculty of Tehran University entitled “*Cultural Landscape of Maymand Ecological Capability Evaluation*” clearly support the above points. The findings of these workshops and brief summary of project report are presented in the following section.

❖ **Nomadism in Maymand**

Nomadism compared with sedentary lifestyle shows a kind of adaptation to environment in which residents pay homage to nature by moving constantly from one location to another, a way of life which causes the least intervention in the surrounding environment. Enjoying a diversity of cultures, traditions, climates plus natural constraints, Iran enjoys a long history of nomadism. Because of its climatic diversity and its special ecology, Kerman Province is home to nearly 30 percent of the country's nomads. The nomadism of Iran contains features which are different from even eastern nomadism. Numerous international researches have been conducted on this issue including France (CNRS) National Center for Scientific Research, which compares Iran's nomadism with other types of nomadism around the world. As an example, the article entitled "Jeux de structures, Segmentarite et pouvoir chez les nomades" compares eastern nomadism with those of Iran. Features such as pre-determined course of movement, kind of livestock (mainly sheep and goats) dry farming and high population of nomads are some of the features, which make it distinct from its counterparts.

The workshops held and the researches done on *Maymand* migration and the results of comparative studies about the study zone showed that *Maymand* nomadism is a kind of ***special internal migration***, which is performed ***three times in a year within a limited geographical region***. The studies have named the migration's uniqueness and the ecological conditions of the region as two important factors leading to formation and development of this lifestyle. Unlike other forms of nomadism in which during annual migration, nature and biome completely change, this internal migration which takes place at short intervals acts as a complementary feature for *Maymand* region, an issue which shows man's ingenuity in interacting with nature. In addition to the fact that all ***three settlement zones in Maymand are fixed and permanent***, in other forms of nomadism, man and his herds move together, but ***in Maymand it is only man who is on the move***. This lifestyle is a true representative for man-nature interaction, which makes *Maymand* cultural landscape completely distinct from its equivalents. The detailed report of this study plan is found in the accompanying are presented in following pages.

❖ Sustainable Management of *Maymand* Cultural Landscape

Considering the programs developed to protect this cultural landscape in recent years and due to the pressing problems of troglodytic *Maymand*, at first urgent restoration operations in village were given priority. Meanwhile familiarity with traditions, potentials and values and values and introducing them to the residents in an attempt to raise their awareness and their sensitization a better preservation received attention. After the completion of short-term programs and obtaining a relative stability, mid-term plans began. At this stage, an attempt was made to collect necessary documents, data concerning this landscape including *Sar-e-Āghols*, *Sar-e-Bāghs*, through management plans and the holding of specialized workshops / meetings at the regional scale, which ultimately led to the documentation plans and feasibility studies for different domains. It is necessary to mention that the aim was to achieve sustainable development based on all existing potentials and values. In the same line and as the highest urgency, the preservation of values and prevention of inadequate intervention was given priority. That is why *Maymand* is regarded as one of the most intact sites protected by Iran Heritage and Natural Resources Protection Organization, which despite its rather vast buffer zone compared with other sites, its cultural traditions, and environment have been protected in the best way possible. In the second stage and in order to encourage the communities to preserve their traditional lifestyle, an attempt was made to identify their problems and improve them with the least amount of intervention. After the studies concerning identification and pathology of qanāts, through the collaboration of shareholders and indirect support of *Jihad Agriculture* Office and under the supervision of Community Council, traditional dredging works were carried out to enhance water cleaning (*Lāyrūbī*) discharge of the extant qanāts.

Moreover, to protect and help rangelands to recover, some of them were cordoned off and people were encouraged to plant trees, which were native to the region, and to stabilize soil and make the best use of runoff waters, earth dikes were constructed. The sum of all these activities motivated the residents to invest and stay in the site. For instance, some of the locals and young *Maymandies* who had migrated to other places returned to *Sar-e-Āghols* to practice livestock raising or bee keeping (the latter was

limited to few orchards in the past), a business which is now very popular and honey products of *Maymand* have established their market in the whole area. Today, there are some 30-40 beekeepers in the *Sar-e-Āghols* and *Sar-e-Bāghs*. Collecting the wild pistachio and almond has also become more widespread and *Maymand*'s locals residing in *Shahr-e Bābak* have embarked on this business too. A research project for oil extraction from oil seeds is underway which is hoped to bring about significant results in economic development based on local potentials. The cultivation of saffron and certain types of spices such as caraway has also been encouraged and because of the high quality of these products, it is expected to witness a growing trend in the cultivation of these products in near future. Moreover, a feasibility study about the cultivation of medicinal herbs and trees native to the region is undertaken which is going to be executed by public participation and the support of Natural Resources Office in future. Research projects for the identification of medicinal herbs and their chemical components have already been prepared, on the findings of which a medicinal herbs / plants museum is going to be established in one of the buildings of the village. All these works have made the residents interested in reviving the traditional business of distillation (like rosewater, peppermint extract, etc.).

Documentation and preparation of IDs for the *Kīchehs* (Troglodytic *Maymand*'s houses) was undertaken as a necessary step towards the provision of a comprehensive history to contribute to their preservation. To do so, a research proposal was offered and consequently a research plan prepared to collect the necessary data by the experts. A questionnaire was developed which dealt with peculiarities of each unit and its present status. In sum, the data for 320 *Kīchehs* were completed, but since the owners of 70 *Kīchehs* were not available, we could not complete the relevant data files for them. Presently total sums of 115 *Kīchehs* have been restored by the active participation of locals and under the supervision / support of *Maymand* Cultural Landscape experts. Some of the owners of these *Kīchehs* who presently live in nearby cities had also appointed local craftsmen to repair the *Kīchehs*. What is of significance here is that due to the sensitization and awareness of the locals about the traditional values of this historic site, even those people who did not often visit their *Kīchehs*, undertook the trouble and costs to repair their lodging places. This is a kind of

sustainable participation which seems to be different from ordinary participation, we can name it: Passive Participation; For further information in this regard, please refer to an article presented by *Maymand* Manager (Mrs. Ashrafi, M) at the 18th ICOMOS General Assembly held in 2014 at Florence entitled “Participation active et passive pour une sauvegarde durable”.

Out of the total 115 troglodytic houses or *Kīchehs* repaired so far, 75 cases have been restored by the active participation i.e. the involvement of local people and MCHB (*Maymand* Cultural Heritage Base) support. In the early years of the project, since there was no established pattern for restoration, a kind of mutual training by the direct participation of locals and experts was held which aimed to familiarize the experts and locals with traditional knowledge needed for the identification and preservation of existing values. As these patterns became more stabilized, the role of the MCHB dwindled and it just played a monitoring role. As a result, locals played a more vital role in the repair operations and so far 25 units have been repaired by residents and 15 others by non-resident owners, a figure which is remarkable.

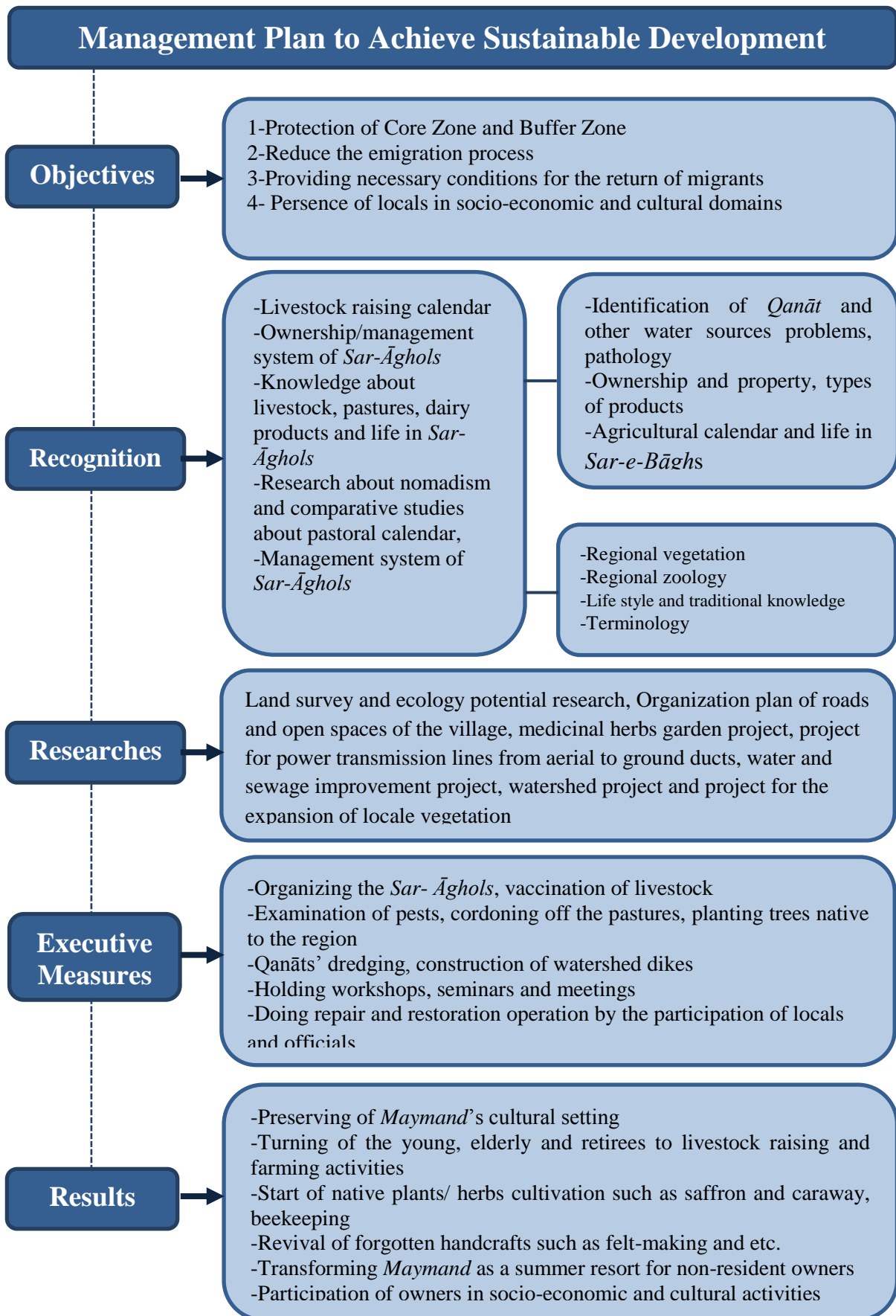
Number of <i>Kīchehs</i> repaired by locals under the supervision of MCHB	75
Number of <i>Kīchehs</i> repaired by residents	25
Number of <i>Kīchehs</i> repaired by the request of non-resident owners (local masons carried out the repair works)	15

In short, it can be concluded that *future Cultural Landscape of Maymand is a kind of and spontaneous development in which local participation plays a lead role*. Local authorities here are responsible to provide the necessary grounds for the encouragement of locals' long-term participation in socio-economic and cultural domains. Any one-way planning by the officials may engender positive results in short-term periods, but there is no doubt that its consequences would be irreparable in long term. Only the active and passive participation of locals in decision-making processes can ensure the survival of this cultural landscape. This is a question that is posed to all the living and active sites of the world, the answer to which can be determined by the different and of course difficult conditions of each site, concerning *Maymand Site*, only fundamental and all inclusive measures mentioned above for the spontaneous participation of people in a gradual and continuous manner can guarantee the survival of life in this landscape.

The following table presents the objectives and management plans of the MCHB.



R1.Fig. 01: View of some *Kichehs* in troglodytic village of *Maymand*



❖ **Some of the measures undertaken by *Maymand* Cultural Heritage Base in 2013-2014**

• **Holding *Maymand* Cultural Landscape and Sustainable Development Workshop**

The diversity of issues, which need to be considered for the preservation of *Maymand* Cultural Landscape, necessitated the obtaining of experts' viewpoints in order to get a deeper understanding of existing values of the site. That is the reason behind *Maymand's* Cultural Landscape base holds various workshops and meetings attended by academicians from various disciplines. To hold a workshop, at first specialized meetings were planned to discuss the subject matter thoroughly, then considering all issues, necessary measures were undertaken to implement the project. To answer the questions raised by ICOMOS and the requirements needed for the world registration of *Maymand* Cultural Landscape, a specialized meeting was held in 21.08.2013 at the Research Center of Cultural Heritage Organization a summary of which is presented below:

Participants:

Ms.: M. Ashrafi (PhD. In Architecture and Manager of MCHB), Rafee (MA in Cultural Landscape), Rezaeepur (MA in Designing), Alizadeh (MA in Designing), Khan Mohammadi (MA in Designing), Fatehi (MA in Restoration).

Mr.: Talebian (PhD in Architecture and Deputy of Cultural Heritage), Ashrafi (PhD. In Natural Resources, Professor of Tehran University), Shahverdi (MS in Rural Economy), Keyvanlu (MA in Restoration and head of Troglodytic Architecture Department), Yavari (PhD in Environment, Tehran University Professor), Shamekhi (PhD in Natural Resources, Professor at Tehran University), Pishbin (PhD. in Agricultural Economy and University Professor), Qorbanzadeh (Expert of Restoration and member of MCHB).

Location: Conference Room of Research Institute for Cultural Heritage and Tourism, Research Center for Historical and Cultural Sites

The following issues were debated in the meeting:

- Is there any similar site (like *Maymand*) in neighboring countries like Iraq, Turkmenistan etc.?
- What strategies can be used for socio-economic development of *Maymand*?
- How can the traditional lifestyle at *Maymand* be continued?
- How can different sections such as orchards, qanāts etc. be managed to guarantee the traditional lifestyle there?
- How can the cultural landscape be managed in a balanced and rational way by locals?
- What do the villagers think about the preservation of their historic village? Are they concerned about it?

Three different time schedules were planned for the workshops, to be held in the final days of summer.



R1.Fig. 02: A sample of Saffron, which has cultivated in *Maymand*



R1.Fig. 03: *Maymand* Cultural Landscape and Sustainable Development Workshop 12-13 December 2013



R1.Fig. 04: Participants in *Maymand* Cultural Landscape and Sustainable Development Workshop 12-13 December 2013



R1.Fig. 05: Participants in *Maymand* Cultural Landscape and Sustainable Development Workshop during visit of the site; 12-13 December 2013

In this workshop attended by experts in the domains of nomadism, range management, farming, and water sources management, rural economy, natural resources, environment, architecture and repair & restoration, community council, some of the owners and official was held in January 2014. The participants paid a visit to troglodytic *Maymand*, *Sar-e-Āghols* and *Sar-e-Bāghs* in this cultural landscape and got in touch with current affairs. They talked about the protection measures and discussed the requirements put forth by ICOMOS for its registration.

In the second day, based on their expertise, the participants formed two task forces one for nomadism and anthropology and one for livestock raising and farming, a summary of which is presented below:

- **Nomadism, Anthropology, environment and Landscape Panel**

Participants in the panel:

Ms.: Behbehani (PhD in Environmental Designing, professor at Tehran University, member of Cultural Landscape Committee of Iranian ICOMOS), Gorji (Restorator and Manager of Ancient Iran Museum), Fatehi (MA in restoration), Salari (MA in Restoration and expert of Preparing World Heritage Nomination Dossiers Office), Nikugoftar (MA in Restoration and expert of Preparing World Heritage Nomination Dossiers Office), Alizadeh (MA in Designing) Rezaeepour (MA in Designing),

Mr.: Maleki (MS in Architecture and member of Iran ICOMOS), Shamekhi (PhD in Natural Resources and Professor at Tehran University), Kahrom (PhD in Environment), Chegini (PhD in Archeology and member of Iran ICOMOS board of directors), Talebian (PhD in Architecture and Deputy of Cultural Heritage), Riyahiyan (MA in Archeology), Motadayen (Restorator and members of MCHB), Labaf (PhD in Archeology), Pas (MA in Architecture and Kerman Heritage Organization Expert), Forutani (Environmental Expert of *Shahr-e Bābak*).

Agenda:

- This landscape and its features
- Name of this migration and its comparison with other sites in terms of:
- Characteristics of desert cultural landscape

Approvals of the meeting:

- It was decided to refer to the study site as an “Ecoton”.
- It was decided that the study zone is a region of transition between desert and steppe biological communities.
- It was decided that migration is of special internal migration type.
- It was decided to do more research for similar cases inside the country.
- It was also decided to define research projects and focus on Fars, Kerman and *Sīstān & Balūchestān* Provinces.

- It was decided to do comparative studies in neighboring countries such as *Iraq, Turkey, Afghanistan* and *Tajikistan* whose climate and culture resemble those of *Iran*.
- It was decided to establish buffer and core zones for the study site.
- It was decided to conduct vaste studies on anthropology, natural and historical issues related to this particular landscape.

- **Agriculture & Livestock Raising Panel**

Participants:

Ms.: Laleh (PhD in Archeology, professor at Tehran University), Ashrafi (PhD in Architecture and manager of MCHB), Khan Mohammadi (MA in Environmental Design)

Mr.: Ashidari (PhD in livestock raising, professor at Tehran University), Jabariyan (PhD in natural resources, professor at Tehran University), Shirvani (PhD in natural resources, professor at Tehran University), Ashrafi (PhD in natural resources, professor at Tehran University), Majid Labbaf (MS in agriculture) Shaverdi (MS in agricultural economy) Boluri (MA in restoration of historical Building)

Agenda:

- Methods and mechanisms, which would lead to sustainability of resources and environment.

Approvals:

- Necessity for review of definitions, concepts and preparation of features and their classification at *Maymand* cultural landscape by focusing on local characteristics and man's interactions with nature and environment
- Adequate management of natural and cultural capabilities within the established framework and preparation of short, medium and long term programs
- Review and examination of urgencies in short term period in order to enable long-term managerial planning

- Focusing on *Maymand*'s uniqueness by taking into account three features 1- the biodiversity of the study zone despite its limited expanse in comparison with other cultural landscapes of the world 2- diversity in land territory features 3- survival of various old and ancient traditions.
- Since this study zone has traces of human settlement since ancient times, and because it also contains varied forms of traditional lifestyles, the study of man's interaction with nature during time and the challenges he faces nowadays can lead to a better planning to achieve sustainable development there.
- Uniqueness can be proven by considering the natural and cultural characteristics of *Maymand* landscape.
- It was emphasized by the environment assessment team that the ecological borders of study zone matches with the buffer zone determined by MCHB.
- Defining various terms of desert, arid, semi-arid climates and determining the exact climatic position of the study zone as one of its unique features
- Emphasizing the necessity for systematic and all-inclusive interdisciplinary studies within a single integrated statistical system which enables the processing, analysis and evaluation of both theoretical and practical planning
- Emphasizing the necessity for program analysis, assessment of possibilities and their constant monitoring
- Emphasizing the need for the preparation of sustainable management plan for *Maymand* cultural landscape by considering the human and natural resources capabilities and preparation of multiple-layer maps showing the environmental and cultural potentials of the study zone as strategic documents.
- Emphasizing the need for the formation of a steering committee consisting of various experts for *Maymand* cultural landscape

- **Specialized Meeting on Conservation and Development Challenges of *Maymand* Cultural Landscape**

Tehran- 18 December 2013



R1.Fig. 06: Participants in conservation and development challenges of *Maymand* Cultural Landscape meeting

This workshop was attended by experts of rural heritage at the research center of Cultural Heritage from 9 AM to 16 PM. The participants discussed the various issues of *Maymand*, new developments, challenges, and demands of local communities.

With its position almost stabilized in its world heritage dossier, the cultural and natural landscape of *Maymand* consists of different habitats, which are closely tied with the life of existing communities. In addition to the ancient old daily demands, new requirements can create radical changes in the landscape. The challenges that communities face in *Sar-e-Āghols*, *Sar-e-Bāghs* and troglodyte village were discussed in the meetings. It was emphasized that the current conservation issues in *Maymand* should be dealt with by minimum intervention, and by encouraging the locals to use domestic construction methods and materials to satisfy their needs.

Moreover, it was decided that the daily needs of the locals should be fulfilled through mechanisms, which did not inflict damage to the authenticity or values of this landscape. It was also pointed out that the present should be connected to the past by omitting the external intervention and replacing it with internal engagement in order to preserve the landscape. The modern elements and facilities would ultimately enter any place including natural and historical places, but the consequences of such modern lifestyle should be kept to a minimum level through their wise and gradual introduction. An innovative based on local potentials is the only way to succeed in confrontation with such challenges.

Based on the above points, it was decided that a specialized team stay for two weeks in the study site and in close contact with the locals look for solutions for their problems.

- **Completion of *Sar-e-Āghols* and *Sar-e-Bāghs* Documentation**

This cultural landscape enjoys wide dimensions, each of which possesses its unique features depending on different times, places, environs etc. Though the collection of knowledge on *Maymand* Cultural Landscape has been made during several years, each time a new dimension of this cultural landscape emerges which necessitates an profound and more detailed documentation. Moreover, the workshops and meetings recommended that different research projects should be conducted for which experts from different universities were summoned to work with the members of the MCHB.

- **Management Plan for the Sustainable Development of *Maymand* Cultural Landscape:** Conducted by: Natural Resources Faculty of Tehran University
- **Ecological Capability Evaluation of the *Cultural Landscape of Maymand*:** Conducted by: Literature Faculty of Tehran University. The summary of the report has been presented as follow.
- **Agro-pastoral Lifestyle-Descriptive and Comparative Study:** Conducted by: Natural Resources Faculty of Gorgan University. The summary and full report of this research project has been presented as follow.
- **Research Project on the Impact of water Sources and Farming on *Maymand* Cultural Landscape Sustainability**

In addition to the above researches, research projects like “the Impact of Water Sources and Farming on *Maymand* Cultural Landscape Sustainability” were conducted by Tehran University and the researchers of International Center for qanāt Research. Considering the significance of research project on water resources in *Maymand* and in order to save space, only a list of this table of project is presented below. It needs to be noted here that this project provided a comprehensive picture for the identification of qanāts, their wells, pathologies, and remedial proposals to deal with their problems. The corrective measures proposed in this study will be put into effect next year by the collaboration of local orchard owners and Jihad Office. In the following section, a sample table of contents for one research project is table:

- **Introduction**
- Chapter one, principles and concepts**
- **Qanāt definition**
- **Qanāt livelihood**
- **Ownership and water right**
- **Water distribution units or measures**
- **Water distribution management system**
- **The impact of climatic change on qanāt development**
- **Climatic changes in Iran Central Plateau**
- **The origin of qanāt, a technique for adaptation with environment**
- ***Shahr-e Bābak* ’s qanāts**

- The impact of qanāt on the expansion of *Maymand*'s tourism industry

Chapter two: Location Studies

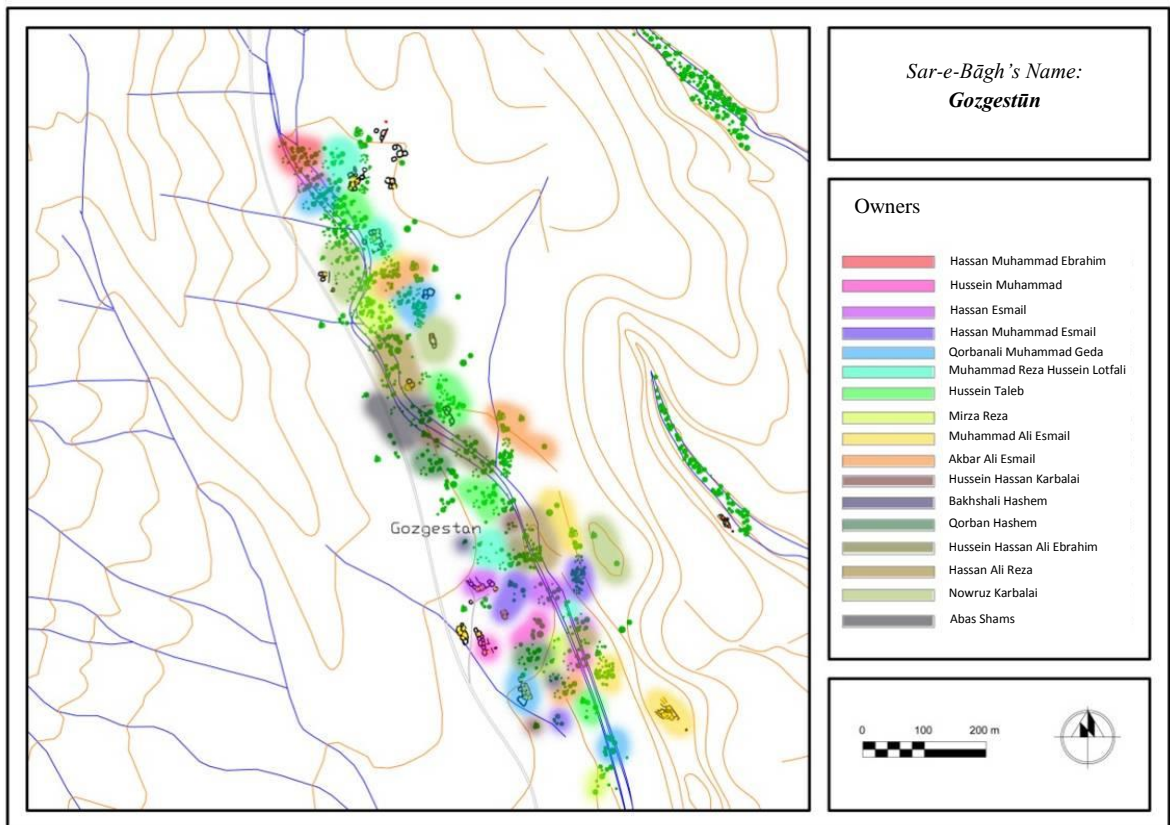
- Geographical location
- Meteorology
- Precipitation
- Temperature
- Annual temperature gradients
- Effective precipitation
- Annual effective precipitations
- The IDF Curves for regional precipitation (Intensity, Duration and Frequency Curve)
- Climate, temperature and precipitation in *Shahr-e Bābak*
- Geology of *Shahr-e Bābak*
- Lithology-stratigraphy of *Shahr-e Bābak* and *Khatūn Ābād*
- Water Sources
- Water quality and water quality standards
- Potable water standards
- Irrigation water standards
- Underground waters in *Shahr-e Bābak*
- Hydrological features of *Shahr-e Bābak*'s alluvial aquifer
- Study of Quaternary discontinuous deposits
- Study of the extension, gradation, and thickness of *Shahr-e Bābak*'s alluvial aquifer
- Review of *Shahr-e Bābak*'s hydrological maps
- Underground waters exploitation in *Shahr-e Bābak*
- Underground water's quality in *Shahr-e Bābak*
- Hydrograph for water tables in *Shahr-e Bābak*
- Chapter three: water and farming in the *Cultural Landscape of Maymand*
- The position of agriculture in relation to other economic businesses
- The role and position of qanāt in the *Cultural Landscape of Maymand*
- The introduction of *Maymand* satellite villages in terms of water resources
- Water supply in *Maymand*
- Water division system in *Maymand*
- Summary of *Maymand*'s water distribution system

- The impact of climate change on *Maymand* farming livelihood
- Other water structures in *Maymand*
- References

The role of water in <i>Maymand's</i> Cultural Landscape sustainability				Well Shaft Code A-A-1	
Well shaft particulars				Date of visit	
1- general features and geographical position					
District	Northern part of <i>Maymand</i> Village	Qanāt name	<i>Lākhorīn</i> (A)	Branch	<i>Lākhorīn</i> (A)
Well Shaft's UTM coordinates		Z: 2265;	Y:3345651;	X:342926	
2- geometrical specifications					
*Depth of well shaft	(m)				
*Dimension of shaft mouth	Circular of: 100 cm diameter		Cm	Rectangular:	Cm
*Dimensions of gallery	Height 95 cm; Width in height:50 cm from floor Cm Width of gallery floor:54 cm; Width of gallery roof:25 cm				
*Does well shaft have cover?	No	Yes	Cover type:	Concrete; steel; stone;Soil;Stone and cement	
*Is well shaft ring cased?	No	Yes	Type of ring casing	Stone; Brick; Pipe; other	
3- Water discharge status					
*Well shaft lies in	Dry zone;		Wet zone		
*The limit of well shaft is	Completely dry; Wet; Has water at level: Cm				
*In case well shaft lies in wet zone, the signs are: This well shaft lies in the wet zone section of qanāt but is presently dry					
*Other observations: Water table is situated in lower levels and drainage does not take place					
4- well shafts structural status					
*Is well shaft blocked?	No	Yes	At the depth ofmeter from surface		
*Is the tunnel of <i>qanāt</i> blocked in ownstream section?	No	Yes	Yes at thedistance from well shaft		
*Other observations Though water flows in the galleries of <i>qanāt</i> , they need dredging					
5- the status of water passages and other threats to Qanāt					
*Is the well shaft situated on the route of local water ways?				No	Yes
*Has the well shaft been damaged by surface waters in the past?				No	Yes
*Other threats	Road building	Landscaping	Construction works	River	Others
*Other bservations The well shafts lie on the river course but due to the support cutoff walls or being covered, flood waters cannot easily enter the galleries. It needs to be noted that if the well shafts were not equipped with concrete covers or there was no cutoff wall built around them, it was very likely that flood waters would enter the galleries and fill them with mud and bury them by deposits.					

R1.Fig. 07: A sample of identification form of *Mamand's* qanats

In addition to the study projects and plans conducted by different universities, the supplementary studies were also carried out by protection team settled in the village. The information related to farming and livestock raising calendars (schedules), ownerships, types of local management systems, detailed information about livestock and identification of existing potentials were collected and stored in the archives. A sample property map is presented below. The study team is presently engaged in the completion of land use information and it is expected that the relevant maps would be ready by the end of this year.

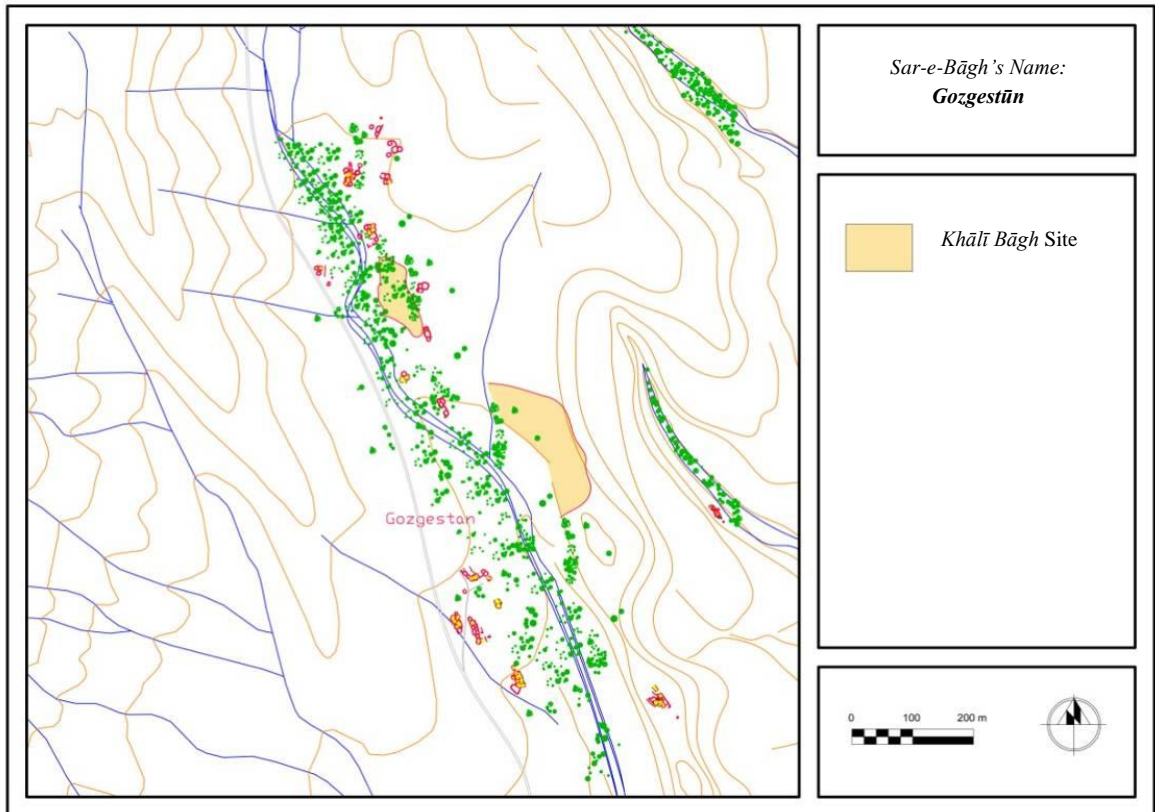


R1.Fig. 08: A sample of map prepared for land properties in the Sar-e-Bāgh

Considering the existence of many farmlands used for *Khālī Bāgh* (the land uses for seasonal planting) in the proximity of orchards, the information about their location, number and scales can be useful in future planning and projects. These *Khālī Bāgh* used to have a special economic value for their owners and supplied a part of household's needs, but with the droughts of recent decades, these fields do not have their past efficiency, however the integrity of these fields has been preserved by the stone fences built around them, a structure which has a significant effect on the formation of visual landscape in this region. Based on the ecological feasibility studies and the past experiences, an attempt is planned to revive these fields by the plantation of native plants and herbs compatible with the climatic conditions of this region. The same detailed information for livestock mobility in the pastures was also collected. Moreover, the *Maymand* migratory system especially the rules governing the *Sar-Āghols* were identified in order to allow its comparison with migration systems in the neighboring provinces.



R1.Fig. 09: Part of *Sar-e-Bāgh* in *Cultural Landscape of Maymand*



R1.Fig. 10: Location of *Khālī Bāgh* in *Gozgestūn*



R1.Fig. 11: Location of *Khālī Bāgh* in *Lākhorīn*

- **Establishment of a vocal information system in Feb 2014**

The true introduction for a historical and cultural heritage site is an integral part of any conservation plan. A heritage site is conserved properly when it has been appropriately introduced to the public, and if the public becomes fully aware of its values, then they can contribute to its sustainable conservation and guarantee its permanence. In the same line, every year especially during *Nowrūz*, the tour guides try to introduce the historical and cultural values of this site to the visitors. In this year by making use of new communication techniques and methods, an attempt was made to disseminate the necessary information to a much wider audience. To achieve this purpose, a hotline was established in which different preselected destinations were defined and recorded messages stored. Then by preparing brochures and dissemination of information through various methods (manuals, banners, posters, and oral presentation) each coded destination was introduced so that by dialing a special number people could access the necessary information. It needs to be added here that this hotline is functioning in Persian and English, and people anywhere can dial it toll-free from anywhere in the world. The advantages of this hotline system can be summarized as:

- Omission of a large man power to run the system
- The operation of the system in English and introducing the site to foreigners with the least expenses and the highest efficiency
- Accessibility from anywhere in the world
- Comprehensive introduction of the site to interested individuals
- The presentation of error-free and authentic information
- The capability of updating of information, addition or deletion of information
- The possibility of receiving suggestions and applying them in the system

- **Call for old photos of *Maymand***

Considering the dearth of historical documents for *Maymand*, the collection of old objects and photos which could reveal a part of its traditions, memories and historical values was given priority by the members of the Task Force. In the Feb. 2014, a call for old photos was made in the form of a photo contest. By posting the call on *Maymand* website, and publishing ads in regional newspapers (like *Bābak Zamīn* Newspaper), and also banners and posters set in the village during *Nowrūz*, an attempt was made to publicize the call as much as possible. This project served two purposes, one aimed to provide a collection of old photos for documentation and exhibitions, and another attempted to raise the community's sensitivity for paying attention to their traditions and historical values.

- ❖ **Statistics for the visitors to *Maymand* (2012-14)**

A look at the three year statistics for the visitors to *Maymand* reveals a rising trend in the number of visitors, a trend which is triggered by the unique values and characteristics of this heritage site for the people. This rising trend can be seen at global scale too, because the increase of foreign tourists is an indication of global attention to the outstanding values of this landscape. The number of visitors often increases in *Nowrūz*, which can be attributed to the people coming from neighboring cities during this occasion. Another factor contributing to this increase of visitors concerns the position of the site (it lies on the way to southern parts of Iran) and its climatic conditions, which make it a desirable destination for visitors during holidays.

Year	Month	Domestic	Foreigner	Sum
2012	20 th March to 20 th April	21000	12	21012
2013		22000	17	22017
2014		33048	48	33000
2012	May	2800	44	2844
2013		2450	63	2513
2014		3900	86	3986
2012	June	2150	4	2154
2013		1985	29	2014
2014		3400	72	3472
2012	July	2250	20	2270
2013		1800	32	1832
2014		2950	59	3009
2012	August	2300	51	2351
2013		2300	39	2339
2014		2400	153	2553
2012	September	2200	17	2217
2013		2900	75	2975
2014		2800	174	2974
2012	October	1900	40	1940
2013		1700	19	1719
2014		1800	159	1959
2012	November	1300	14	1314
2013		2845	22	2867
2014		2850	85	2935
2012	December	1230	6	1236
2013		1400	12	1412
2014				
2012	January	1100	10	1110
2013		1200	8	1208
2014				
2012	February	950	3	953
2013		800	4	804
2014				
2012	March	1400	20	1420
2013		2450	28	2478
2014				
2012	Sum	40580	241	40821
2013	Sum	43830	348	44178
2014	Sum	53100	836	53936

R1. Table 1: *Mayman's* visitors statistics 2012-2014

❖ The biannual budget for MCHB

Financial Year 2012-13

Budget funded by	Amount
Budget funded from National Sources (Development Plans)	4/127/000/000 Rial
Funded from provincial budgets	588/000/000 Rial
Total sum	4/715/000/000 Rial

Financial Year 2013-14

Budget funded by	Amount
Budget funded from National Sources (Development Plans)	4/600/000/000 Rial
Budget funded from National Sources	438/000/000 Rial
Funded from provincial budgets	(0) zero
Total sum	5/038/000/000 Rial

In the financial year 2013-4, a total sum of 15.000.000.000 Rials from provincial budget was allocated for the removal of overhead power transmission poles in *Maymand*.

Budget funded by	Amount
Kerman Electricity Company	5/000/000/000 Rial
<i>Shahre Bābak</i> Governor's office	5/000/000/000 Rial
Kerman Cultural Heritage Office	5/000/000/000 Rial
Total sum	15/000/000/000 Rial

Report 2

History and Archeology of Maymand

The oldest evidence indicating human presence in *Maymand* area dates back to Achaemenid era (sixth – fourth century B.C.). It includes pieces of pottery spread around areas surrounding *Maymand* and Marj castles (R2. Fig.1).

Historiography done through Thermo luminescence demonstrates abovementioned castles have been habitable from sometimes around sixth century B.C. (*Shoja'I Isfahani*, 2009: 29; *Pūr Qorbān*, 2001: 54-55).

As a result of archeological speculations in *Maymand* castle (*Pūr Qorbān*, 2001), some pieces of pottery were found indicating inhabitants contemporary with Arsacid (*Pārtīan*) Empire. The paste of potteries was bright red and gravel and sand were used in the mixture. On the potteries, there are some parallel wavy carved lines (R2. Fig.2). Thermo luminescence test shows these pieces date back to 2000 years ago.

Although there has been nothing mentioned about *Maymand* in pre-Islamic era, toponymy of *Shahr-e Bābak* had inspired many historians to connect this city and its surroundings with *Bābak*, father of *Ardeshīr* and the founder of Sassanid Empire.

Archeological research carried out in *Maymand* area has not revealed any traces of prehistoric communities residing there. Although it is not possible to make a certain assertion concerning prehistoric communities in *Maymand*, it is at least viable not to expect a large-scale population in the area. It seems in prehistoric era population had not increased to the extent that lack of resources force human communities to immigrate toward northern mountains of *Shahr-e Bābak* and *Maymand*. Archeological findings have revealed existence of human communities in Neolithic and Bronze age in prosperous areas of Kerman and Fars provinces. Formation of large-scale and consistent settlements in areas such as *Tape Yahyā* (*Yahyā Hill*) (*Lamberg - Karlovsky*, 1969), *Tall-e Eblīs* (*Caldwell*, 1967), *Shahdād* (*Hākemi*, 1997) and... is a proof to believe such an assertion. The settlers of the abovementioned areas resided in places for which water, land and pastureland were available and the connecting routes could be easily accessed. Therefore, in prehistoric era there was no need to exploit inaccessible resources found in *Maymand*.

Hāfīz-e Abrū, the 15th century geographer, attributes construction of *Shahr-e Bābak* to *Ardeshīr* the unifier and describes the area as his hunting ground (*Hāfīz-e Abrū*, 1996: 11-12).

Hāfīz-e Abrū further writes not only *Shahr-e Bābak* , but also Kerman had been a hunting ground for kings such as *Vīshtāspa*, who constructed some fire temples there as well (*Hāfīz-e Abrū*, 1996: 11). *Ahmad Ali Khan-e-Vazīrī* also mentions *Shahr-e Bābak* as the birth place and the area in which *Ardeshīr* grew up (*Vazīrī*, 2006 a: 286).

Pieces of pottery dating back to Sassanid Empire demonstrate existence of communities contemporary with that empire (R2. Fig.3). Beige and bright red potteries were for large vats used to store food. The exterior of these containers were decorated with bold horizontal lines. These potteries are considered as indicative of Sassanid era in Kerman area. Sassanid potteries discovered in *Maymand* castle suggest its architecture can be attributed to that period. The architecture of castle consists of an almost large area in the center located in the highest point of the hill from which other smaller spaces radiate. The materials used in construction of *Maymand* castle include ripped irregular ballasts (R2. Fig.4).

As a result of archeological studies carried out in *Maymand*, a castle known as *Sargale* was found three kilometers north east of *Maymand*. This castle is similar to that of *Maymand* in form and structure. Therefore, it is probably one of the monuments remaining from Sassanid era in *Maymand* district (R2. Fig.5-6).

Another area belonging to Sassanid era is a place located nine kilometers southeast of *Maymand* village known as *Chenār* (plane tree) mansion. This construction, unlike two previously mentioned ones, is situated at the southern foothill of *Maymand* in a nearly low land.

The low dunes in the area indicate buried architectural constructions (R2. Fig.7). On the vicissitudes, there are relics of materials such as mortar and ballasts used in the construction.

Remarkable numbers of Sassanid potteries found in the precinct of the mansion demonstrate a community, which tended to live in one area (R2. Fig.8) among the pieces of potteries spread throughout the area, there are some with parallel lines on the body (R2. Fig.9).

As well as previously cited areas, which are indicative of permanent settlements during Sassanid era, there had been some temporary places of residence for immigrant communities. Although a large number of potteries discovered date back to Sassanid era, there can be no architectural traces seen. Nevertheless, on the surface of temporary

residence in *Maymand*, there are large rocks, which were used as the floor of tents (R2. Fig.10-11). The abovementioned locations are *Lākhorīn*, *Gozgestūn*, *Tall-e-Rīg*, *Tall-e-Ghal'e Golāb* and *Sang Abād*. Because of the potteries dating back to the beginning of Islamic era (R2. Fig.13), as well as Pre-Islamic ones (R2. Fig.12), it can be said that these places had been used as settlements for temporary immigrants up to the tenth century.

Shahr-e Bābak was first mentioned when talking about settlements on the way of Kerman to Shiraz by *Ibn Khordādbeh*, the ninth century geographer. He cited *Shahr-e Bābak* as a settlement between *Seroshk* and *Na'mān* Palace.

Ibn Khordādbeh's description indicates *Shahr-e Bābak* had been an important stop in the beginning of Islam and was located on the way of a major route (R2. Fig.15). At that time *Shahr-e Bābak* was near cities like *Herat*, *Meybod*, *Sarvestan*, *Fahraj*, *Naīn*, *Hīreh*, *Farūq*, *Asbābjān*, *Bavvān*, *Urdun*, Kerman and ... which belonged to *Istakhr* region (*Kūre-e Istakhr*). (*Al-Muqadasī*, 1982: 633-634). *Shahr-e Bābak* probably had been a significant location on the way of major roads in Pre-Islamic era, as one of the routes to Pasargadae passed through this city.

This road, which connected Pasargadae to *Jīroft*, went from Pasargadae to *Herat Khoreh* and *Shahr-e Bābak* and ended in *Rafsanjān*, *Govāshīr* and *Jīroft* (*Mostafavī*, 1996: 362). *Hāfīz-e Abrū* in 15th century mentioned *Shahr-e Bābak* as one of the stops on the way from *Shiraz* to *Rūdūn* (*Hāfīz-e Abrū*, 1996: 156).

Strategic location of *Shahr-e Bābak* and its prosperity in different periods of time attracted many Muslim commanders and resulted in their attempt to capture the city. Even the ruler of Kerman in 920 A.D. tried to gain control over *Shahr-e Bābak*, but failed to do so.

Abūlfavāres son of *Bahc'o' dole* one of the emirs of *Būyid* Dynasty, who was once supported by the *Mahmud* king of *Ghazna*, could recapture Kerman and then passed away in 1028 A.D. in *Shahr-e Bābak*. Afterwards, *Abu Kālījār Emād-e- din* ruled over Kerman (*Vazīrī*, 1996 a: 341-342)

Contemporary to ruling of *Kara-Khītan/Qara-Khītaī* over Kerman, around 1281 AD, the western section of Kerman which included *Shahr-e Bābak*, *Sīrjān*, *Eqt'a* and *Orzūīyeh* were controlled by *Sūltān Jalāl ad-Dīn Suyurghatamish* (*Vazīrī a: 450*). *Suyurghatamish* who was appointed by *Torkān Khātūn* to rule over the western section of Kerman replaced her in 1282 AD and then transferred his authority to *Pādīshāh*

Khātūn in 1293. *Pādīshāh Khāt* delegated the governance of *Sīrjān*, *Shahr-e Bābak*, *Eq't'a* and *Dashtūr* to *Bībī Tūrkān* (Vazīrī, 2006 a: 436). *Bībī Tūrkān*, who was an artist and a calligrapher, was the daughter of *Tūrkān Khātūn* and wife of *Azod-al-Din Amir Hajī*, who was the ruler of Kerman for a short time after *Bībī Tūrkān*. During *Kara-Khītan* dynasty, *Shahr-e Bābak* was a part of Kerman and was considered as countryside for princes of *Kara-Khītan* (Husseini Mūsā, 2010: 120).

During *Mūzaffarid* dynasty, Arabs plundered *Shahr-e Bābak* and its suburbs up to *Rūdan* and *Rafsanjān*. *Mūbarīz al-Din Muhammad*, the founder of *Mūzaffarid* dynasty, fought against the rebellion (Kotobi, 1984: 46). In 1356 AD, *Mūbarīz al-Din* occupied Shiraz and sent *Shah Shoja'*, his oldest son, to the state of Kerman. *Shah Shoja'*, who was deployed to capture Shiraz, came across *Owghānī* and *Jermāī* emirs on the way in *Shahr-e Bābak* (Samarqandī, 2004: 1st vol.: 294). The rebels were defeated by forces of *Shah Shoja'* and fled to the mountains of *Shahr-e Bābak*, which probably included *Maymand*, and took refuge there (Hāfīz-e Abrū, 1996 3rd vol.:130).

Owghān and *Jarmā* were two Mongolian tribes, which were deployed to protect borders of Kerman by *Arghūn Khan*. The tribes often comprised a significant part of *Mūbarīz al-Din's* army, but overuse of their forces in wars made them rebellious and they eventually plundered the city. After the incident, many members of the two tribes settled in *Shahr-e Bābak* (Husseini Mūsā, 2010:125).

In 1363 AD. *Shah Shoja'* departed to Kerman to quash *Dowlatshāh* who had captured the city. When *Dowlatshāh* heard about this, he went to *Deh Shotūrān* (presently known as *Khātūn Ābād*) with his cavalry of 4000 soldiers to fight against him. *Dowlatshāh* was murdered as ordered by *Shah Shoja'* and then he divided the city into segments giving each to his sons. Governance of *Shahr-e Bābak* was given to emir *Moezod-Din*, one of the Amir of *Mūzaffarids* (Najmī, 2002: 250). In 1386 AD. *Sūltān Bāyezīd*, brother of *Shah Shoja'*, who was going to Kerman from *Lorīstān*, arrived at *Shahr-e Bābak*. Companions of *Bāyezīd* plundered the city (Hāfīz-e Abrū, 1996: 2nd vol: 179).

In 1403 A.D. *Shahr-e Bābak* became the center of disputes among *Tīmūrīd* emirs (Hāfīz-e Abrū, 1996: 2ND Vol. 323-324). In 1408 AD. again there was a dispute over *Shahr-e Bābak* between *Sūltān Oveīs*, the ruler of Kerman, and the nephew of *Tīmūr*, *Mīrzā Abubakr* (Hāfīz-e Abrū, 1996: 3rd Vol. 204).

In early days of *Safavid* Dynasty (1502-1736 AD.) *Uzbeks* attacked *Shahr-e Bābak* and other areas of Kerman. During the ruling of *Tahmāsp I*, *Qāsem Beīg* from *Afsharids* was the sheriff (*Dārūgheh*). During *Safavid* era, people of *Shahr-e Bābak* participated in wars and were a significant part of Kerman's legion. For instance, in the war between *Muhammad Valī Khan-e-Shāmlo*, ruler of Kerman appointed by *Tahmāsp II*, and *Seyed Ahmad Safavi* from *Safavid* Dynasty, the people of *Shahr-e Bābak* together with people of *Barakuh* and *Sīrjān* fought in the legion of *Muhammad Valī Khan*.

At the end of *Safavid* era, a group of people from *Mīsh-e Mast* tribe from *Khorasān*, who were looking for a favorable place for farming and animal husbandry, were dispatched to *Shahr-e Bābak* and resided in *Qotb Ābād*. After settling in the area, *Mīsh-e Mast* tribe dominated there.

During the ruling of *Salār Muhammad Khan*, *Afghans* attacked *Shahr-e Bābak* and many villages were destroyed (*Husseini Mosā*, 2010: 135).

Following the incidents in *Shahr-e Bābak* district, some permanent and temporary communities took refuge in northern mountains of the city.

These immigrants who had been driven away by wars and invasions of tribes, looking for the safest places to reside, went along the valleys and chose to settle in upper parts of the rivers. The area, which is currently known as *Dast Kand* (hand carved/troglodytic) *Maymand* was one of those destinations.

This location, in addition to being surrounded by mountains, had cave like shelters, which were very suitable as initial settlements for immigrants (R2. Fig.16).

One piece of pottery found in a *Maymand* house was tested through Thermo luminescence and was shown to have been for 600 years ago (*Pūr Qorbān*, 2000: 51).

The hand carved architecture in *Maymand* can also be seen in two other places known as *Lākhorīn* (R2. Fig.17) and *Pīsh Estā* (R2. Fig.18). These places were a refuge for the local communities up to the 16th century.

At the same time, the castles, which had been constructed previously, were playing their own roles and were used as defensive structures to provide security in villages. The short distance between *Maymand* village and its castle and their direct spatial relationship is expressive of the direct interaction between these two cultural structures. In addition, there have been towers used for observation overlooking the hand carved village (R2. Fig.19).

By a closer look at the meaningful compression of towers and their short distance from hand carved structures, we can understand how significant security was for the residents of *Maymand*. It was the same concern that propelled the local communities to the mountains of *Maymand* and led them to take refuge in natural shelters; control roads via castles and towers; stay constantly in hand carved structures and even extend them. As a result of this, *Maymand* could accelerate its development. The development of *Maymand* was the result of environmental facilities some of which arose from natural conditions and others from human and cultural factors.

Maymand was adjacent to the largest river of the area. This river, in addition to providing potable water, was considered very significant for prosperity of agriculture and its banks were the most favorable for farming.

Topographic situation of hand carved village provided it with the best conditions for defence. *Maymand* was inaccessible from all points except from a passage in the southern front, which was previously observed by the castle. In addition, multiple towers provided more defensive potential for *Maymand* area (R2. Fig.20).

Consequently, *Maymand* gradually gained more importance in late 17th century and was transformed into a demographic, economic, political, and cultural center in the area. Afterwards, *Maymand* village acted as a cultural "terminal" i.e. it was on the one hand the source of livestock and agricultural products and military forces and on the other a target for refugees and invaders.

At the same time, this village acted as the distributor of what it received or produced. The dynamic role of *Maymand* from the cultural point of view brought about evolution and development in the area. The immediate result of *Maymand*'s prosperity was an increase in population. *Maymand* village could accept growing population as its natural capacity permitted constructing new hand carved structures and the surrounding farmlands could provide the necessities of newcomers. From 16th to 18th century, some families moved from *Maymand* and immigrated to adjacent valleys, which had similar climate to that of their own area. These immigrant groups chose places that were close to roads, rivers, and fertile lands like *Maymand* and possessed natural facilities to defend. As a result, villages were created which are today known as *Korom*, *Marj*, *Golāb* and *Chenār* (R2. Fig.21).

All these villages are located in a distance less than 10 kilometres from *Maymand*. The interesting point which is still observable in architecture of *Korom's* houses is that although they are not hand carved, they follow the same internal designs and plans as those of *Dast Kand* in *Maymand*. This is indicative of transmission of *Maymand's* architecture.

Expansion of villages and increase in their population led to a growth in the number of farmlands and gardens. The density of farmlands and gardens around the abovementioned villages, which can be counted as over 50, is an evidence indicating economic prosperity based on agriculture from 16th to 18th century. During this period, this conforms to Sassanid Empire, the number of cemeteries surged (R2. Fig.22).

Most of the deceased buried in these cemeteries lived in *Safavid* era. Using high quality marble and demonstrating artistic creativity in calligraphy and decorating the tombstones during 16th to 18th century is indicative of cultural and economic prosperity and development in *Maymand* district (R2. Fig.23).

Another phenomenon expressive of cultural identity of *Maymand* in late Islamic era is a set of water mills most of which founded in *Safavid* era. Building multiple mills indicates agricultural development in the area. The interesting point is the compression of most mills in the bank of the river, which flows by the village (R2. Fig.25). This is another proof demonstrating economic centrality of *Maymand* village in the area.

Prosperity of *Maymand* in 18th century attracted many contemporary rulers to there. *Nader Shah* in 1737, a year after coronation in *Mūgān* Plain and then repulsion of *Bakhtīārī* rebels, set off to Isfahan and through *Abarkūh*, *Eqlīd* and *Herat* entered *Rabat* 35 kilometers to *Shahr-e Bābak*.

Nader Shāh went to *Shahre Bābak* after passing *Rabat* and there he was welcomed by *Salār Muhammad II*, the son of *Salār Abdul Wahāb*. After leaving *Shahr-e Bābak* and *Kerman*, *Nader Shah* departed to conquer *Delhi* and in order to equip his army sought help from the ruler of *Kerman* who also sought help from dependencies. It is said that 100 people were chosen from *Shahr-e Bābak* as suggested by the son of *Maymand's* headman; *Mahmoud-e Maymandi* was also selected as their commander.

and *Mahmud Maymandi* was appointed as their commander (*Husseini Mosa*, 2010: 138). Historical and climatic changes during 18th to 20th century brought about some changes in cultural aspects of *Maymand*. During this period, the relationship between *Maymand*

and *Shahr-e Bābak* improved and people of *Maymand* comprised a major part of military forces of *Shahr-e Bābak* and west of Kerman. As a result, the security of *Maymand* was undertaken by *Shahr-e Bābak* and gradually defensive castles were abandoned. During the ruling of *Bastām Khan-e-Zand* (1765), the governance of Kerman was divided into two. The eastern section included *Govāshīr*, *Khabīs*, *Bam*, *Raīn*, *Rāvar*, *Zarand*, *Kubnān*, *Rafsanjān*, *Anār* and *Bardsīr* and was assigned to *Mīrzā Hussein Khan-e-Raīnī* and the western section which included *Shahr-e Bābak*, *Sīrjān*, *Aqta'*, *Arzūyeh*, *Kushk*, *Suqān* and *Esfandeqeh* assigned to *Ali Khan-e-Karānī-e- Sīrjānī*. *Ali Khan* was more successful than *Hussein Khan* as he delegated whatever concerning *Shahre Bābak* to his brother *Muhammad Reza Khan* and appointed his other brother *Shah Hussein Khan* to collect tax from other dependencies (*Vazīrī*, 2006 a: 695).

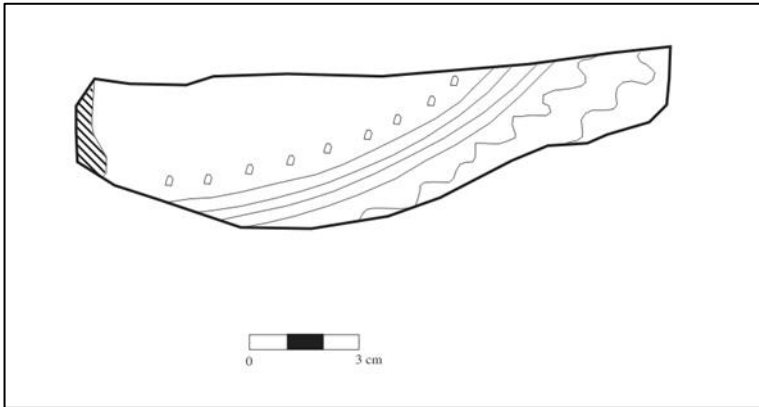
In late *Zand* Dynasty, after *Abul Hassan Khan* the ruler of Kerman was defeated by Afghans, *Shahr-e Bābak* , together with *Shahdād (Khabīs)*, was captured by *A'zam Khan* and *Madad Khan* from *Afghan* forces and was in chaos up to the death of *A'zam Khan* and when *Āqā Muhammad Khan-e-Qājār* entered the area.

Afterwards, *Lotf Ali Khan-e-Zand* was attracted to *Shahr-e Bābak* and *Govāshīr* and was welcomed by *Muhammad Reza Sīrjānī* in *Sīrjān* and collected whatever he needed (*Vazīrī*, 2006 a: 712).

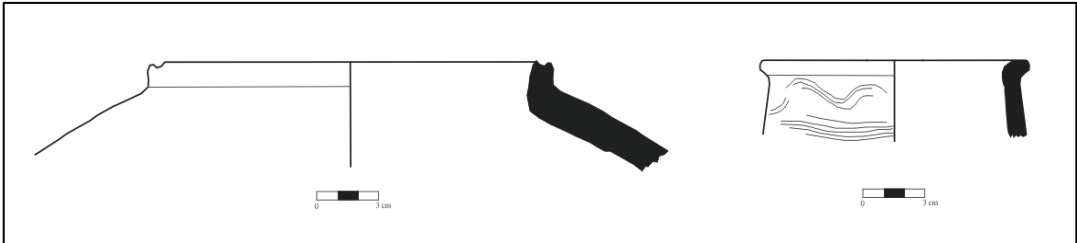
Later *Lotf Ali Khan* lost interest in *Shahr-e Bābak* and set off to *Lār*. After a while, some Arab tribes of *Fars* and *Qashqāī* plundered some villages in *Shahr-e Bābak* and *Sīrjān*. *Pottinger*, the British advisor, believed *Shahr-e Bābak* in 1810 had deteriorated compared with earlier years (*Pottinger*, 2005: 268-269). Ruling of incompetent rulers like *Kohandel Khan-e-Afghan* over this city (*Etemād-ol Saltaneh*, 1988: Vol. 3: 1650-1652) made it less secure and as a result of constant invasions productive activities were affected.

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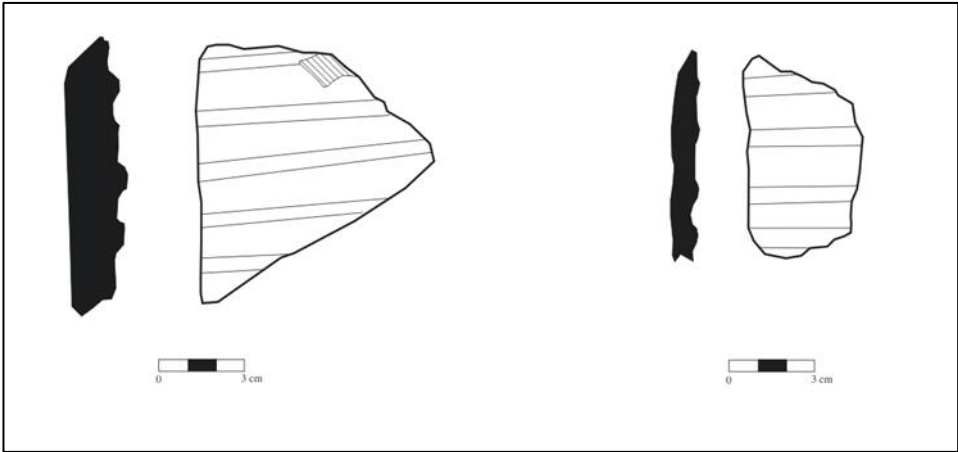
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R2. Fig. 1: Achaemenid potsherd found at Qal'e Maymand



R2. Fig. 2: Arsacid potsherds found at Qal'e Maymand



R2. Fig. 3: Sasanid potsherds found at Qal'e Maymand



R2.Fig. 4: Architectural remains of *Qal'e Maymand*



R2.Fig. 5: Façade of *Qal'e Sargale*



R2.Fig. 6: Remains of the lateral spaces of *Qal'e Sargale*



R2.Fig. 7: Architectural remains at the site of *Emārat-e Chenār* in form of archaeological mound



R2.Fig. 8: Potsherds scatter in surface of *Emārat-e Chenār*



R2.Fig. 9: The specified type of Sasanian pottery in the cultural sphere of south-eastern Iran



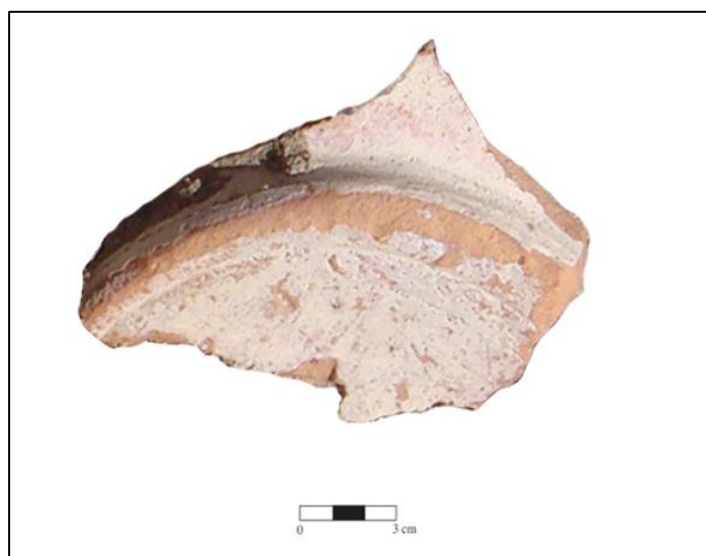
R2.Fig. 10: Surface of Tal-e Rig covered with potsherds and rubbles testifying a nomadic Settlement in the site



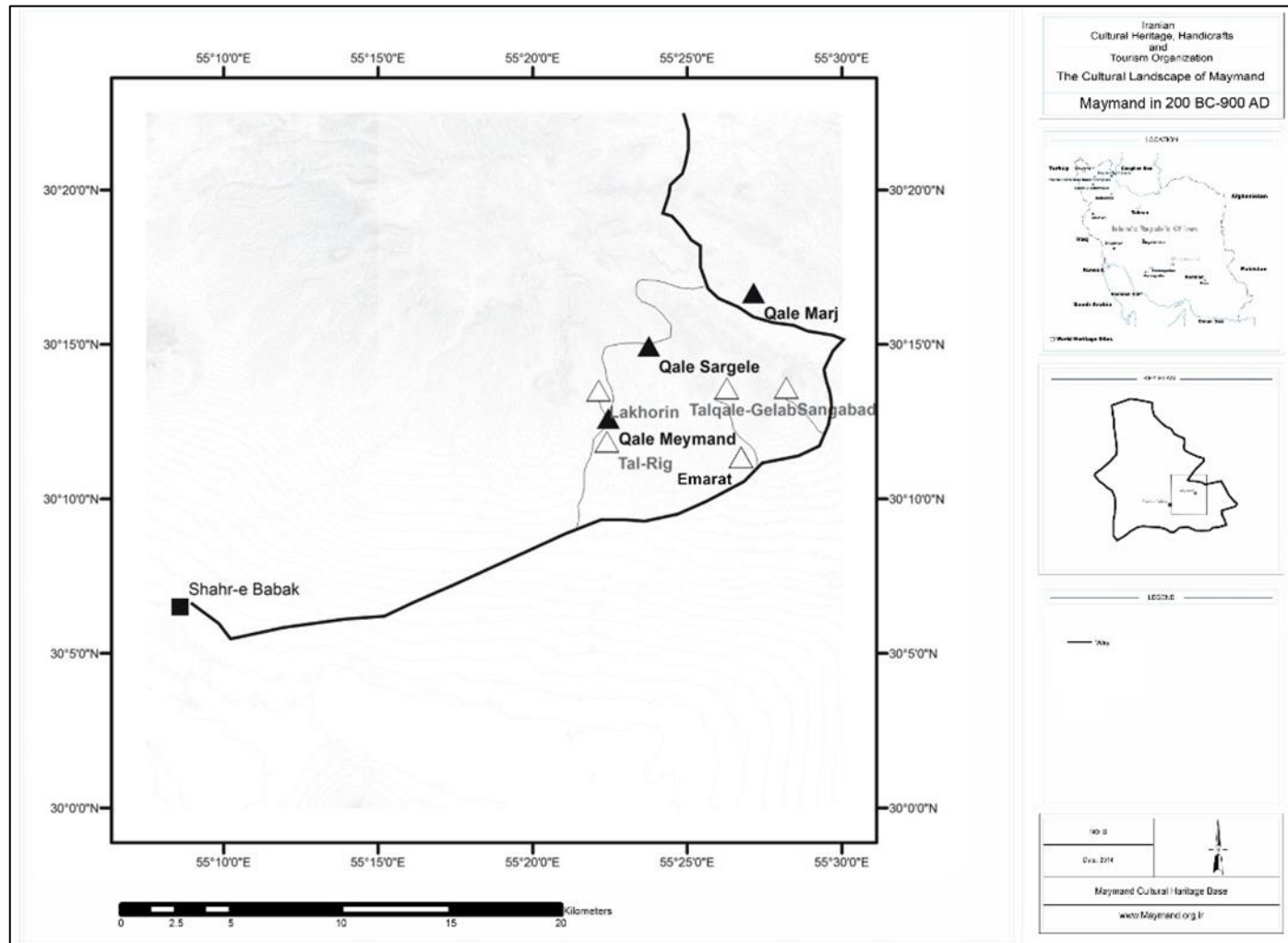
R2.Fig. 11 Accumulation of rubbles in *Tal-e Rīg* showing the vestiges of pitching the tent



R2.Fig. 12: Samples of historical potteries at *Tal-e Rīg*



R2.Fig. 12: A piece of a bowl's base decorated with white slip belongs to tenth or ninth century AD settlement at *Tal-e Rīg*



R2.Fig. 14: Settlement pattern in *Maymand* sphere from 200 BC to 900 AD



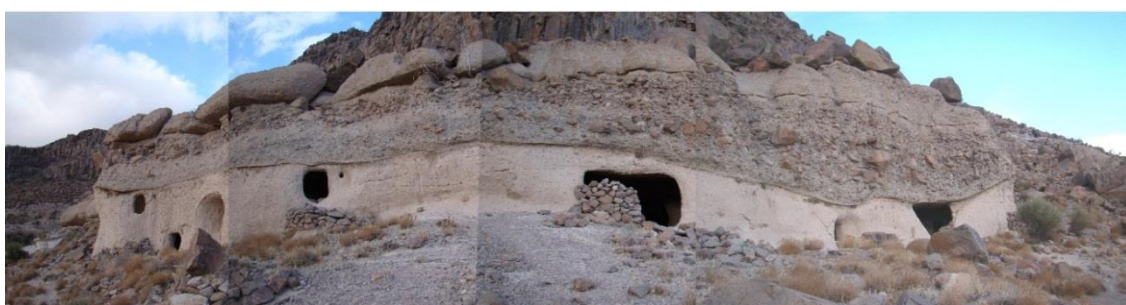
R2.Fig. 15: Situation of *Shahr-e Bābak* on the chief road connecting Shiraz to *Rudān* and *Sirjān* based on Ibn-e Khordadbeh the the Persian geographer of the 9th century



R2.Fig. 16: Troglodytic village of *Maymand*



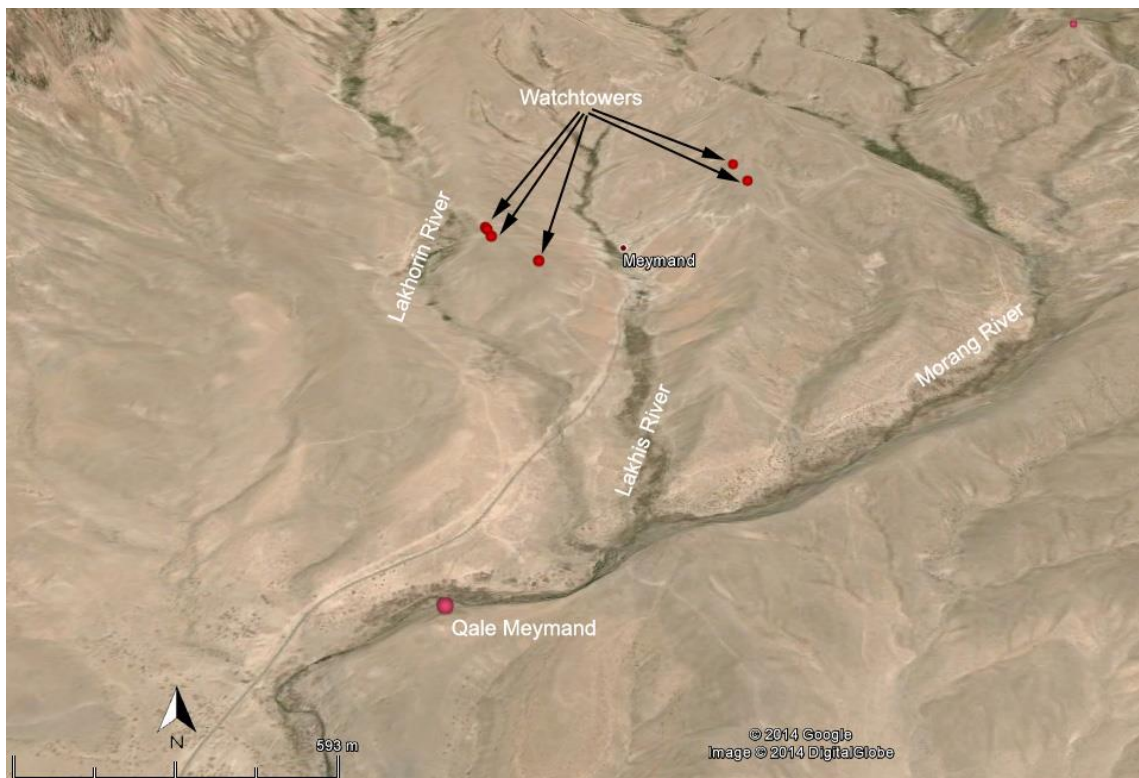
R2.Fig. 17: *LāKhorrīn*'s troglodytic spaces



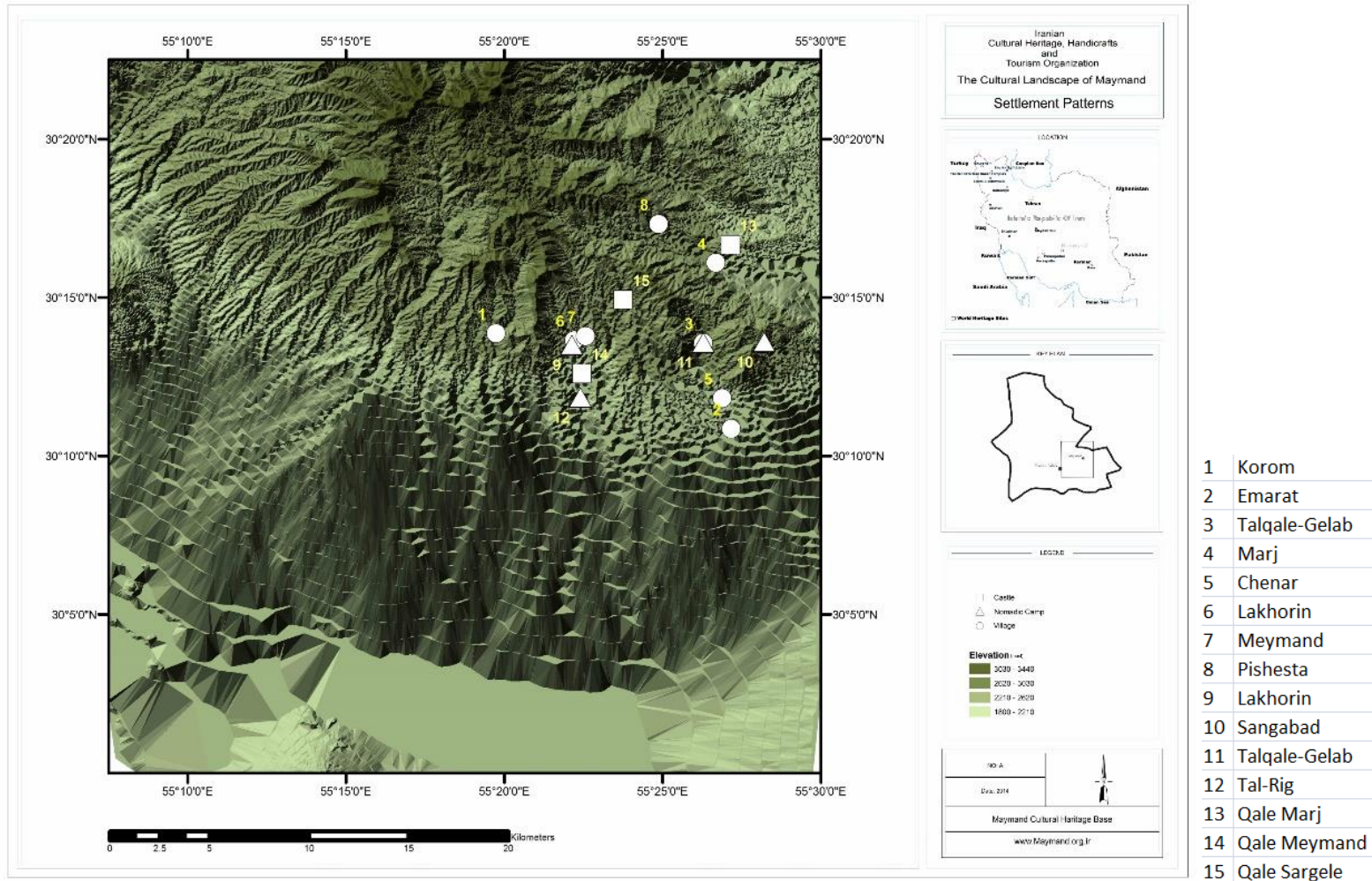
R2.Fig. 13: *Pīsh Estā*'s troglodytic spaces



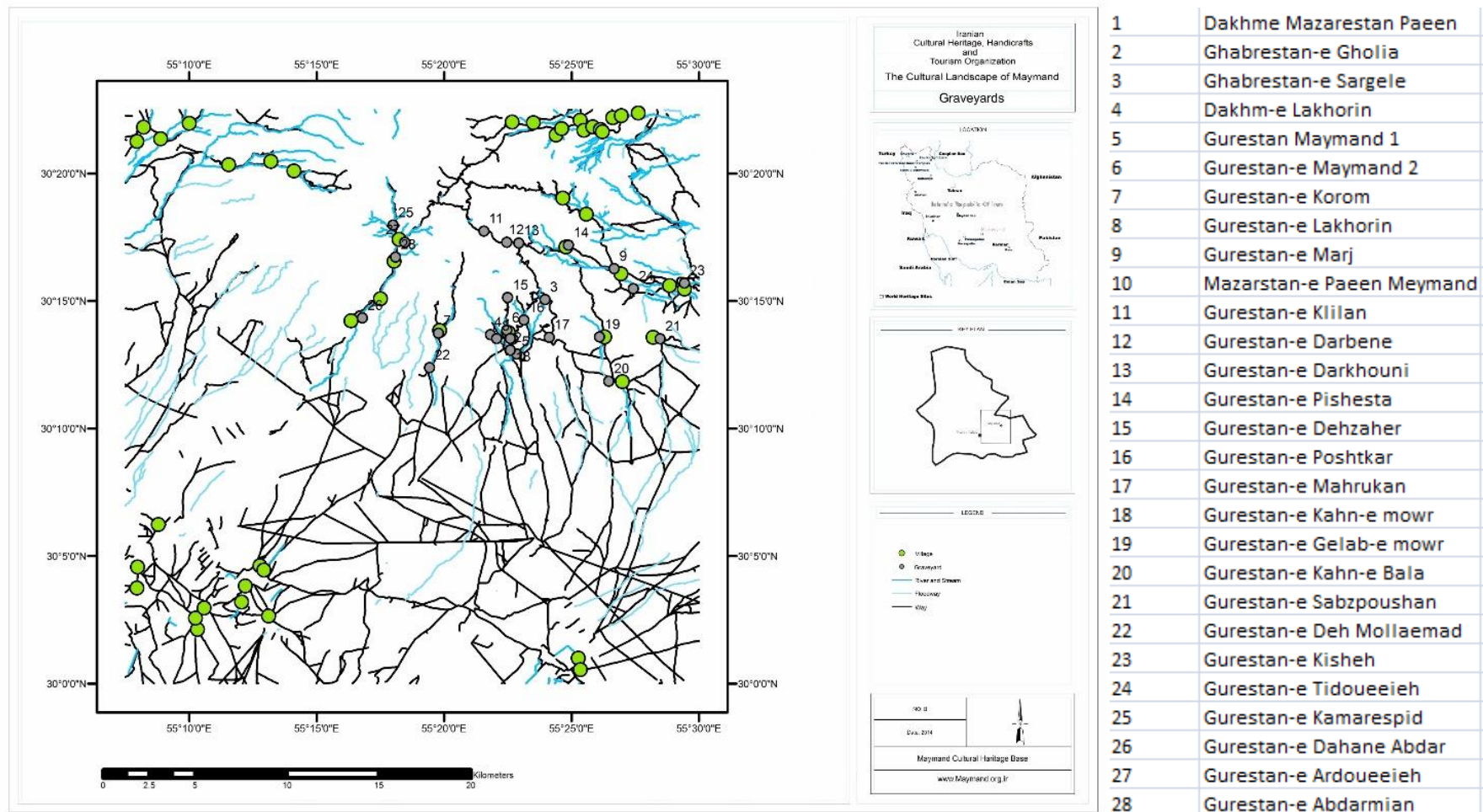
R2.Fig. 14: Remains of two watchtowers overlooking *Maymand*



R2.Fig. 20: Geographic features and defensive structures have led to development of *Maymand*



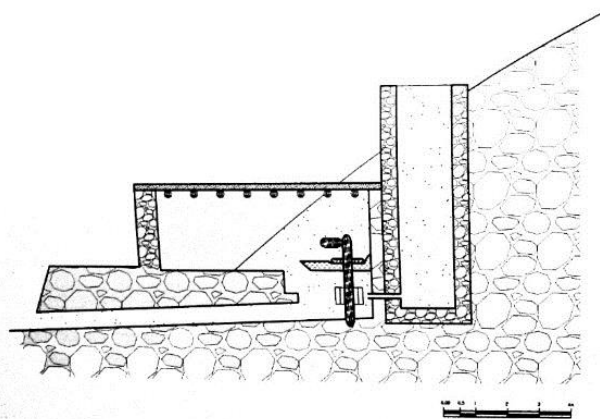
R2.Fig. 21: Settlement pattern of the region of *Maymand*



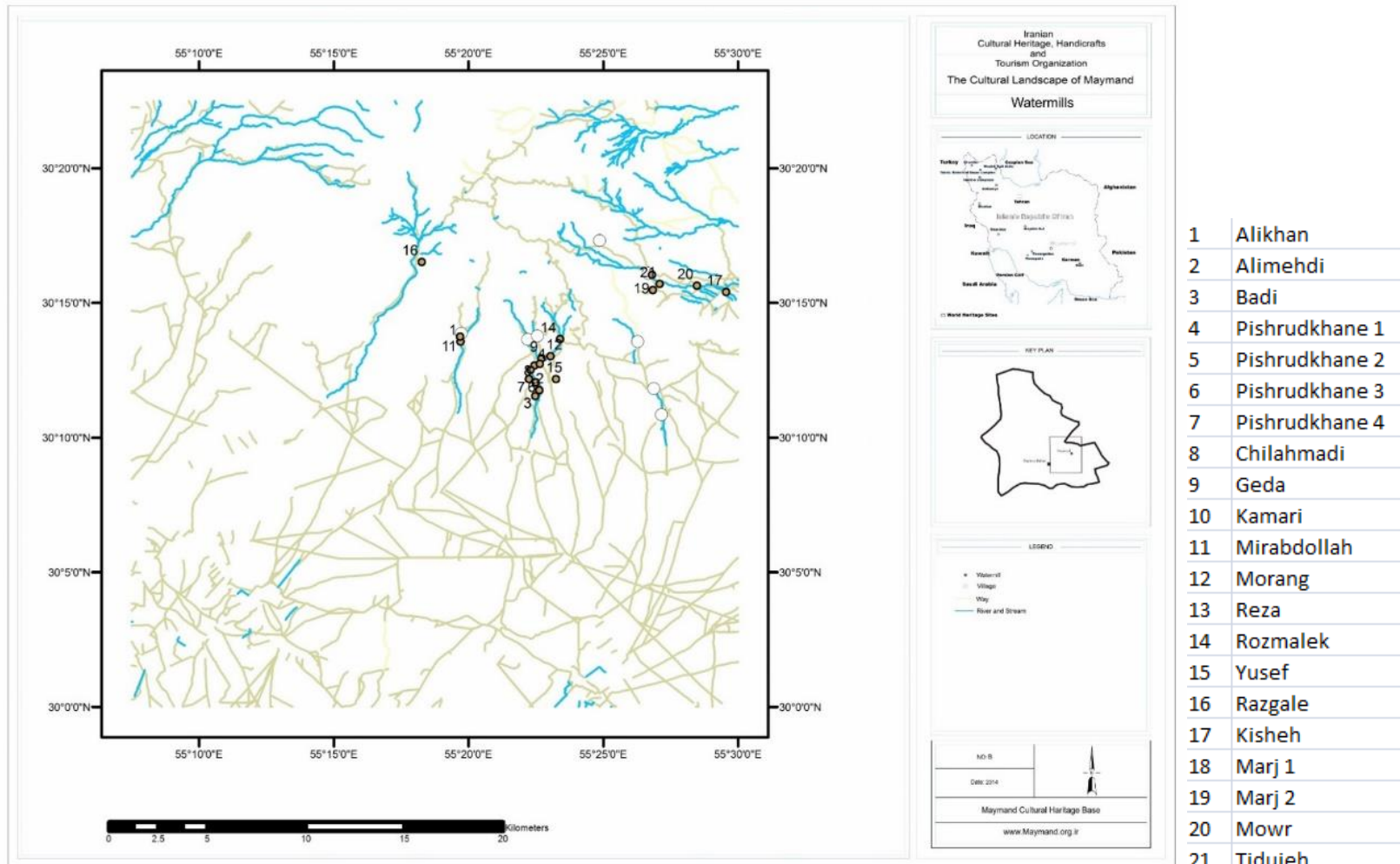
R2.Fig. 22: Spatial distribution of graveyards in 16th century and thereafter



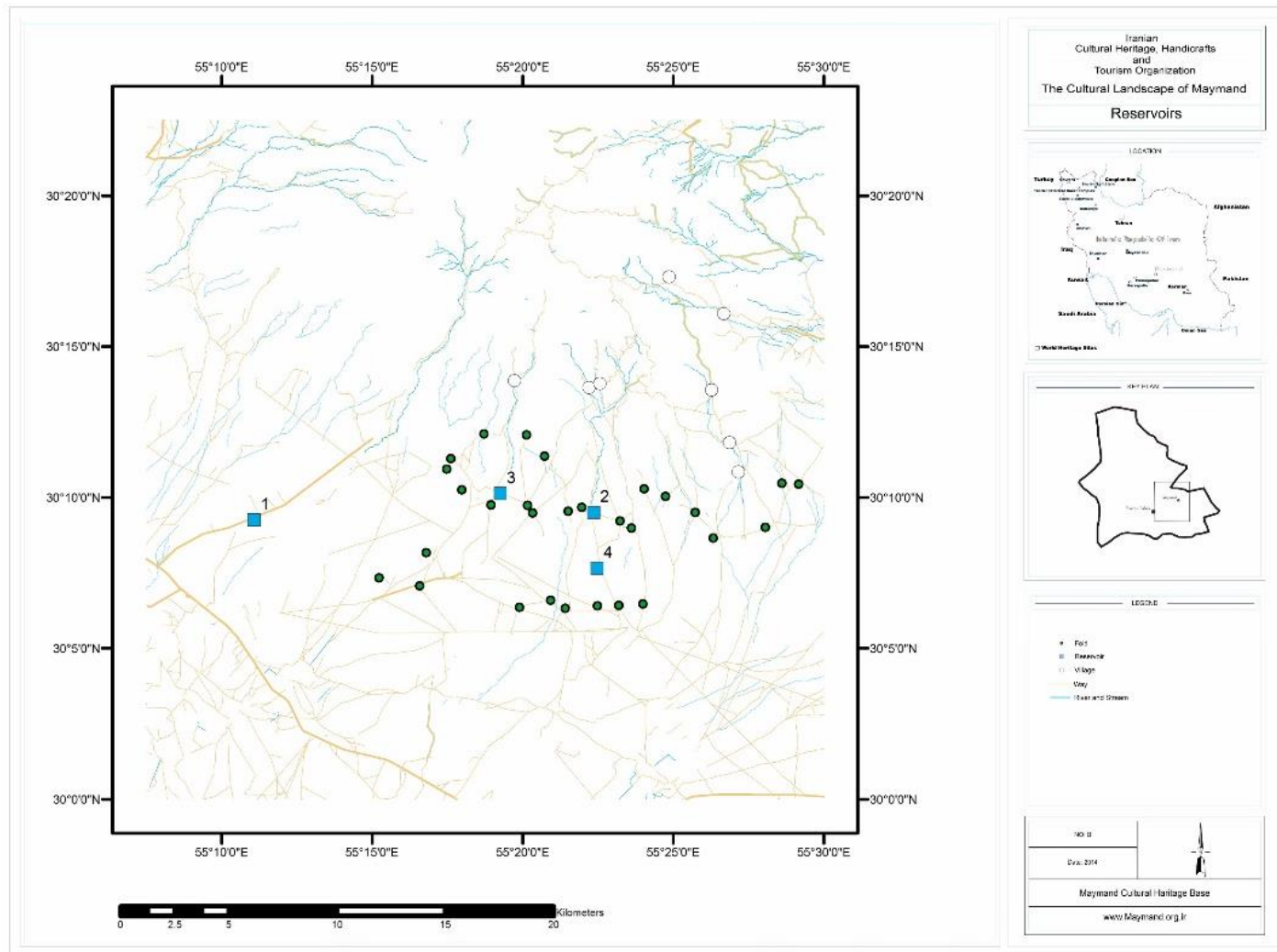
R2.Fig. 23: Two samples of *Maymand's* gravestones show employment of calligraphy and the stones in good quality after 16th century in the region



R2.Fig. 24: Section and remains of a watermill situated in bank of *Maymand* River



R2.Fig. 25: Spatial distribution of watermills in *Maymand's* landscape



R2.Fig. 26: Spatial distribution of folds in *Maymand's* landscape



R2.Fig. 27: A summer hut or *Gombéh* constructed of rubbles in walls and timbers in roof



R2.Fig. 28: A reservoir with barrel roof in eastern bank of *Maymand River*

Report 3

Agro-pastoral Lifestyle

A Descriptive and Comparative Study

Chapter 1- Description of *Maymand's* Agro-pastoral System

1-1- Introduction

Human beings have always been dependent on their surrounding environment to fulfill their needs. In pre-historic ages, these needs were of three major categories, namely food, security and shelter, but man gradually changed the manner and kind of his interaction with the environment. The traditional and primitive interactions with environment have undergone radical changes along with changes having occurred in man's views about his requirements. Nonetheless, there are still primitive and traditional lifestyles and methods of mutual interaction with the environment in some parts of the world. The existence of such lifestyles is of paramount importance because they are still wrapped in mysteries. Such heritage, no doubt, needs to be inscribed and safeguarded. There are still untouched communities, which have preserved their unique interaction with the environment, and their subsistence proves the effectiveness of their nature utilization methods. *Maymand* in the west of Kerman Province provides us with an outstanding cultural space in terms of its unique traditional customs and man-environment interactions. Man's life in this area is associated with three different zones:

- 1) Man-made caves
- 2) *Sar-e-Āghols* / folds (set of enclosures / spaces in the plains used by people and the cattle)
- 3) Settlement zone ; *Sar-e-Bāgh* / hamlets (any space used for gardening or cattle raising on the slopes)

The people follow two major occupations, namely animal husbandry, and farming activities , and the two follow a unique agro-pastoral system, that follows the requirements for each particular part of the year. The historical man-made caves (troglodytes) created hundreds of years ago are of prime importance, however, the hidden value of these historical structures will be meaningful if they are embedded within the cultural perspective of the region. The agro-pastoral lifestyle of the community, which is combined with migration, is a very specialized phenomenon in terms of both its migratory habits and the kind of rationality found in it. The Cultural Landscape of *Maymand* apart from the above cited points, do possess features which make it distinct from its counterparts in other parts of the world. This distinction, which

is a rare case of man's harmony with desert environments, can be a rich learning source for the contemporary, and in case preserved properly, for future generations.

The present report has two main objectives; the first aims at providing a description of the region and the second looks for a contrastive study of agro-pastoral system of *Maymand*.

Since the residents do not use troglodytes all the yearlong, and they move from this site to other places, visitors may pose the following questions:

Why do the residents leave the troglodytic village?

Where do they go after leaving the troglodytic village?

Where do they move for settlement?

When do they leave *Maymand* and when do they return there? And why?

To answer the above questions, field visits of all cultural aspects of the region and in-depth interviews were used. The study tried to investigate the agro-pastoral system by comparing and contrasting it with its counterparts at local, regional and global levels.

To carry out contrastive studies, the adjacent regions, which were similar in terms of their climatic, the and cultural aspects with the site, were chosen. To do the contrastive studies at regional level, the agro-pastoral reports prepared for neighboring countries were used. To describe the agro-pastoral system, the domains related to shelter, migration, the type of man and environment interaction, social mechanisms, self-sufficiency, and local interdependence displayed a much better potential, so they were given high priority in the study. Contrastive studies, conducted as a requirement for the international inscription of the site, to supply the nomination file with the needed supplementary information, revealed unique and exclusive features, which were shocking even for the experts in pastoral and agro-pastoral systems.

1-2 Summary of the report

Maymand can be approached from various aspects. In first sight, its troglodytes are the remains of a historical culture left over from our ancestors, a symbol which displays man's full adaptability with his environment to cope with various human or natural phenomena including war and defense, cold, or intolerable heat or a combination of both; but these troglodytes cannot represent the entire cultural characteristics of the site. In fact, a comprehensive study of *Maymand* would require a holistic view, which embeds its troglodytes within a larger landscape, the components of which are closely interrelated. *Maymand* consists of three major elements: troglodytes, folds of the plains (pastures + spaces for man living and cattle raising), and settlement zones in mountainous areas (mountainous pastures, farmlands and fields and open spaces for man and his herds). The troglodytes and their history have already been extensively studied by interested researchers, and the published results are well-known to the public; but there is no record about the unique interaction of man and his environment in desert areas, an interaction which is best demonstrated by the agro-pastoral system. To compensate for this, a renewed collection of research methods including field visits, surveys, interviews, direct observation and review of related literature were conducted. Because of the mixed nature of the lifestyles in troglodytes, plains, and mountainous settlement zones (that pointed to the similarities and differences of settlement in the desert and on the slopes), field studies were undertaken in all of these different zones in order to provide a more comprehensive picture. The aspects investigated include regular migration of people with the cattle to and from plains and mountains, various types of cattle raising activities cattle plains and mountains, methods of utilization of natural resources, e.g. desert plants, corn residue, or pastures, especially for cattle-raising, , the type and quantity of cattle-related products, kind of farming activities, type and quantity of agricultural products, settlement spaces of people and the cattle, type and manner of resource allocation , including water resources and fields, on the landscape,, the relationship between agriculture and cattle raising and its stability in the agro-pastoral system of *Maymand*, self-sufficiency and local dependence, and man's harmony with his living.

To have a wider scope for the studies undertaken, the agro-pastoral system at global level was taken into consideration as well. To do so, the philosophy and rationale leading to agro-pastoral systems were compared with mere pastoral systems. Since *Maymand's* agro-pastoral system is practiced at desert and dry regions, an attempt was made to investigate similar cases in other parts of the world. These systems are found in the eastern parts of the Mediterranean and southwest of Asia (India, Pakistan, and Afghanistan) as well as areas in the proximity of *Maymand*. The mentioned comparative studies led into confirmation of the claim that the agro-pastoral system of Maymand, taken into consideration in the network of its unique features, constitutes a Desert Cultural Landscape of Outstanding Universal Value, to the extent that it could rightly be supported for inscription on the World Heritage List.

1-3 Cultural Landscape of Maymand

The *Cultural Landscape of Maymand* lies within a catchment area. Adjacency of a mild sloped Plain and a mountainous area has created conditions, which allow the simultaneous implementation of agriculture and animal husbandry under a common system of agro-pastoral system. The troglodytic village and *Sar-e Bāgh* near the mountains and *Sar-e-Āghols* on the Plains have created an interconnected system for the living of *Maymand* people for many years; these people are living in places which are chosen on the basis of their climatic and seasonal or occupational needs. The cattle is often kept in the Plain areas while a small section of cattle raising activities are carried out on the mountains. Agricultural works are mostly limited to the Plains. Troglodytes are used for residence during cold winter days. Tourists, and archeologists are mostly interested in the historical dimensions of troglodytes, but what is of more significance concerns the lifestyle of the people there. Agriculture in the hamlets is of two types, farms and orchards; the products include almond, walnut, grapes, eggplants, and tomato. The animal husbandry revolves around three main sales, namely, livestock, meat, and dairy products.. These activities are interrelated to some extent, a relationship, which is, realized when crop residues are used for the feeding the cattle and the manure of the livestock is used as a fertilizer for the farmlands and trees. Such activities constitute complementary parts of the agro-pastoral system to the extent that they are inseparable from each other.

The utilization of available resources on the Plains and Mountains, and their sharing follows a common system at *Maymand*. Such resources, that are necessary for the community's survival include available farmlands, pastures, water resources, etc. . . . Some 100 households share the pastures; they are divided based on *Sar-e-Āghol* share system, which includes 10-12 families to access a land about 1400 ha. The entire Plain is thus divided into 8 separate *Sar-e-Āghols*. The cattle of all families belonging to the same *Sar-e-Āghol* create one single herd to Graze in that specific *Sar-e-Āghol*. The shareholders of each *Sar-e-Āghol* can graze their herds within the mutually agreed borders of their zone, and they are not allowed to trespass to other *Sar-e-Āghols*. In the mid-summer, the families on the Plain areas migrate to their own hamlets to do their farming and raise their cattle. This migration is locally called "*Panjeh*". The resources of the hamlets are divided into three categories namely farmlands, water, and mountainous pastures. The farmlands are further divided based on each family's share of the total lands. This procedure is also followed for water allocation, which is determined on a person's total share of farmlands. Another issue concerning the cultural landscape relates to living spaces in Plain and Mountainous areas. These living spaces have been developed in such a way that they have the best harmony with the environment. The construction materials are mostly tree trunks, bushes, rocks and mortar, all of which are obtainable from the surrounding landscape. Moreover, these living spaces have their unique architecture, which has been designed based on climatic conditions and life requirements dictated by different time periods in Plain and Mountain areas. Concerning movement and migration, there are different migrations at different times of the year based on the type of activities done. These issues will be described in detail in the following section, but before dealing with contrastive studies, let us illustrate the agro-pastoral system of *Maymand* in more detail.



R3.Fig. 01: General view of *Cultural Landscape of Maymand*

1-4 Migratory agro-pastoral system of *Maymand*

1-4-1- Calendar

The agro-pastoral activities in *Maymand* are focused on two main activities, namely agriculture and cattle raising. Since the communities are involved in two productive businesses, for each particular activity, they migrate to different areas during the year. Each of these micro-systems enjoys its own temporal and spatial characteristics, which stem from long years of experience and are rooted in the rationale and lifestyles of their ancestors. It needs to be added here that agro-pastoralists carry out their cattle-raising activities based on herding and their grazing in different pastures during the year, while they concentrate their agricultural activities in hamlets. The interrelationship of farming and herd raising activities enables the agro-pastoralists to make the best use of the time opportunities and have the least dead time.

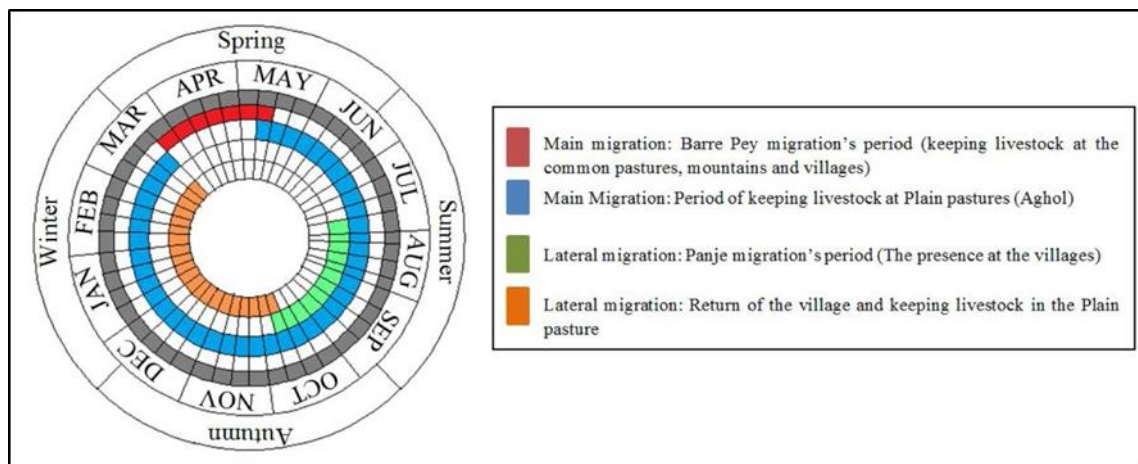
1-4-1-1- Cattle and man mobility

Herds and men mobility on the cultural landscape of *Maymand* has its own distinctive features. Regarding the concept of migration, it can be classified into different sub-categories such as shepherds' migration, households' migration, herds' moving, and migration caused by agricultural or cattle raising needs. These issues are explained in more detail in the following section.

1-4-1-1-1- Timing of herd movement

The cattlemen move their herds in search of forage on a specified timetable. In addition, they move their herds based on topographic and climatic conditions of a given region and the strategies they have developed over years. The agro-pastoral system of *Maymand* is partial migratory system in which the cattle have two main and two minor (lateral) migrations during the year, which is determined on the basis of climatic and topographic conditions and agro-pastoral customs. The main migration refers to the time when all cattlemen move their herds, but lateral migrations, which have a limited scope, occur when few cattlemen move their herds due to climatic conditions, vegetation cover and the work schedule of the agro-pastoralists. The timetable of cattle movement is displayed in R3.Fig. 02.

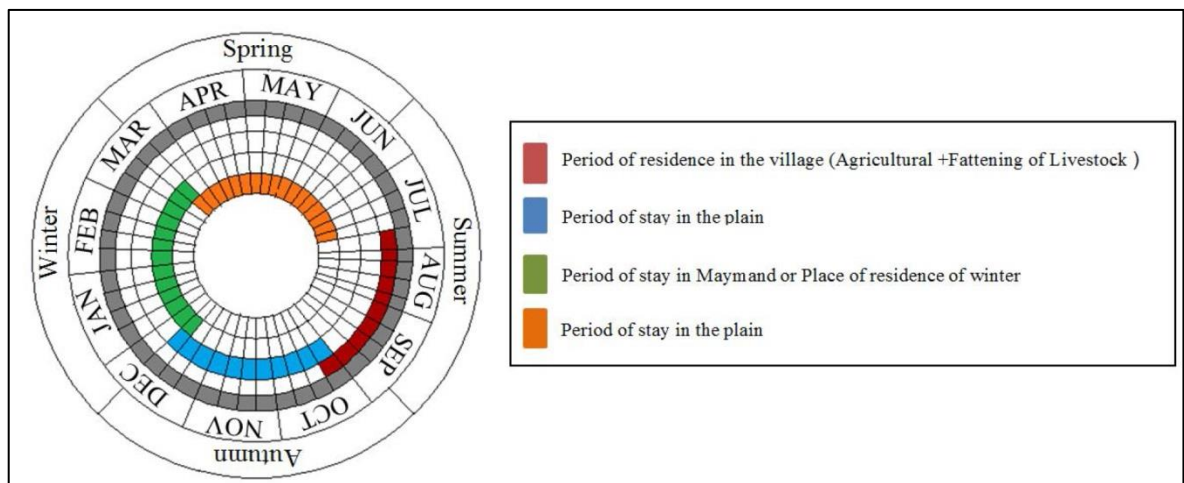
The agro-pastoralists of *Maymand* start the movement of their herds in mid-July; the first migration, which is called “Barre Pey”, begins in early spring when there is a noticeable change in vegetation cover. Sheep herds (only ewes) with their lambs born in winter are moved from *Sar-e-Āghol* area to higher lands. This period lasts about two months. The second main migration takes place when the herds are moved back to *Sar-e-Āghol* areas. *Maymand* cattlemen move a substantial part of their livestock during this period. The members of each *Sar-e-Āghol* take a part of their livestock (ewes and their lambs) to their own fields in hamlets on the mountains. This migration may last three months and afterwards they return their herds to *Sar-e-Āghols*. The aim of this movement is to use the harvest residues, to fatten the livestock and graze the herds on highland pastures. The idea behind this movement is an attempt to harmonize with nature. It shows that livestock movement strategies are based on a careful consideration of ecological, economic, and environmental issues to achieve sustainable efficiency.



R3.Fig. 02: Time and place of herds' movement in *Maymand's* Agro-pastoral grazing calendar

1-4-1-1-2- Man migration calendar

As was noted before, temporal and spatial movements of men in Maymand are distinct from each other. Due to the simultaneous persuasion of both activities, conditions require the active presence of villagers at the hamlets in certain periods of the year to carry out the agricultural activities. Moreover, the herd raising business requires the movement between *Sar-e-Āghols* and *Sar-e Bāghs*. R3.Fig. 03 display this movement.



R3.Fig. 03: Stay periods of men in agro-pastoral of *Maymand*

One advantage of agro-pastoral system concerns its effective time management. In other words, a person finds enough time to deal with various tasks related to cultivation or livestock raising during the year.

As can be seen in the above diagram, there are four main movements for men in this system. The first migration takes place in March when the members of *Sar-e-Āghol* move with their families to highland hamlets. This migration is driven by the needs to deal with cultivation, to keep and graze the livestock in fields and adjoining pastures, and attend some other activities such as producing dairy. People often stay for three months in the hamlets. The second migration occurs when people return to the *Sar-e-Āghol* and remain there until the end of autumn. The third migration is triggered by the climatic condition when it starts getting cold in winter. So the villagers move back to Maymand. The last migration coincides with the return from *Maymand* to the *Sar-e-Āghol*. The affairs related to livestock raising, such as grazing the *Barre Pey* herds, grazing the herds of isolated rams, goat herds, milking and dairy production by women, sheep shearing and other affairs will be described in the following section. Ideal climatic condition in spring is another cause for this movement.



R3.Fig. 04: *Sar-e-Āghol*

1-4-1-2- Special Migration (migration after *Panjeh*)

Herdsman all over the world follow a special strategy in their movements. Vegetation cover and climatic conditions are two main factors, which determine herds' movements in the Northern Hemisphere. In this system, herd grazing is scheduled at the start of cold seasons (winter pastures) and warm seasons (summer pastures) in order to provide suitable climatic conditions and forage for the herds. In this procedure, the herdsman move their herds to higher lands as the grass start growing and the weather gets warmer. But as it gets colder, they move to areas in Plains which have a milder climate during cold seasons. Migration in *Maymand* takes place in three stages.

The most important migration in *Maymand* is the one which takes place at the end of *Panjeh*. This migration starts in mid-summer or late July, it is noteworthy to mention that unlike other places in the world, here the migration from Plains to highlands takes place in mid-summer. The coincidence of harvest time at the hamlets with the suitable time for lamb fattening can be cited as the logic behind this movement.

Various forms of man and cattle migration take place in Maymand, which are determined on the basis of type of farming activities, family or cattle type. As an example, during Barreh Pey, only ewes and their lambs are moved and all the rams and goats stay in Plains. Only sheep that need to be fattened are taken to highlands. Men also migrate three times: at the end of winter to Plain areas, after Panjeh which is the migration to highlands and hamlets, after the end of farming, and finally their migration to winter habitats.



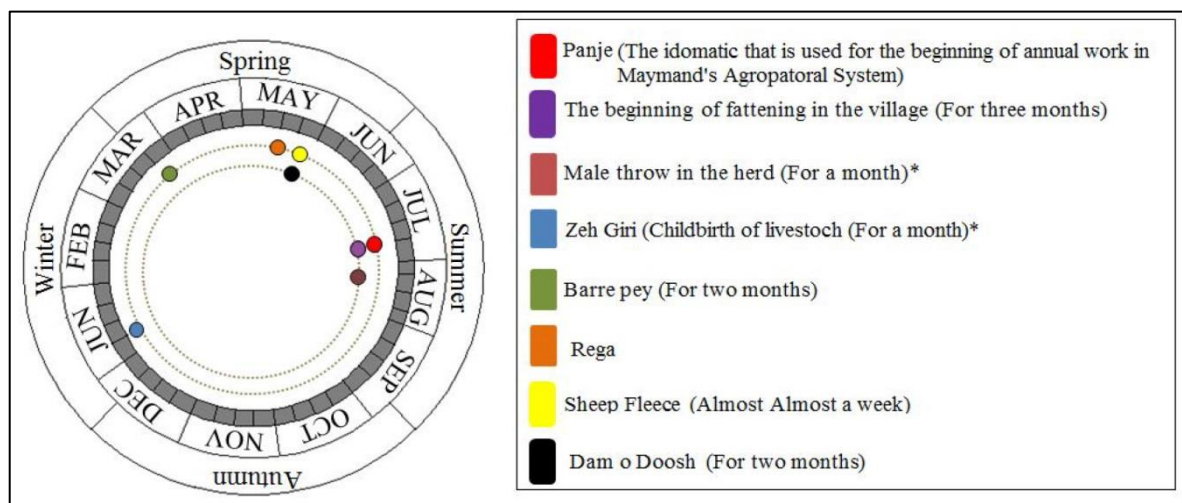
R3.Fig. 05-06: Plain and livestock in *Cultural Landscape of Maymand*

1-4-2- Annual cycle of agricultural-livestock raising activities

1-4-2-1- Livestock raising activities during grazing calendar

Livestock raising follows its own planning in different parts of the world, and these procedures are shaped by peoples' past experiences, traditions and their climatic and topographic conditions. Due to the general system dominant on nature, the framework of this planning has a similar form everywhere, but methods, timing, and procedures for each activity may differ in different parts of the world.

In the agro-pastoral system of *Maymand*, *Panjeh* grazing schedule starts at the end of July. At this time, all financial planning or last year's livestock raising activities come to an end and a new planning is made for the next year. This annual planning differentiates *Maymand's* agro-pastoral system from its counterparts. The planning is outlined in graph R3.Fig. 07.



R3.Fig. 07: Time and place of livestock raising activities in Maymand Agro-pastoral System

Panjeh

Cattle raising activities usually start at the end of July, which is traditionally called "Panjeh" by local herdsman. This is the period in which new planning for the next year animal husbandry takes place. During this period, all the due and outstanding costs are settled and planning for the New Crop Year begins. Some of the planning, which takes place, includes:

Finalizing the members of “Sar-e-Āghols”

The ownership system of *Maymand* is communal and collective. It needs to be noted that there are two main locations for the keeping of cattle in *Maymand*, which include *Sar-e-Āghols* or Plain pastures and hamlets / *Sar-e-Bāgh*. Inside each of these *Sar-e-Āghols*, several families join their cattles and form one single large cattle and manage it collectively. Each herdsman can freely choose a suitable location in the Plain zone for the next year, provided the head of the community and other members approve it. New members can join the newly formed *Sar-e-Āghol* or leave their former *Āghol*. All this planning should be done before *Panjeh*, so that the new *Panjeh* can start smoothly without any problem.

Moving to summer Pasture starts in mid-summer in Maymand. When the plans for next year (Panjeh) are made, the agro-pastoralists of Maymand and their families move towards the mountain cottages (at 9-10 km distance from Plain zones) to grow crops.

1) Hiring shepherds

In each *Panjeh*, the shepherds are hired. If last year shepherd agrees to stay in Plain Pasture, his contract is renewed, otherwise a new shepherd is employed.

2) Setting of Gomārī, Khoshkeh and Pādo Plans

For the new livestock raising activities, duties and work shifts are determined which include *Gomārī*, *Khoshkeh* and *Pādo*, these terms refer to the duties that each member of *Sar-e-Āghols* has to do for the herds. These terms signify the roles that *Sar-e-Āghol* members have to play in herding and assisting the shepherd during the following year. They will be explained in the following sections

3) Payment of the fees for water and other services rendered at Plain area

The person in charge of each large herd pays the costs of planned activities at this time. These costs refer to all of the activities carried out last year or are planned to be performed in the current year, e.g. *Sar-e-Āghol*'s maintenance costs.

After planning for the next year is over, the *Sar-e-Āghols* members and their families move towards hamlets / *Sar-e-Bāgh*. Unlike other parts of the world where migration takes place in early spring or at most early summer, *Maymand* communities move to colder mountainous zones in mid-summer.

Sheep fattening

Families select a minimum of 3 to at most 12 lambs for fattening purposes, a selection which is based on their experiences. After *Panjeh* is over, families bring these lambs to one of the shelters in the hutment called “*kūzārdūn*” to fatten.

Ram Mating (*Ghūch Andāzī*)

Ram mating is done once a year in *Maymand*. Ram mating which starts in mid-August lasts for almost a month. At this period, the herdsmen based on their past experiences and established customs, let one ram mate with 10 ewes, after 20 days from the start of ram-mating or “*Ghūch Andāzī*”, goat-mating starts.

Lambing (*Zeh Gīrī*) Period

Lambing, as one of the most important livestock raising activities, refers to the time when the pregnant livestock (the mating season usually takes place from 15th of August till 15th of September) give birth in January to February. Since traditionally ram mating is scheduled once a year and in a specified time period, the deliveries also happen in a fixed time. At this period, since the families need not be close to their sheep herds in the plains, the men members of the *Sar-e-Āghol* and the shepherds assist the ewes in delivering lambs whenever necessary.

Barreh Pey Period

Barreh Pey refers to the act of moving ewes and their newly born lambs to high land pastures or shared pastures. This period usually starts in early spring when ewes are separated from goats. In fact, the goats stay on the plains while ewes and their lambs are taken to other pastures. Goatherd is hired to take care of these herds during this period. A main reason for *Barreh Pey* is to give the pastures a break. Moreover, since these ewes’ nutritional needs are higher for the feeding of their lambs, they have to graze on fresh forage / grass. During this period, the cattle stay in shared pastures of

Maymand, highlands or Plain zones. It lasts about two months during which families stay in the Plain areas.

Weaning (*Regā*) Period

When *Barreh Pey* is over, weaning period starts. During this period, lambs are separated from ewes and the former no longer are allowed to consume milk. This is done in order to prepare the ewes for milking. Herdsmen may start selling some of the lambs to earn money.

Sheep Shearing (*Pashm Chīnī*)

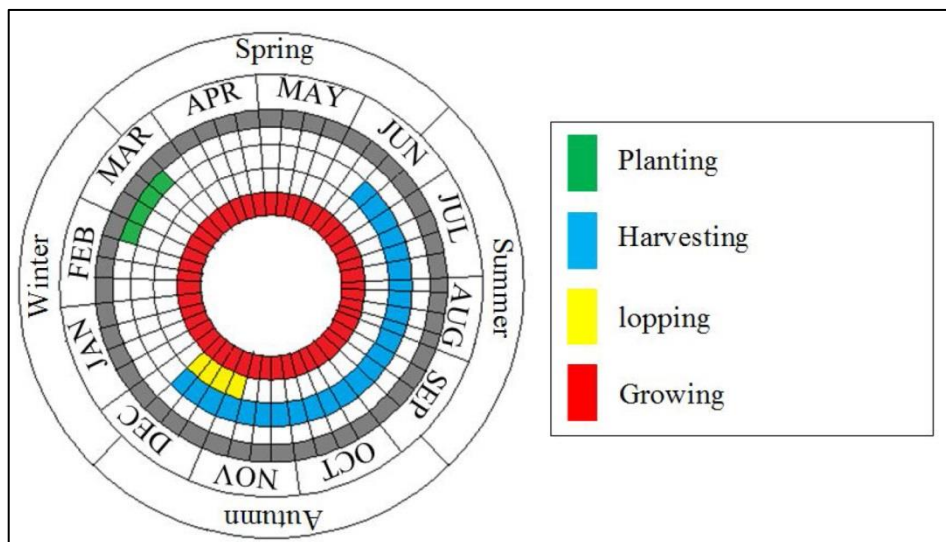
Sheep shearing starts at the end of spring. This process may last several days depending on the consume. Shearers use consume to remove fleece.

Sheep milking (*Dām o Dūsh*)

Milking of sheep and goats follow two different procedures in *Maymand*. Milking of goats takes place when ewes and lambs are in *Barreh Pey* (from mid-March to early April). After *Regā*, which roughly starts from Mid-May and lasts up to the start of *Panjeh*, sheep milking is done. The term “*Dām o Dūsh*” means sheep milking. At this period, each household milks its own cattle. Before the *Regā* Period, the goats are milked twice a day (once in the morning and once in the afternoon), but during *Regā* when herds of sheep and goat merge, goats are milked just once a day. The quantity of milk which is significant in the first 45 days gradually declines as *Panjeh* period approaches (mid-summer).

1-4-2-2- Agricultural activities during *Maymand* agro-pastoral timetable

Maymand communities are engaged in crop growing activities from planting to harvest throughout the year. They start planting saplings and seeding in the final days of winter. The second stage between planting and harvest, which relates to maintenance operations such as irrigation, pruning, weed killing, and lopping are carried out regularly till harvest time. Harvest lasts several months, which is mainly due to the planting of various tree species in the orchards. In fact, the variety of cultivation and plants creates different harvest times for different products. So it is quite normal to find the harvest continue from early summer up to the end of autumn.



R3.Fig. 08: Calendar of agricultural activities at *Maymand* agro-pastoral system

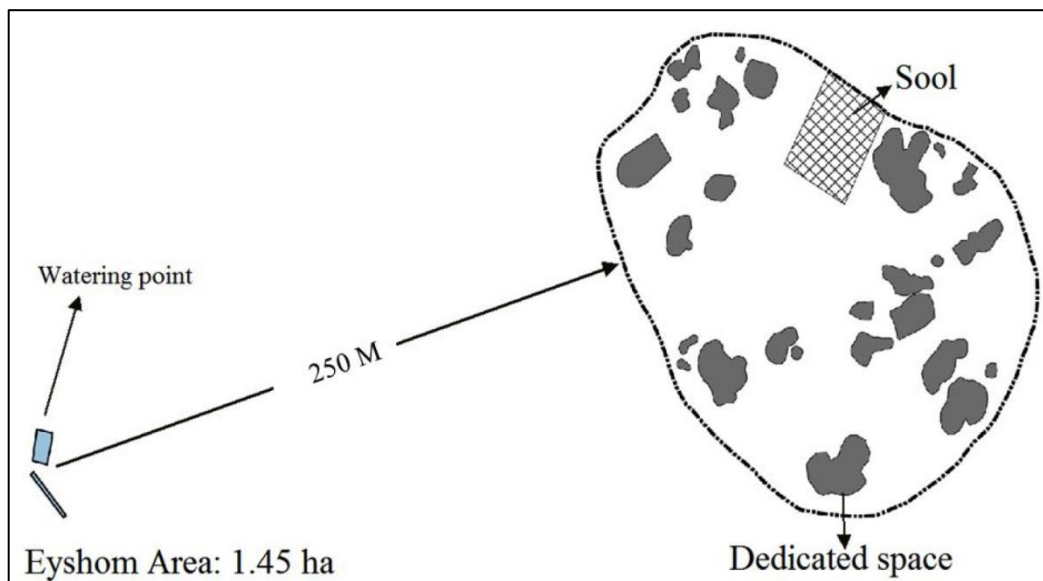
1-5- Tangible Heritage (shelters, products and resources - livestock, agricultural, etc...- tools)

1-5-1 Distinctive settlement zones (both in Plains / *Sar-e-Āghol* and Hamlets / *Sar-e-Bāgh*)

Maymand communities live in three different zones, Plains, hutments and troglodytes. Each of the above settlement zones will be described below:

- **Plains as a settlement zone / *Sar-e-Āghols***

The settlement zone of *Maymand* communities in the Plains is called *Sar-e-Āghol*. They are places for living in and keeping the cattle. A *Sar-e-Āghol* consists of two spaces namely collective and private. The collective spaces are used by all members of a single *Sar-e-Āghol* whereas a private space belongs to the members of a single family. From an areal eye view, *Sar-e-Āghol* is like a circular area 1 and half hectares wide.



R3.Fig. 09: An outline of *Sar-e-Āghol* and the position of watering point in it (*Āghol-e Darkhūi*)



R3.Fig. 10: *Jāvīeh* (watering point) in *Sar-e-Āghols*

- **Spaces of a *Sar-e-Āghol***

- A) Collective spaces**

- jāvīeh***

Jāvīeh, or watering point is often situated at a 150-250 m distance from *Sar-e-Āghol* and it refers to the place where cattle can drink water. Wood and mortar are used in its construction and in the daily activities of *Sar-e-Āghol* all the herds of an *Sar-e-Āghol* use it collectively. Each watering point includes two parts: water reservoir and drinking spot. Cattle herds go directly to the drinking spot. The distance kept between the watering point and *Sar-e-Āghol* is significant in two aspects, firstly it aims to provide sufficient space between the places where the cattle rest and drink, and secondly it keeps the settlement zone away from pollution.

- Sar-e-Āghol* area**

Each *Sar-e-Āghol* has a relatively large area for the movement of men, cattle, poultry and vehicles.

- Sūl***

It is a roofed building made of rock, mortar and wood for housing livestock in cold winters.

- B) Private Spaces**

Any private space in each *Sar-e-Āghol*, used by one single family, consists of two parts as described below:

- B-1) Family living space:**

Make-shift huts / *Kapar*: It is a large space which consists of several sections and is made of different types of wood as well as tree branches, twigs, browses, bushes, rock and mortar. The woods used in *Kapar* construction consist of trunks of *Mar* (wild almond) tree, mulberry, *Beneh* (wild pistachio), cashew and their branches and twigs. This structure itself has the following sections:

Kebār

It is the main space which opens to the *Sar-e-Āghol*. It is about 20-25 m² and is used when it gets hot in spring and summer. The presence of numerous cracks in walls and roof creates easy ventilation and a comfortable space for living. A fireplace is built on the floor which is used for cooking and heating purposes.

Mashkdān ; Mashkdūn

There is a small space of about two m² built close to *Kebār* for dairy production and storage which is called *Mashkdūn* (goatskin place).

Khūne-Bon / Markhāneh

It is built in the back of *Kebār* and is used for the storage of provisions and in cold days as a safe place for the storage of cattle forage. It is about 12 square meters.

A good makeshift hut (*Kapar*) needs to be repaired every two years and may last 10-12 years.

B-2) Husbandry and keeping livestock space:

Beside each family living place there are some spaces for husbandry and keeping livestock; these include a collection of spaces like *Korm*, *Kūz & Darkūz*, *Talgard*.

Korm

When goats and ewes give birth to kids and lambs (*Khalāmeḥ*), as they are very vulnerable and may be hurt in the stampede, they are kept in a special enclosure called “*Korm*” which is built with wood and twigs, dung and soil. It needs to be noted that this enclosure is slightly lower than the *Sar-e-Āghol* level.

Kūz & Darkūz

After keeping the newly born kids and lambs in *Korm*, they are moved to another enclosure called “*Kūz & Darkūz*”. This is done to isolate weaker lambs and kids from healthier and stronger ones. *Kūz* is made of the same materials as *Korm*, but it has an exterior section called *Darkūz*, which serves as an opening for sunlight.

Talgard:

Each household usually has two small wooden enclosures called *Talgards*. One type of *Talgard* is used for keeping the ewes, that have recently given birth and the other is used for rams, crossbred livestock etc. These enclosures serve different purposes such as feeding, milking, separation of ewes from rams and keeping livestock.

The allocation of different sections to man and his cattle in agro-pastoral system to create an ideal environment for them and compatible with their needs have contributed to the continuation of life and reliance on nature up to now. It shows how man can rely on his long-earned experiences gained by trial and error to lead a peaceful coexistence with nature without causing any harm to it.

- *Ābādīes; Sar-e-Bāghs*

Although referred to with the same names, the living spaces (*Kapars*) inside *Sar-e-Bāghs* differ from those in *Sar-e-Āghols* are as follows:

Kebār

It is a space for the living of households in warm days. It provides a suitable space for resting in hot days. A fireplace *Dīdān* (or *Dīgdān*) can be seen here too. The same materials used in the construction of *Kebārs* of *Sar-e-Āghol* are found here too including trunks of *Mar* (wild almond) tree, mulberry, *Beneh* (wild pistachio), cashew and their branches and twigs. The only difference that can be observed in the *Kebār* of hutments is the presence of *Kūzārdūn* in them.

Kūzārdūn

Kūzārdūn is a space measuring 9 square meters which is reserved for the fattening of hand-picked sheep. The exterior of this space is connected to a fenced space called *Talgard* while its interior leads to *Kebār*, in fact the manger (where forage, and tree leaves are placed for livestock feeding) is the connection point between *Kebār* to *Kūzārdūn*. The livestock are kept here for three months to be slaughtered or sold later.

Mashkdān; Mashkdūn

The only difference between the *Mashkdān* of *Sar-e-Āghol* and those in *Sar-e-Bāgh* concerns the purposes they serve, while these spaces are mainly used for dairy processing at *Sar-e-Āghol*, they are used for the storage of dairy products or required tools such as buckets, goatskins.

Khūne-Bon / Markhāneh

The abundance of rock materials and the harsh climatic conditions of mountainous areas have created much stronger buildings here compared with *Sar-e-Āghol*. This space is used for the storage of provision; dairy products and cattle forage and serve as a kitchen for the women.

Chicken coops, small gardens, and orchards can be seen outside the hutment shelters.



R3.Fig. 11: Interior space of a *Kapar* in *Sar-e-Bāgh*



R3.Fig. 12: Outside view of a *Kapar* in *Sar-e-Bāgh*

Ownership

Maymand communities define ownership under four categories:

- 1) Right of use for cattle and man shelters in *Sar-e-Āghols*
- 2) Right of use for collective pastures (pastures lying between the Plain and hutments)
- 3) Ownership of hutment shelters, including houses, farmlands, water and pastures within the boundary of the hutment
- 4) Ownership of troglodytes

Notes:

1) Right of use for cattle and man shelters in *Sar-e-Āghols*: The members of *Sar-e-Āghols* have two types of rights for *Sar-e-Āghol* property i.e. individual and collective. During the membership period, the communities can use private and public assets and they share all the resources. The public or collective property in *Sar-e-Āghol* refers to pastures that are used jointly by the cattle of all members, but they are not allowed to trespass to adjoining pastures (Ravand) which belongs to other.

2) Collective pastures: These are pastures which lie between the Plain pastures and pastures of the hutment. All the agro-pastoralists of *Maymand* share these collective pastures and can use them during a specific period (*Barreh Pey*). As a common rule, *Gūro*, *Bakhshī*, *Ahmad* and *Mortezā* communities use Sunrise Collective Pastures whereas *Lotfī*, *Tālebī* and *Darkhūnī* communities use Sunset Pastures. The following picture displays the position of these collective pastures.

3) Properties of *Sar-e-Bāgh*: *Maymand* residents possess houses along with farmlands, water shares and nearby pastures. Houses in the *Sar-e-Bāgh* are often inherited as private properties while water and nearby pastures are used collectively by villagers.

4) Troglodytic architectures: These man-made caves are also regarded as personal properties of *Maymand* residents who use them in winter.

1-5-2- Consistency in human functions (socio-economic)

As was noted before, agro-pastoral living spaces at Plain areas called “*Sar-e-Āghol*” consist of two parts: private and collective. Collective or public spaces belong to all members of *Sar-e-Āghols* while only members of a single family have access to a specific private space. This issue indicates the advanced nature of common life in *Maymand*. Concerning the texture and construction of collective spaces, it can be said that each designated space in the collective space has its own unique function dictated by agro-pastoralists’ needs. As an example, since no fattening takes place at Plain zones, there is no need for the inclusion of *Kūzārdūn* there. In other words, the kind of cattle raising or agricultural activity determines the kind of structures needed.

Sar-e-Āghols have two spaces, collective, and private, which are used by the residents for different purposes. The designated spaces, which have diverse and special sections, are used for different tasks. In fact, a Kapar (make-shift hut) contains three main spaces called Kebār, Markhūneh and Mashkdūn and two peripheral spaces namely fireplace and wooden shelves. There are different spaces for the keeping of cattle too. As can be seen, based on socio-economic and occupational needs, various lodging structures have been developed in Maymand.



R3.Fig. 13: Tradition of life in *Sar-e-Āghols*

1-5-3- Consistency in environmental functions

With the change of seasons and sharp fluctuations in temperature, *Maymand* communities use different settlement zones. The strategy used here is the allocation of two different living spaces in Plain and mountainous areas. In the Plain areas, *Kapars* are made of two separate parts, *Kebārs* and *Markhūneh*. *Kebār* is used when it is hot and temperature is high. Being made of wood and plants, *Kebār* provide good ventilation, therefore they are used in warm seasons in order to provide a pleasant living condition for the residents. These structures act as an air-conditioner when people sprinkle the walls and ceiling with water.

The man's needs to warm lodging is satisfied during cold days by another type of structure namely *Markhūneh*. *Kebār* is made of tree trunks and loose pasture bushes and plants in its walls and roofs whereas in the construction of *Markhūneh*, tree trunks are used as the pillars of the hut along with 1 to 1.5 meter diameter walls and a thick thatch, which is sealed off by mortar. This structure is a cold-proof building, which keeps warmth, trapped indoor, prevents the infiltration of outside cold, and sends out smoke and carbon dioxide of fireplace. In fact, it is a very simple but smart building which provides a standard living space. Another issue of importance concerns the role that trees play in the construction of lodging spaces in *Maymand*, a material that is found in the shelters of both Plain and hutments.

The conformity of lodging places in mountainous areas and hutments (for man and cattle) with environmental conditions can be illustrated by abundant use of rocks and better and tighter sealing of buildings' cracks in *Markhūneh*. While *Kebārs* in *Sar-e-Bāgh* are similar to *Kebārs* in *Sar-e-Āghols*, yet *Markhūneh* has a different shape and is larger compared with its Plain counterpart. *Maymand* agro-pastoralists build thicker and more impenetrable walls to fight nightly colds. All of the above point to the balance created between Plain and mountainous shelters of *Maymand* and the environmental conditions.



R3.Fig. 13: Life in *Sar-e-Āghols*



R3.Fig. 14: New pool with *Jāvīeh*

1-5-4- livestock products and resources

Pastures and commonly agreed land uses: The livestock graze in the pastures for each Plain zone “*Sar-e-Āghol*”. These personalized pastures are called “*Ravand*”. *Artemisia Sieberi* is the dominant vegetation cover of Plain zones. As was mentioned before, collective system is practiced in the use of pastures in *Maymand* in which several herds join together to graze in a single *Sar-e-Āghol*. During *Barreh Pey*, the herdsmen graze their herds in Plain and mountainous pastures. Moreover, when the households migrate to their hutments to grow crops, the herdsmen graze their livestock on “*Tah Char*” the stubbles and tree leaves to fatten them. An issue in this regard concerns *Par-Kāh* which refers to dried forage which is collected from fields and reduced to tiny pieces at the end of harvest season and is used as forage or hey for the cattle. As a commonly accepted contract between the community members, parts of the pastures on which long hollow stalk plants (50-100 cm) such as prickly artichoke, gum ammoniacum or similar plants grow is assigned to each herdsman, when these plants fully grow, they are harvested, thrashed and crushed to tiny pieces. The availability and resistance to cold are some of the reasons behind the selection of such plants for cattle consumption. Moreover, cattle cannot feed on gum ammoniacum plant when it is wet so the agro-pastoralists let it fully grow, get dry and then use it as highly nutrient forage for their herds.

Livestock

Goat and sheep are the main livestock raised in *Maymand*. Each household keeps a number of livestock, but the majority of the livestock is sheep and only 5 to 10 percent is goat. The following table provides figures for livestock of *Maymand*.

<i>Sar-e-Āghol</i>	<i>Lotfihā</i>	<i>Talebihā</i>	<i>Darkhūnihā</i>	<i>Ahmad</i>	<i>Gūro</i>	<i>Bakhshihā</i>	<i>Mortezā</i>	<i>Akhūnd</i>
Livestock	1000	750	1500	350	900	500	1300	-

R3.Table 1.: Livestock number of each *Sar-e-Āghol*

Goats constitute 15-20% of each herd

Considering the total number of livestock and the number of households in a single *Sar-e-Āghol*, each family possesses 60 heads of sheep on average, of course there are

families who have only 20 sheep and there are some who possess 150 or more. What is noteworthy here that a family that is engaged in agricultural business and has 60 sheep can effectively fulfill its yearly needs.

Livestock classification by age in *Maymand* agro-pastoral system

In agro-pastoral system of *Maymand*, livestock are classified and named in terms of their age and sex. Sheep lambs and goat kids are given different names on the basis of their age and gender. Table 3 displays livestock naming system:

Age	Sheep		Goat	
	Female	Male	Female	Male
Less than 1 year of age	<i>Barreh</i>	<i>Barrehnar</i>	<i>Kahre</i>	<i>Kahrenar</i>
1 to 2 years of age	<i>Togholī</i>	<i>Shīshak</i>	<i>Kular</i>	<i>Choposh</i>
2 to 3 years of age	<i>Kavor</i>	<i>Hagh</i>	<i>Gīseh</i>	<i>Dobor</i>
3 to 4 years of age	<i>Toroshī</i>	<i>Ghūch</i>	<i>Ghowrīz</i>	<i>Sebor</i>
4 to 5 years of age	<i>Mīsh 3</i>	<i>Ghūch (Do Bor)</i>	<i>Māde boz</i>	<i>Chārbor</i>
5 to 6 years of age	<i>Mīsh 4</i>	<i>Ghūch (Se Bor)</i>	<i>Māde Boz (3)</i>	<i>Panjbor</i>

R3. Table 2.: Livestock naming by sex and age in *Maymand* agro-pastoral system

Milking utensils, production and preservation of dairy

Milking utensils

The old and traditional hand milking is often used for the livestock. Women often perform this time-consuming and difficult task. Men may occasionally give a helping hand to women during milking by holding the sheep. The collected milk is stored in special leather containers (water-skin)/ *Mashk* for further processing. These containers which are made of sheep or goat skins are called *Mashk*, the preparation procedure of which is described below:

Mashk Making Stages (Tanning)

Stage one: The livestock rawhide is processed by liming and its fat and hair is removed by placing it in cashew or similar plants ashes (bucking).

Stage two: After placing the hide in Lime and ash, it is soaked in the boiled solution (consisting of wild pistachio leaves, cashew root and cashew ash) for 2-3 days.

Milk processing

Women in *Maymand* agro-pastoral system are in charge of milking, storing, and processing it for dairy products. Various dairy products are produced as described below:

Yogurt: Milk is boiled over heat, and when it cools, a spoonful yogurt is added to it. The pot is placed in a warm place to start the fermentation process.

Butter: The yogurt is placed inside water skins and churned so much till butter is made. A water skin full of sheep milk often yields 2-3 kg butter but the same amount of goat milk gives 1 kg butter.

Dūgh: It is a sour tasted drink made by mixing yogurt and water.

Kashk: *Dūgh* is poured into cheesecloth and is left to drip overnight. To speed up the dripping process, two wooden boards are placed on the sides of the cheesecloth; the resulting foodstuff is dried in sun.

Espār: *Dūgh* is boiled and when it gets a little solid, salt and pepper and other spices such as fenugreek, black cumin, nutmeg root, clove and caraway are added to it. After a fortnight, it is ready for use. It is a food generally used in *Maymand*. Due to its high demand, large quantities of it are stored for several month consumption. It is also called “*Qātoq-e-Mashkī*” in local dialect.



R3.Fig. 15: *Maymanī* woman during milking



R3.Fig. 16: *Maymandi* girl and goat kid



R3.Fig. 17: *Maymandi* man helps his wife in

Livestock fattening

Sources used for livestock fattening

As was mentioned before, *Maymand* communities move some of their cattle to the hutments for fattening purposes after *Panjeh*. The cattle are fed with 1) harvest residues from fields and orchards *Tah Char*; 2) leaves of different trees + forage crops; 3) barley, wheat bran, straw, alfalfa and hey.

The crop forage and leaves used as fodder in the *Sar-e-Bāghs* include: leaves of willow, leaves of oil tree, and leaves of almond tree (when they fall), bugloss, grape vine leaves, walnut tree leaves, and the leaves of wild pistachio trees.

Fattened sheep uses

1) Selling few of them

2) Slaughtering them for their meat use during the year: since there are no modern freezing equipment in these areas, the communities take the following measures to save the meat:

- ❖ Chopping meat into small pieces
- ❖ Parboiling the chopped pieces
- ❖ Placing the chopped meat pieces in a large quantity of fat inside sheep rumen (fat creates an airtight space for meat preservation)

All of the above stages performed for meat preservation are referred to as “*Qormeh*” in local dialect.

1-5-5- Fields and orchards products:

The resources used in agricultural activities in *Maymand* fall into three categories: fields, plants (trees and forage crops planted by seeding, sapling or cutting methods) and water. Manure and farming equipment such as spades, shovels, pruning shears and saws used for lopping, pruning, irrigation etc purposes constitute another integral part of this category.

Agricultural Products

- 1) **Russian Olive or *Senjed***: It is used in two different ways, it is either ground and its flour (powder) is used or it is used as fodder for livestock
- 2) **Walnut**: It is either dried for family consumption or is sold.
- 3) **Almond**: it is also dried and peeled for use or sale.
- 4) **Grape**: When grapes are collected from vineyards, they are taken for extraction process. One kg of *Dūshāb* is obtained from boiling 3 kg of grape juice. It may be kept for family use or taken to the market for sale.
- 5) Other products grown in *Sar-e-Bāgh* include: tomato, eggplant, zucchini, onion and green vegetables.

The average size of orchards is 1000 to 3000 square meters. These fields on which fruit trees and some forage crops are planted can satisfy the yearly needs of a household.

A household in Maymand , possessing at least 30 heads of sheep and 1000 square meters of farmland, can fulfill all its yearly needs. In fact, agro-pastoral system allows them to satisfy their needs with the minimum amount of properties for a one year long period.



R3.Fig. 18: *Senjed*



R3.Fig.19: *Beneh* (wild pistachio)



R3.Fig. 20: *Mar* (wild Almond)

1-6- Intangible culture

1-6-1- Social System and Cooperative-Communal-Collective Management System (agro-pastoral)

1-6-1-1- Role of Family Members in *Maymand* Agro-pastoral system

All family members, men, women and children take responsibility and perform their duties as described below:

Sar-e-Āghols: Different activities are undertaken in *Sar-e-Āghols* and plain areas depending on the annual herd raising timetable. Herding, milking and producing dairy, livestock feeding and similar activities are done by the members of households. Herding the cattle *Gomārī*, *Pādoī*, goat herding and collection of tree leaves is often done by men, while women usually do milking and dairy producing works. Taking care of house chores is also done by women. Feeding the livestock and fattening at *Sar-e-Āghols* are also tasks which both men and women get involved in.

Sar-e-Bāgh: Men and women take turn herding the livestock in hamlets while only women do household chores and dairy processing jobs. Though both men and women may deal with orchards, men carry out the gardening jobs which require more physical strength.

1-6-1-2- Cooperative-Collective-common Management (Agro-pastoral)

The agro-pastoral system of *Maymand* partially resembles collective systems in that it is based on mutual cooperation and joint exploitation of the available sources. This communal system revolves around two components: the use of shared resources such as water, farmlands and pastures and the task division among community members. In terms of social perspective, each *Sar-e-Āghol* consists of a chief and partners.

Master (*Arbāb*) of *Sar-e-Āghol*

Master has a different implication here and it refers to a person who is in charge of planning the tasks related to shared herding, in fact he is the manager of *Sar-e-Āghol*. What is of importance here concerns the fact that this person needs not be from a particular socio-economic class and he can be elected even from the poor members of a

Sar-e-Āghol. The only requirement for this position relates the trust of *Sar-e-Āghol* members. Master of *Sar-e-Āghol* takes care of planning, setting schedules, financial issues and other matters which were already described in *Panjeh* Section. The master enjoys two privileges: he can exempt herds of less than 30 sheep and he also can collect the livestock droppings for his own use.

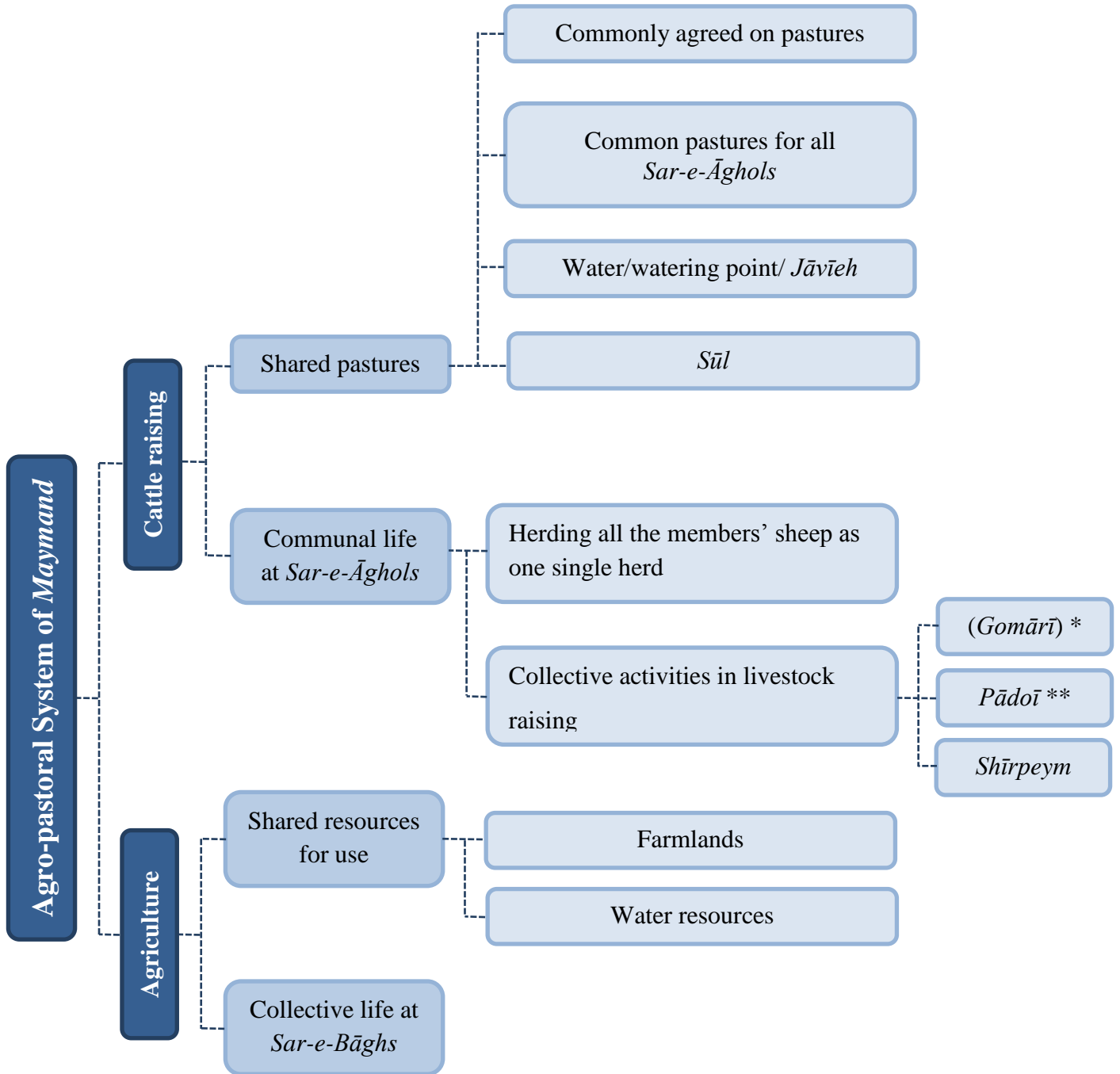
***Sar-e-Āghol* Partners:**

Apart from its master, a *Sar-e-Āghol* consists of members or partners who have joined *Sar-e-Āghol* voluntarily. Considering the fact that the members of a *Sar-e-Āghol* may live many years together and have socio-economic interactions with each other, it is expected to find a kinship relationship among the members like in other parts of the world, but blood or marriage relationship is not mandatory for membership here. Members of a single *Sar-e-Āghol* may belong to different *Sar-e-Bāghs*, they live for 5 months of the year and then get separated. *Sar-e-Āghol* is in fact the gathering place for *Maymand* agro-pastoral communities. It needs to be noted that each *Sar-e-Āghol* community consists of 15-20 households who may come from various hamlets. So unlike other parts of the world, where various communities gather in the hutments, here *Sar-e-Āghol* acts as a fixed place for congregation. In fact, these assembly stations act as a small tribe or a big family where all the partners of a *Sar-e-Āghol* are its members. Every partner in *Sar-e-Āghol* is regarded as a single household here.

Communal System: *In agro-pastoral system of Maymand, master refers to a person who is in charge of planning and managing the shared tasks of the herd. The master is not from a special social class and he can be an ordinary member of the community.*

1-6-1-3- Social Mechanisms and Collective System in Maymand agro-pastoral System

The collective system of *Maymand* communities in both sections of agriculture and livestock raising activities is depicted in the following graph.



R3.Graph 1: *Maymand* agro-pastoral communal system

Notes:

* **Gomārī**: Shepherds are in charge of herding the livestock, but since the herds sometimes get too large due to the merging of different household's sheep (an average 800-900 heads of sheep and goat for a single *Sar-e-Āghol*) a person has to assist the shepherd at nights. This person is called "Gomārī". *Gomārī* is selected from *Sar-e-Āghol* members, a selection procedure which is based on the number of sheep each family has, in other words for each 10 heads of sheep, the member of *Sar-e-Āghol* should help the shepherd one night, if someone possesses 70 sheep in the herd, he has to serve 7 nights. The assistant should do the following chores:

- 1) Help the shepherd in herding
- 2) Cook the shepherd's dinner
- 3) Prepare the watering point before the arrival of the herd

Another point in this regard concerns the occasions when one or some of the *Sar-e-Āghol* members cannot take part in *Gomārī* task (due to old age, illness, etc...), in such cases they pay someone else to assist the shepherd. This act is called "Khoshkeh" which means fee for service.

** **Pādoī**: During *Barre Pey* period (from the end of March to mid May), in addition to *Chūpānī* (shepherd) and *Gomārī*, the service of someone else is required. The presence of small lambs in the herd at this time necessitates the service of another person to assist the herding. This person is called "Pādoī" which means errand boy in Persian, but here it means shepherd assistant.

*** **Shīrpeym**: During milking period (*Dām-o-Dūsh*), the collected milk for a single family may be insufficient for dairy processing, in such occasions; one household collects all the milk shares from other members. Since sheep milk is fattier than goat milk, they exchange two goat milk measures for one sheep measure.

Since a person's Gomārī turn may coincide with his irrigation turn in the hutment, he may ask other members of Sar-e-Āghol to do him a favor and replace him. He will render the same service at another occasion.

Agriculture

1) Collective life in *Sar-e-Bāgh*

2) Shared resources for use

- Farmlands/ fields
- Springs and water resources

Collective farming activities can be observed in both orchards and fields. Here the entire hutment is regarded as a single unit and is divided into 6 parts each of which is called one “*Dong*”. Each single *Dong* is divided further into 16 sections called “*Habbe*”. These land divisions continue to the smallest possible shares as described below:

The same division procedure is also applied for water resources as well. For example, a water source such as spring is regarded as a complete whole, then it is divided into 6 shares (*Dong*) and each *Dong* is divided into 16 *Habbe*.

One Sar-e-Bāgh farmlands = 6 Dongs, a Dong= 16 Habbe, one Habbe = 4 Charak, One Charak = 60 Sangs, Half of 15 Sang = 7 Darham. A traditional calculation method is used for assigning each person’s share of water and land farm in Maymand agro-pastoral System.

1-6-2- Traditional knowledge (herd raising, agriculture, agro-pastoral interaction)

Traditional knowledge of each community refers to a set of knowledge, values and know-hows embedded in its cultural traditions. This is the same knowledge which has enabled these communities to establish a friendly relationship with their surrounding environments over years and by means of that satisfy their needs without inflicting any harm to the environment. Meanwhile, these traditions have been passed from generation to generation and the elderly members of these communities have done their best to preserve and transfer these traditions in the best way possible to the succeeding

generations. Scholars use different terminologies to refer to such traditions as regional, indigenous or local knowledge. The traditional knowledge includes a wide range of know-hows in the domains of agriculture, livestock raising, watershed management and environment. Traditional knowledge is a part of every nation's treasure which consists of its beliefs, values, methods, tools and local information. This is the same knowledge by which various communities have been able to obtain their food, clothes and shelter from the environment. This knowledge has enabled them to raise their children, engender prosperity in their lands and preserve their own and their herds' health. Based on the above points and considering the fact that *Maymand* is one of the communities which enjoys its own traditional knowledge, it is necessary to dedicate a separate section to the description of traditional knowledge of *Maymand*.

1-6-2-1- traditional knowledge for livestock raising

The traditional knowledge of *Maymand* communities is reflected in the various activities they carry out regarding their livestock raising which starts from mid-summer, activities such as proper timing for ram mating, assistance in the delivery of pregnant ewes, milking, and dairy processing.

Nar Andāzī : It starts at the beginning of the new crop year. The proportion of rams to ewes is of importance here, a ratio of 1 ram to 10 ewes is practiced, so in a herd of 70 heads of ewes, 7 rams are used. Unlike other places, rams remain in the herd only during the mating season.

Zeh Gīrī: Five months after the mating period (*Nar Andāzī*) which coincides with mid-winter, pregnant ewes give birth to their lambs. Since women and children are not present in Aghols and they are in troglodytes, men and shepherds assist the ewes to deliver their lambs. After birth, the newly born lambs and kids are kept in separate pens called *Korm*, *Kūz* and *Talgard*. At first, the lambs are kept in *Korm*, then they are transferred to *Kūz*. *Talgard* which is an open enclosure is the space where lambs and kids can enjoy sunlight.

Sheep Shearing (*Pashm Chīnī*): At the end of *Barre Pey*, the sheep are shorn. This task is done at the beginning of summer when it gets warm. Shearers use blade shears to cut off fleece.

Milking (*Dām-o-Dūsh*): As was mentioned before, with the start of crop year, ewes and their one-month old lambs enter *Barre Pey* period while goats and their kids are kept at Plain pastures. Goats are milked at this time but ewes milking are postponed to 50-60 days later which coincides with the end of *Barre Pey*. This milking period is called “*Dām-o-Dūsh*”.

Dairy processing: Dairy processing takes place concurrently with milking. The collected milk is transformed into yogurt, butter, *Dūgh*, *Kashk*, etc. mostly by women.

Another important point in this regard concerns the identification of each household’s sheep in the herd. Since all the sheep of different families are combined into a single large herd, the marking methods play a vital role in easy identification of livestock. It is very essential to identify each individual sheep not only for grazing, but also for milking, lambing, and hand feeding purposes. To do so, naming and marking methods are used for this purpose.

Naming: Agro-pastoralists give different names to their livestock in order to identify them. In this calling system, features such as gender, color, form of the ears, race, face color, and other organs features are taken into account. For example, a white sheep with small ears and black snout is given a particular name. The wide variety and large discrepancies in the appearance of livestock allows the owners to assign different names to every individual sheep in a herd of 1000 livestock.

Marking: This method includes the following techniques:

- 1) Painting
- 2) Earmarking
- 3) Ear-tagging by “*Dārvash*” it is a small metal piece which is attached like earring to sheep’s ears. Different shapes of *Dārvash* facilitate livestock identification.

1-6-2-2- Traditional Agricultural Knowledge

The various tasks carried out during cultivation, crop management and harvest enjoy the traditional knowledge of *Maymand* communities. The different agricultural activities are planned in such a way that they have best synchronized with cattle raising activities. In other word, an agro-pastoral household has specific timetables for each particular activity.

Mixed crop is practiced in *Maymand*. In this method various products such as almond, walnut, grape, tomato, egg-plant etc. are grown. Mixed crop not only increases the farmers' income but also is a better safeguard against soil erosion. This method also enables farmers to graze their livestock on the fields' residues after harvest (*Tah Char*). The tree and plant species cultivated in the region have the highest compatibility with topographic and climatic conditions of the region.

1-6-2-2- traditional knowledge for agro-pastoral activities

One of the advantages of mixed systems such as Agroforestry, Silvo-pasture, and Agro-pastoral relates to the possible use of products of one sub-system for other systems. For example, in agroforestry which has various forms, the trees offer shade to grazing animals, protect crops against strong wind bursts, provide tree pruning for firewood, and are a roost for insect or rodent-eating birds. In *Maymand* agro-pastoral system too, the concurrent practice of livestock raising and farming has many benefits. For example, cattle can feed on the harvest stubbles or tree leaves. The leaves of walnut, Russian olive (*Senjed*) and almond trees can be used for this purpose. The order that the agro-pastoralists observe in the selection of tree leaves is also important. Livestock like leaves of Russian olive (*Senjed*) more than other leaves, so the farmers may give them a mixture of various leaves. The livestock dung and droppings are also used as fertilizer. The poultry raised in the fields include chickens, roosters and turkeys. Since they forage on fields and human food residues, they make important contributions to family livelihoods.

1-7 Self-sufficiency / domestic livelihood

Three main needs of man have been food, fuel and shelter all over history. It needs to be said that there are few systems in the world which can fully satisfy all these needs by themselves. *Maymand* agro-pastoral system is one of the rare cases which can fulfill its requirements in all three main categories as described below:

Food: *Maymand* communities can provide their own food needs through farming and cattle raising activities. Grains, protein, carbohydrates, vitamins, and other required foodstuff, which play a key role in man's growth, are supplied in the existing system of *Maymand*. Meat, milk, and dairy products are provided by livestock raising activities while agriculture and orchards produce almond, walnut, barley, wheat all of which can satisfy the food requirements of the residents. They also sell part of their products to earn money for the purchase of other needs. It needs to be noted that herdsman feed their livestock on pastures, field and orchard residues, therefore they pay no money for forage or fodder.

Fuel: Bushes and tree branches and logs are used as firewood for making fire in *Maymand*. A variety of firewood is used for this purpose including:

Tree or plant	Usage
Cashew, wild pistachio (<i>Beneh</i>), wild almond(<i>Mar</i>), Russian olive (<i>Senjed</i>), pear, apple	Log /Fire wood
<i>Jāz; Eskinbīl; Tarqū;</i>	Firewood for cooking stove
Twigs and trunk of wild pistachio(<i>Beneh</i>), wild almond(<i>Mar</i>)	Firewood for heating stove
<i>Barsh</i> (Twigs of wild almond)	Firewood for bread making stove

R3.Table. 03: Variety of firewood and its function in *Maymand's* agro-pastoral system

Shelter: The houses of *Maymand* communities in the *Sar-e-Bāgh* and *Sar-e-Āghol* are built from materials available in the environment. For instance, tree trunks used in *Kapar* huts are taken from mulberry, willow, and pistachio trees which grow in *Maymand* areas. The roofs of the huts are also thatched from existing plants in the region. Rock, clay and mortar are also obtained locally. So the construction works do

not need materials of the modern architecture such as glass, iron bar, brick etc. Another issue concerns the use of animal dropping for the construction of livestock enclosures. In the finishing works of these structures, the roofs of the pens are thatched with a mixture of dung and clay, which provides a better insulation. The local residents are able to lead a healthy life and fully satisfy their needs without bringing any harm to their environment. The livestock droppings is also used as a fertilizer in orchards and fields.

1-7-1- The culture of work, life and production over the passage of time: preserving the authenticity against modernity

The modern life has produced new gadgets for life, the list of which is on the rise every day, but there are still communities that have clung to their traditional strategies to fulfill their needs. The communities of *Maymand* are a living example of these communities, which have kept their traditional lifestyle up to now and have been able to satisfy their needs through the full exploitation of their environment potentials. It can be said that reliance on nature to obtain construction materials and produce foodstuff is an integral part of agro-pastoral systems. The use of fire for cooking, heating, and wind for cooling does not show any sign of modern life. Nowadays, modernity has penetrated into the remotest parts of the world, so cases of modern life such as cellphones were observed in this area too. Moreover, some foodstuff materials like rice are obtained from external markets. However, during our field visits to the study site, we encountered no other modern equipment such as TV, computer or the Internet.

1-8- Other aspects of *Maymand* Culture

Nowrūz is rooted in the ancient history of Iran. It marks the New Year which coincides with the first day of spring. Iranians celebrate it as a vernal festival and often go to a trip. The natural sights of *Maymand* attract many tourists during *Nowrūz*. The local communities of *Maymand* who have been engaged in agro-pastoral activities all year long, find an opportunity for family reunion (grandparents, parents, children and grandchildren) assemble at troglodytes. The presence of all families revitalizes the passageways and alleys of this residential zone. Assembling here gives the new generation a chance to connect with its traditional ways of life and commit it to memory.

Chapter 2- Comparative analysis of cultural heritage values

2-1- Cultural heritage values

Overall picture of *Maymand* Landscape in terms of cultural heritage values

Based on the issues covered in the first chapter, it can be said that *Maymand* possesses certain advantages in terms of cultural heritage values in comparison with other parts of Iran and the world. Though the presence of troglodytes in *Maymand* gives it a unique feature, while we do not intend to exclude it in this study, we will focus more on its cultural perspectives by doing a contrastive study on agro-pastoral system. In an overall review, *Maymand* is a mountainous region consisting of 70 households who live on a territory 300 km² wide . The lifestyle of these people falls under the agro-pastoral system. Agricultural and herd raising activities are closely interrelated and they have a high harmony with environment. Due to the existence of qanāts and running water, sources in the uplands, most farmlands, and fields are situated there and because of the topographic conditions of the region, the field area of each household does not exceed 1000-3000 m². As is clear, this amount of land is not sufficient to grow enough crops for a family, and that is why the communities have turned to agro-pastoralism to fulfill their needs. The people here spend their lives in three different settlement zones *Sar-e-Āghol* in lowlands, hutments, and *Sar-e-Bāgh* in uplands and troglodytes. Since there are three periods and places for living here, people migrate to these places in three different periods of a year. Migrations are of three types: **A:** migration from troglodytes to lowland *Sar-e-Āghol*. **B:** migration from *Sar-e-Āghol* to *Sar-e-Bāgh*. **C:** migration from *Sar-e-Bāgh* to *Maymand* which start at *Nowrūz* (20th March), Mid-summer (*Panjeh*) and mid-autumn respectively. In this perspective, one type of lodging is used in each seasonal migration. In lowland areas the herd are kept in places called *Korm*, *Sūl* and *Āghol* each of which has an additional structure called *Talgard*. People live in two part structures, one which is built from materials such as brick, rock, and concrete blocks called *Khūne-Bon* is used as permanent lodging. The other section of this lodging place which is called by different names such as *Kebār*, *Kevār* or *Kapar* is made of tree trunks, branches and twigs, bushes and browses collected from nearby areas. Sources used for production are of two types: private and communal/ collective. Fields and herds are cases of private properties while low land pastures (*Ravand*) are a

good example for communal ownership. Management in agro-pastoral system is of two types, i.e. separated and collective. Milking is a separated act whereas taking turn in assisting the shepherd of an amalgamated herd in the pasturelands is a case of collective management. In general, *Maymand* provides an ideal portrait for harmony with environment and exploitation of rangelands, water sources, vegetation cover, and wild fruit, existing lands, resources such as stone and tree branches and bushes for the construction of shelters, all of which collectively affect the migration, shelter, feeding and other requirements of *Maymand* communities. An example for this harmony is seen in fattening of livestock for which the residents use tree leaves and nutritious grasses of the pastureland.

2-2- Comparative analysis

The *Cultural Landscape of Maymand* is significant for several reasons. Issues related to the preserving of traditional systems, which are highly congruent with nature and contribute to the protection of World Cultural Heritage (*Maymand* can be one of them) should be prioritized. The inscription of methods and lifestyle cultures, which have a harmony with environmental and socio-economic functions can be one of the mechanisms for the transmission of this tradition to the contemporary generation. Concerning *Maymand*, the position of its landscape in global scale needs to be established initially, moreover, its similarities, differences and distinctive features compared with its counterparts in other parts of the world should be determined in order to highlight the unique and outstanding traditional values of *Maymand* at global level. We have done these in the sections that follow

2-2-1- Global Scale

2-2-1-1- The Global Position of Migratory Agro-Pastoral Lifestyle In Comparison with Other Life Patterns

The different parts of the world with their diverse climatic conditions and macro biomes and various vegetation covers enjoy different cultural systems. Each existing system has a type of harmony with nature, which is different from other regions. The describable and comparable aspects of *Maymand* cultural perspective can be studied from this viewpoint. The results of analysis for *Maymand* landscape have been

presented in the following tables, which show how it is a unique cultural landscape in its own right.

R3. Table 04 displays *Cultural Landscape of Maymand* at global scale. The first and the second columns with Climate and Biome (terrestrial) title show that *Maymand* is situated in an arid region and its biome is of desert type. Since the mechanisms human beings use in such climates differ from other regions, *Maymand* can be a good representative for adapted lifestyle in such eco-systems. Considering the fragility of such marginal systems, it is of paramount importance to find other examples, which clearly display man's interaction with changes, limitations, and extremes of such climates.

The column with Pastoral Style title represents two lifestyles based on cattle raising, herding and livestock grazing in the rangelands. These two lifestyles are pastoralism and agro-pastoralism, both of which are facing radical changes and are on the verge of disappearance due to the effects of industrialization. Pastoralism is to some extent a specialized lifestyle and may not be as old as agro-pastoralism. Since the majority of human beings' activities are getting specialized in the recent century, agro-pastoralism which is more holistic and is not regarded a specialized lifestyle is more vulnerable, and that is why its registration is more urgent. Though numerous cases of agro-pastoralism can be observed in the world, by combing the third column of table and columns 1 and 2, it can be concluded that agro-pastoral activities in desert areas is not that much widespread, and most cases of agro-pastoralism can be found in mountainous regions / Alp Biomes (Andes, China, Tibet, Himalaya, Hindu Kush).

Some other agro-pastoral systems also exist in Savan Biome, which shows the relative popularity of this system in Biome (India, Pakistan, and the entire African Savana). There are also examples of Mediterranean-Alp and parts of North Africa styles, a case of which has been internationally inscribed in France, but this lifestyle at arid and desert regions can be only observed in parts of the Iranian Plateau, but this system is gradually changing and is widely dispersed. Outstanding cases of agro-pastoral lifestyles in desert regions need to be inscribed, a good example of which can be observed in *Maymand* agro-pastoral system.

The column with Livestock title in this table is another constraint, which further restricts the possible cases in desert and arid regions. Out of the many types of livestock that can be kept in pastoral and agro-pastoral systems, just few can be raised in desert areas, which include camels, buffalo, sheep and goats. Buffalo is kept in some regions (like Himalaya), and this shows that *Maymand* agro-pastoral system is different regarding the type of its livestock.

The column with Migration title displays different varieties of migration and sedentary settlements that can be seen in agro-pastoral systems. The agro-pastoral systems in other parts of the world no matter in which climate or Biome, are often without migration. Few migratory cases, which can be found often, belong to migratory agro-pastoral systems in Steppe/ non-desert regions.

The next column of table deals with ownership in migratory agro-pastoral systems, which can be of three types: private, public and collective. Different ownership forms can be seen in agro-pastoral systems of the world. For example, private ownership of resources can be seen in the agro-pastoral systems of many countries such as the US, Argentina and Canada. Public ownership of pastures and farmlands is found in some states of the US and China, where people rent the pastures for a certain period of time. Another type of ownership is collective ownership / management, which is found in Ireland and Scotland. In the northern parts of Pakistan, Norees is used for the collective management of herds for parts of the year (Hoffman, et al. 1998). *Rāykā* tribes of India also have a kind of collective system during migration. What is noteworthy here is that all characteristics of ownership and management systems of the world can be observed in *Maymand* agro-pastoral system. Another important point in this regard concerns the existence of a collective system for the keeping of livestock and exploitation of pastures / rangelands, which is found in no other parts of Iran either.

The last column deals with the type of hutments, which is the traditional settlement for all villagers, farmers, and herdsman (migratory and sedentary). The hutments investigated in this study are of four types:

1) Mobile: which include tent, Yurt, Tippi, Lavva, Chum, and Yaranga

2) Immobile and temporal: It is referred to by the common name of hut or bender tent and is made from tree trunks and branches, twigs. It is enclosed and roofed and has an opening for entrance. The American Apache Indians of *Sonaran* deserts call this type of immobile hut as Wickiup, Wigwam, and Wetu while it is called *Kapar* in some parts of SE of Iran.

3) Immobile and semi-permanent: A kind of these lodgings known as pit/ dig-out/ earth lodge house is made of a mixture of materials like stone, clay and wood in most of which a section is dug in the earth for settlement. Various types of such lodgings can be found in the world.

4) Immobile and permanent: These lodgings are often made from durable materials such as stone or bricks. Plant materials may be used in their roofing. If simple and small, they are called *Nefār* (shed), but if they are like an awning, they are called Ramada. If these shelters are built in the space of a cliff, they are called Rock Shelter, if they are made from wood, log and timber, they are called Log House / Log Cabin and if made of stone, they are referred to as Stone Cottage.

Maymand cultural Landscape being a representative of Transhumant at arid / desert Climates enjoys a high potential in terms of heritage values. However, it is necessary to compare this region not only at global scale, but at local and regional scales as well.

The results showed a mixture of wood, stone, clay lodgings at upper and lower sections of *Maymand* area. This combined structure of lodgings was observed for both man and animal shelters.

Descriptive aspect	Climate	Biome (terrestrial)	Pastoral style	Livestock	Migration style	Ownership/ Tenure Sys.	Traditional Shelter
Worldwide categories	Humid Equatorial Dry Humid Temperate Humid Cold Cold Polar Highland	Polar/Tundra Alpine/Mountain Boreal Forest Temperate Forest Tropical Forest Savannah/Tropical Grassland Temperate Grassland Mediterranean Desert	Pure pastoral Agro-pastoral	Cattle Camel Cameloids Equids Shoats Reindeer Yak Buffalo	Nomadic Transhumant Sedentary	Private Communal Public Combined	Mobile Immobile Temporal Immobile semi-temporal/semi-permanent Immobile Permanent Combined
Cultural Landscape of Maymand	Dry	Desert	Agro-pastoral	Shoates	Transhumant	Combined	Combined

R3.Table. 04: Position and characteristics of Maymand’s cultural Landscape at global scale

2-2-1-2- Biomes and Transhumant Agro-Pastoral Patterns

2-2-1-2-1- Regional Position of the Cultural Landscape of Maymand

Biome: The regions of eastern parts of the Mediterranean Sea and Southwest of Asia can be classified into five climatically and geographically distinct zones (biomes). The desert biome on the Iranian Plateau is surrounded by Zagros Mountain Range in the west, (with mostly *Quercus* (oak) trees and is similar to the Mediterranean Sea) by *Elborz*, *Binālūd*, and *Hezār Masjed* Mountain Ranges and up latitudes Steppes in the north, by Hindu Kush Mountain Range (Alp/ Mountainous Biome) in the east and by northern borders of tropical / subtropical biomes in the south. The four different biomes can be seen all around this desert biome, namely mountainous in east, sub-tropical in south, Mediterranean Sea in west and moderate forest (Caspian Sea) in a short distance in its north. The desert region of Iran's Plateau is situated in an area, which enjoys various topographic and geomorphologic conditions and contains diverse biomes in terms of elevation, temperature, and precipitation. Annual rainfall in *Kavīr-e Lūt* (*Lūt* Desert) and *Kavīr-e Namak* (Namak Deserts) is less than 50 mm on average. The average annual precipitation on semi-steppe areas of Isfahan-Yazd and Kerman mountains may rise to 250 mm mostly in snow form. *Maymand* lies in this biome. This area has both plains with an elevation of 1900 m and mountains of higher than 2500 m.

2-2-1-2-2- Agro-pastoral and Pastoral Life in the region:

Pastoralism and even agro-pastoralism are among the important lifestyles, which demonstrate man's relationship with his environment. *Kūchīs* are the most significant example of pastoralism in Afghanistan, which are scattered in all parts of this country in search of summer, or winter pastures. The agro-pastoralism is also widespread in this country, according to the USAID report published in 2011, which was prepared in cooperation with Afghan Government, agro-pastoral lifestyle is found in parts of north, north east, and west of Afghanistan, however; these systems are not well known. The most famous type is a system practiced by *Vakhī* Tribe of *Badakhshān*. These communities grow crops and plants of their needs on the farms and fields inside the valleys and raise small and occasionally big livestock there too. In the western parts of Afghanistan mostly in *Farāh* and neighboring provinces, people who possess 2 or 3 *Jarībs* of land (about 3000 to 4600 m²) and few heads of sheep may lead an agro-

pastoral lifestyle. When snow thaws, the agro-pastoral communities of mountainous areas move their herds to the highest parts of the mountains.

Agro-pastoral is the common lifestyle in high mountainous areas of north Pakistan. Each household keeps an average 25 heads of sheep / goats and 6 cows plus one or two donkeys. The households possess less than one hectare farmland on average. They keep their livestock in the stables during winter and fodder them by hand. During spring and summer, the herds are moved to pasture lands around the village to graze on the grass and be away from farms and fields.

Chūlīstān and *Kūhīstān* agro-pastoralists in east of Pakistan, whose areas are different from mountainous areas of northern Pakistan, depend on rangelands from July to November since rangelands have more grass and water because of monsoon rain. These communities leave villages in early days of winter and migrate to farmland areas to spend spring and summer there.

Baluchistan, Pakistan's largest province is a vast plain with an altitude ranging from sea level to 1000m above sea level. Its high lands have an altitude from 1000m to 2200m, and its mountain peaks are as high as 3600m, there are foothills whose area is smaller than plains. Rainfall in this province varies from 50mm to 450mm depending on the area, though most precipitation happens in winter. In eastern and southern parts, it is affected by monsoon rains and largely resembles the monsoon patterns of *Chūlīstān*, and in western and northwestern parts follows *Iran-Tūrān* communities who stay in higher places from middle of May to September and spend the rest of the year in lower areas. In west and northwest of India, in *Gajarāt* and *Rajīstān* provinces, migrants like *Rāykā* tribe who raise camels or small livestock, specially goats and sheep depend on fields' surpluses in parts of the year. In northwest India, in areas like Himachal Pradesh, Pastoral and migratory pattern is similar to high areas of Pakistan and belongs to Mountainous region of Himalaya.

In Iran and on the Iranian Plateau, it seems that the magnitude of agro-pastoralism is related to ecology and topography. The special topography of the region (scattered mountains of Isfahan-Yazd-Kerman and plains and uplands among these mountains) has made summer areas to be adjacent to winter areas. Maybe that is why %30 of

moving tribes are in this region. The situation has made it possible for pastorals to do farming and horticulture while they stay in summer areas. That is why agro-pastoralism is unbelievably common in Kerman while most of these independent small tribes and clans historically do farming beside pastoralism. Studies show that agro-pastoralist system is more common than pastoralism, though migration is not common in the region and is limited to *Kūchī* nomads in Afghanistan and migration of agro-pastoralists in Kerman province and parts of Farah province in *Afghanistan*.

Livestock: The livestock kept in neighboring regions or biomes are a little more diverse, but in the desert region it is limited to camels, sheep and goats. Not very long ago cows used to be raised, too.

Migrators: The migrators are different in their timing for migration. Among *Kūchīs*, herds and families migrate at the same time. In some areas like Yazd, migration to summer areas is just for herds and is done by shepherds. In *Maymand*, herds and families migrate at different times. Migration of herds is limited to ewes and lambs in March and a part of April, they are sent to higher places, or places which have more grass. That is the only migration for herds. But, family migrate three times without herds (in March, July, and December), though some lambs and kids migrate with family in July. This happens in *Maymand* only.

Migration events and Calendar: Migration events manifest in two forms over the region, and follow two different calendars: The usual calendar, which is migration at the beginning of spring to mountainous areas and upland pastures. These migrants come back to lowland at the end of summer. The other calendar is the triple migration of families in March, July and December. Migration to higher places in July happens after *panjeh-bandī*. This is exclusive to *Maymand* and some neighboring areas.

Ownership/Tenure system: In this part of Asia one can find all types of ownership documented at global level.

Shelter styles: Considering the diverse Biomes and climates in the region, local shelters are various. In *Turkmenistan* and Middle Asia, yurts are common. In mountainous areas where stones are available, stone houses are common, and in parts of Kerman province, dugout structures can be seen. Clay houses are seen in other parts of

the region like *Khūrāsān* in *Iran* and *Farāh* in *Afghanistan*. In *Maymand*, apart from dugouts, there are troglodytes, a mixed form of shelter.

Key Point: It seems that Maymand possesses the right conditions for the emergence of an agro-pastoral system, that is classifiable as two major divisions: mountainous and monsoon. Migration to mountainous areas is dependent on temperature when snow thaws and grass starts growing in the first system , whereas in the second, summer rains trigger migration when sufficient water and forage becomes available. Shelters are often made of brick and clay or stone and clay. The Migratory system in Maymand and the presence of shelters in it gives it a unique value and increases its cultural perspective. Another unique and rare characteristic of this system concerns its ownership system.

2-2-1-3- transhumance Agro-pastoral lifestyle in desert and arid regions

The studies conducted about *Farāh* and *Mazār Sharīf* regions of *Afghanistan* showed more similarity to *Maymand* agro-pastoral system, the summary of which is presented below:

Based on climatologic / floral kingdoms studies and analyses of existing agro-pastoral systems of the world, it became clear that *Farāh* in *Afghanistan* is very similar to *Maymand* agro-pastoral system, the presence of high mountains along with low rangelands have created conditions similar to north west of *Kerman* in this region. However, despite the similarities, *Maymand* differs from *Farāh* in the following aspects:

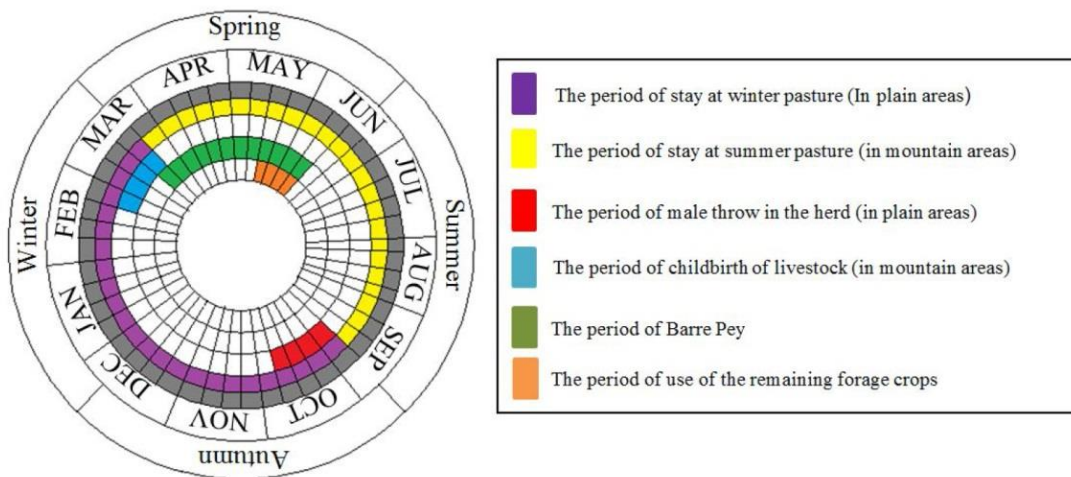
1) Summer and Winter Shelters

The first difference can be seen in the shelters used for warm and cold seasons. *Farāh* communities use sun-dried brick houses for man and livestock when it is cold but when it gets warmer, they use *Āghols* in front of these brick houses. During winter when it is cold, the people live in black tents made from goats' hair. In other words, *Farāh* communities have a much simpler shelter and lodging compared with the specialized shelter system of *Maymand* communities.

2) Agro-pastoral Calendars

Farāh grazing Calendars are divided into two major categories: summer and winter migration (*Yeylāq* and *Qeshlāq*). In this system in the last month of winter (March – April), herds are moved towards mountainous areas and they stay there till the start of summer, then they are moved back to Plain areas. Herds also graze on the residues of crops after harvest in February. In *Maymand*, herds migrate to mountainous areas in mid-summer; moreover, the time for crop residue consumption differs in *Maymand*. Another difference concerns the location of lambing, while ewes give birth in Plain pastures in *Maymand*, the *Farāh* herds are moved to mountainous areas to give birth. Ram mating takes place in the beginning of summer, and ewes give birth to their lambs in heights, as soon as lambs can follow their mothers, *Barre Pey* period starts which lasts for three months. After *Barre Pey*, milking is done when family members join to help in milking and dairy processing. To facilitate the milking process, a 100 meter long rope is tied to a fence to hold the sheep (called *Balgak* which is a short tether with which the animal is tied to the main rope) and the person in charge of milking starts his work from one end of the line. This method of milking can be seen in *Khūrāsān* Province (*Kāshmar*, *Torghabeh*, *Mashhad*, *Torbat-e Jām*), but milking is quite different in *Maymand*.

In the last month of spring, *Farāh*'s herdsmen take their herds to the harvested fields to graze. Main agricultural products of *Farāh* include: mulberry, pomegranate, almond and wheat. Wheat is cultivated in December. All the above points can also be found in *Mazār Sharīf*.



R3.Fig. 21: Calendar and Places of pastoral activities in *Farāh* agro-pastoral system

3) *Āghol* Social Mechanism (*Khīl* in Afghanistan):

In *Maymand*, *Sar-e-Āghol* consists of a master and several partners, whereas *Khīls* do have two or three members. The herds in *Farāh*'s *Sar-e-Āghol* may consist of 400 to 500 heads of sheep, which gives an average 150-200 for each person but as was mentioned, *Sar-e-Āghol* of *Maymand* enjoys the presence of a lot of partners and this reduces the average size of livestock for each person from 25 to 150-200, the average being 60. Shepherd assistance or "*Gomārī*" is also practiced in *Farāh*, but since there are few owners in each herd, they have to assist the shepherd every two or three nights while due to the existence of a large number of shareholders, there is long intervals for shepherd assistants in *Maymand*. Moreover, "*Gomārī*" is only done in summer.

Descriptive aspect	Climate/Habitat	Pastoral style	Livestock	Migrator	Migration Calendar	Time of Migration to Mountains	Ownership/ Tenure Sys.	Traditional Shelter
Regional categories	Temperate/Forest Cold/Alpine/Highland Hot/Sub-Tropical Mediterranean Desert/Steppe	Pure pastoral Agro-pastoral	Cattle Camel Equids Shoats Yak Buffalo	Herd+Family Herd+Shepherd Family	2(mid spring & Late Summer) 3 (early spring & Late Summer & mid fall)	May-June Late July (<i>Panjeh</i>)	Private Communal Public Combined (<i>Gomar</i>)	Tent/Yurt Kapar/Wickiup Mud Hut/Adobe Dugout/Earth Lodge Stone Cottage Combined (<i>Khune-Kebar</i>)
Cultural Landscape of Maymand	Desert/Steppe	Agro-pastoral	Shoates	Family	3	Late July	Combined	Combined

R3.Table. 05: Key environmental and human characteristics related to the comparative study in the regional scale (eastern Mediterranean, southwest Asia)

Descriptive aspect	Migrator	Migration Calendar	Time of Migration to Mountains	Traditional Shelter	Communal Tenure /Co-management	Modernity Influence	Integrity btw Agriculture and Pastoralism	Subsistence/ Auto-Consumption
Regional categories	Herd+Family Family	2 3	May-June Late July	Tent/Yurt Stone Cottage Combined (Khune-Kebar)	Medium High	Low High	Medium High	Low High
Cultural Landscape of Maymand	Family	3	Late July	Combined	High	Low	High	High

R3.Table. 06: Important characteristics of agro-pastoral systems related to the comparative study in the regional scale (eastern Mediterranean, southwest Asia)

2-2-2- Regional Scale

2-2-2-1- Potential territories of migratory agro-pastoral lifestyle at local scale

North of Maymand (*Dehaj, Kerāskīn, Khabr, Medvārūt*)

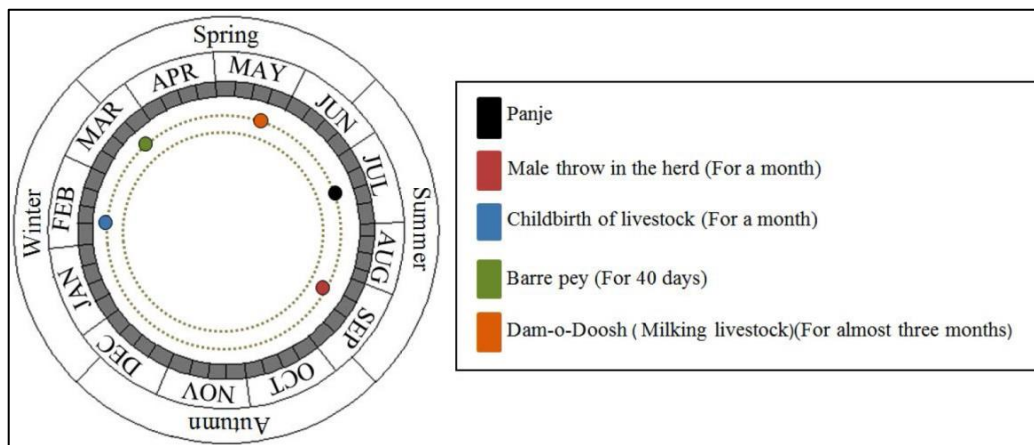
Shelter

The studies showed that the existing shelters for man and livestock here were very different from those in *Maymand*, but these differences are more obvious in mountainous and *Sar-e-Bāghs*, the agro-pastoralists of this region used *Āghols* for the keeping of livestock in Plain areas and lived in white tents themselves. *Āghols* were made of wood and stone and sometimes the cracks found in the mountains were used for the keeping of livestock. The mountainous shelters were of two major sections: one for man settlement and one for keeping livestock. It needs to be noted that shelters were mostly designed for human settlement and there were fewer places for cattle, since the cattle are mostly kept in Plain areas to graze, therefore there is no need to build shelters at mountainous areas for them. The summer shelters for people were made of lumber, iron, stone and other materials which show a radical change from older shelters. There were often two winter sheds (*Suls*) for livestock (large roofed spaces to keep herds during winter to protect them against cold and rain / snow) and another shed (*Sul*) for the keeping of small herds (*Khalame*) which contained a room for the residence of the shepherd. People were found living in tents during summer or when they moved to mountainous areas and kept their herds in an open but fenced enclosure for milking. During summer, the livestock were kept in *Pīval* at nights (*Pīval* is an area inside the rangeland which the shepherd chooses for livestock rest at nights).

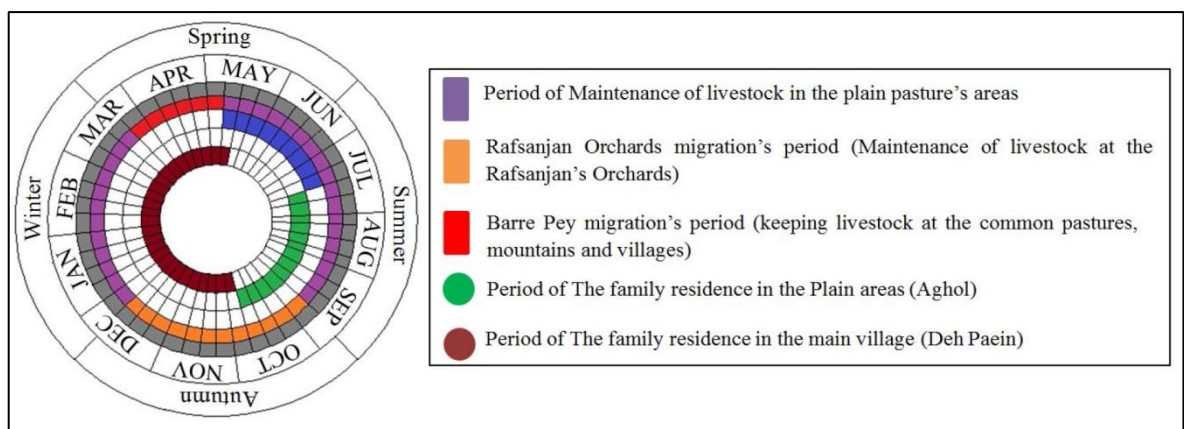
Agro-Pastorals Movement Schedules:

Like *Maymand*, the agro-pastoralists of *Āfkūyeh* start their crop year in mid-summer, but the timing, place, and type of their activities differ from those of *Maymand*. After one and a half month, in the midst of September, they begin ram mating, and this coincides with the start of autumn; they move their herds to pistachio gardens of *Rafsanjān*, which lies 115 km away. At this time, only sheep herds are moved to new pastures and the goats remain in Plain pastures. In fact, an external relocation takes place, which is locally known as “*Būkand*”. Since mating of rams takes place in midst

September, lambing happens in early February. After one and a half month, the herds of ewes, and their lambs are moved to *Barre Pey* pastures for two months. *Barre Pey* areas are selected from Plain pastures, which are situated some 10 km away. After *Barre Pey*, milking starts. The milking of goats begins at the last week of March when sheep herds are in *Barre Pey*. It needs to be noted that unlike *Maymand* households who go to Plain pastures during milking, the households of these communities stay at Plain pastures for milking but return to their main winter lodging, called “*Deh-e Paīn*”. After the end of *Dām o Dūsh*, the households migrate to existing hutments in mountainous areas. The households get engaged in farming and to a lesser extent in livestock raising activities at mountainous areas.



R3.Fig. 22: Pastoral activities calendar in agro-pastoral system of Āfkūīyeh in north of Maymand



R3.Fig. 23: human and herds transhumance calendar and Places of Āfkūīyeh in north of Maymand

2-2-2-2- Local position of Cultural Landscape of Maymand

At this level, *Maymand* is compared to its neighboring areas. The aim is to mention differences between *Maymand* and those areas. To compare, a few locations similar in ecology were selected and specific aspects in these areas were studied.

These areas and a summary of the findings are:

Āfkūyeh or *Īl-e Shekārī* region: The calendar and characteristics of the migration are almost similar to *Maymand*; shelter consists of tents and other shelters to keep herds from cold, but shelters are changing; there were no combined shelters (*Kebār-Khūne-bon*); *Gomārī* and other communal ownership of herds and rangelands were not to be like in *Maymand*.

Maymand's adjoining areas in the west and northwest, *Korom* and *Ābdar*: The characteristics of the migration are similar to *Maymand*, but combined shelters (*Kebār-Khūne-bon*) have changed or are changing.

Maymand's adjoining areas in the east, *Golāab*, *Chenār*, and *Paghal'e*: The migration is different and occurs between two places, but shelters are combined (*Kebār-Khūne-bon*) and are more consistent.

Pārīz and *Dehshīrak*: The migration used to be somewhat similar to *Maymand* until recently, but now it has changed. Shelters used to be similar until recently, but now they have changed. *Gomārī* is not as common as *Maymand*.

Bolūrd (*Gohrūd*, *Shaldūn*) or *Bochāghī* region: Migration is different, shelters are not combined and are different from *Maymand's*, and *Gomārī* and communal management are not like those in *Maymand*.

In all these reviewed adjoining areas aspects like pastoralism and horticulture, diversity of products, and level of self-sufficiency are lower than *Maymand*, also lifestyles are highly affected by modernism and this points to the Outstanding Universal Value of *Maymand*.

The survey resulted in the approval of the expected results. Although *Maymand* migratory aspects can somewhat be found in a wider area around it, However, the combination of all of the mentioned characteristics in the form of a unified network was, only, observable in *Maymand*. And these all prove the site as a cultural landscape with unique Outstanding Universal Value, and deserving inscription as a World Heritage Property.

Region Characteristic	Special Nomadism	Consistency of human-livestock shelter in cold and hot seasons; Natural and local material	<i>Gomārī</i> and <i>Panjeh Bandī</i> and communal management	Self-sufficiency and association of farming and pastoralism, less effect of modernism	Significant heritage value
<i>Āfkūyeh (Īl-e Shekārī)</i>	++	+	+	+	+ -
<i>Maymand's adjacent areas in the west (Korom and Ābdar)</i>	+++	++	++	++	++ -
<i>Maymand's adjacent areas in the east (Golāb-Chenār-Pāqal'e)</i>	++	++	++	++	++
<i>Pārīz-Deh Shūrak</i>	+	+	+	+	+
<i>Bolūrd (territory of Īl-e Bochaqī)</i>	+	+	+	++	+ -
<i>Cultural Landscape of Maymand</i>	+++	+++	+++	+++	+++

R3.Table. 07: Outstanding Universal Value of Maymand, compared with adjacent areas

3- Conclusion, and review of the criteria for inscription on the World Heritage List:

Maymand's cultural Landscape enjoys Outstanding Universal Value for its nomadic system and for its troglodyte residential area. These point to a unique kind of adaptation of man with its environment. Other aspects like collective management present in the area also present outstanding value and can be considered as the third aspect for claiming liability for the site for international inscription as a Cultural Landscape.

Integrity of the Landscape

The landscape consists of environmental, tangible and intangible cultural elements, and considering the definition of a system as a series of related parts, it can manifest as a proper example of the interrelation of the tangible and the intangible:

Maymandi people's calendar for migration in March, July, and December coincides with their job activities on one hand and to seasonal changes and temperature on the other. Migration in March is for going to *Sar-e-Āghols* and starting activities like milking. April -May migration (*Kūch-e Nowrūzī*) should be done in this time; since before this time families cannot get out of *Maymand* or their winter shelters, and it cannot be done later since they will lose time to produce dairy products in *Sar-e-Āghols`*.

Migration after *panjeh* on one hand is related to pastoral activities since it happens when grass is on the vane and amount of milk decreases and milking is going to end and there is no need to stay in *Sar-e-Āghols* and on the other hand they should be ready for garden harvest in the *Sar-e-Bāghs*. Leaves of trees also become available for feeding lambs. Because of this consistency, migration in this region cannot be much sooner than *panjeh* (late July) and not later than that time. This consistency is one of the most important aspects of integrity of the landscape and its unique agro-pastoral system. This integrity is a symbol of strong relationship between pastoralism and agriculture, and the relations between these two major occupational activities.

The autumn migration cannot be done before garden harvest and by the time its by-products are over, and it cannot be much later since cold temperature in the mountains would be intolerable to the extent that the people and the herds have to move to winter

shelters, i.e. troglodytes *Maymand*. So, the three migrations are reasonably related to the environment and occupational activities and indicate time-location regularity in using resources and integrity of the landscape.

Gomārī and *Panjeh-bandī* is another aspect that forms integrity in this cultural landscape. First, the capacity of the environment does not allow pastoralism in large numbers (more than 200 cattle for each family), so pastures should have less livestock (50-100 for each family). On the other hand, if they do not have enough livestock, members of the family cannot be fully engaged in cattle raising activities. That is why *Gomārī* and *Panjeh-bandī* are formed and developed so that men can take turns in pastoral activities and have time to do horticulture and farming. *Gomārī* and *Panjeh-bandī* also make it possible for men to find time to do things other than pastoralism and horticulture in nature such as gathering wild fruit, wormwood bushes and browse wild trees and repairing of their shelters. In fact, *Gomārī* and *Panjeh-bandī* are another aspect of integrity in this landscape.

The difference in the typology of the shelters in *Sar-e-Āghols* and *Sar-e-Bāghs* is to make them compatible with the climate and suitable for the people's two-part occupational activities. Shelters are built in a way that they need the least amount of energy and have the least burden on the environment while at the same time remaining perfect for activities like pastoralism. The existence of a lot of specialized spaces for producing dairy products in summer shelters called *mashkdūn* and specialized spaces for raising feeder lambs in winter shelters called *kūzardūn*, shows the adaptation of residence with pastoralism. The presence of *kūzardūn* in winter shelters, which are mainly a place for horticulture, not pastoralism, is a sign of correlation between pastoralism and horticulture and adaptation with agro-pastoral lifestyle.

To sum up, combining pastoralism and agriculture is the result of environmental necessities like limited and scattered water resources, and using natural resources is the best possible way, and migrations, specially *panjeh* migration, and also *Gomārī* and *panjeh-bandī* have made this integration and interaction with the environment possible and internalized.

Authenticity in Cultural Landscape of Maymand

Constructions: The summer shelters, both those used by people and those specified for the cattle, consist of two sections. One section is used at nights, especially cold nights (*markhūne, korm, āghol, sūl*), and the other is used at warm hours or days (*kebār,*

telgard). *Kebār* has a special design and use: Its main surrounding area is for cooking and has spaces like *kūzardūn* or *maskdūn* to be used for specific purposes.

Material: The *kebār* part of human shelters and roof of other spaces are made of cashew wood. *Mar* browse is used as a cover for the roof.

The walls of *markhūneh* and *Gombeh* in *Sar-e-Bāghs* and parts of *āghols* are made of stones which are found easily in the area.

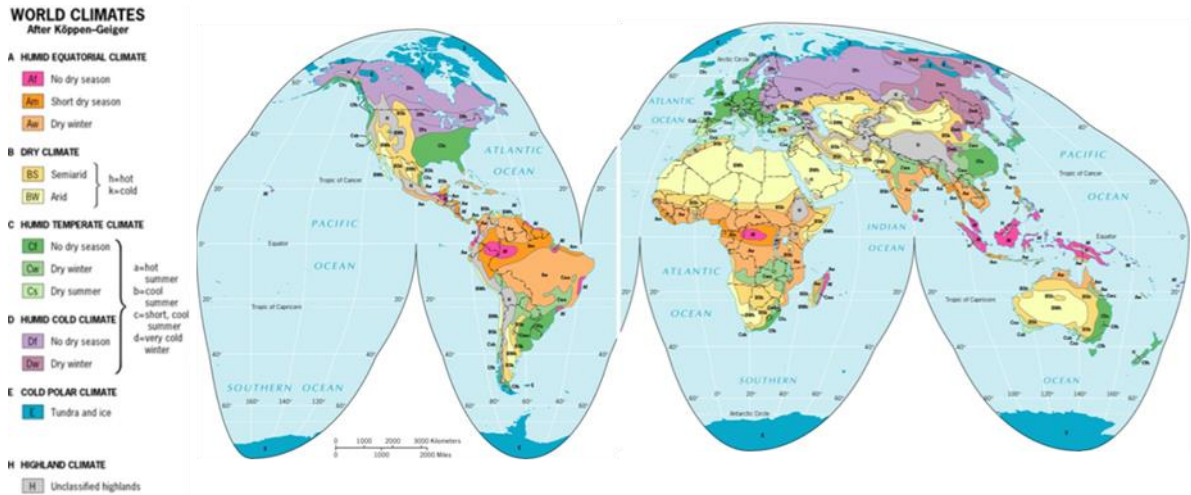
Function: Two-part shelters are both for human beings and for herds. Herds' shelters are used for milking, feeding, or herds' night rest. Human shelters are both for the residence and producing dairy products or fattening of livestock in some special places.

Traditional management systems and techniques: *Gomārī* and *panjeh-bandī* are the most important communal herd management systems in *Ravands* / *Sar-e-Āghols*. Migration after *panjeh* to summer areas, fattening of lambs in *kūzardūns* in summer areas, keeping herds indoor during winter, producing different types of dairy products, using rangeland plants as food, medicine, paint, and grass, naming systems for herds, using earmarks for showing ownership, lamb weaning, management and sharing spring and duct water, are among traditions and traditional techniques for herd and garden management.

Setting: *Ravands* are the most important places in main tropical rangelands and their borderlines are the most important lines in the daily lives of herds. Common areas between *Ravands* and rangelands near *Sar-e-Bāghs* are also important. The most important time-location order is movement between *Sar-e-Āghols*, *Sar-e-Bāghs* and troglodyte *Maymand* to use natural resources in time.

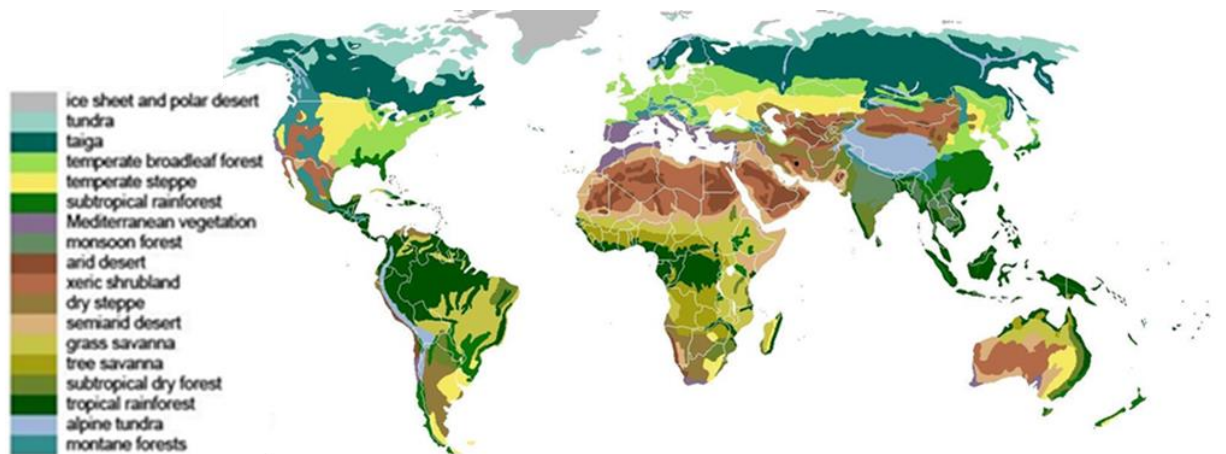
The traditional knowledge specialized terminology: There are numerous active words that show the cultural landscape is established and durable: *panjeh*, *ravand*, *honār*, *kūzardūn*, *kebār*, *markhūneh*, *mashkdūn*, *panjeh-bandī*, *Gomārī* and *morūn*. These words are used today in *Maymand's* local community. Although the linguistic variety is known as a dialect of Persian, however, the existence of a number of active specialized words, related to the agro-pastoral lifestyle, and life in troglodyte shelters point to the uniqueness of life over the landscape. All these point to the authenticity of the property, its Outstanding Universal Value, and its liability for inscription on the World Heritage List.

• World Climate Classification



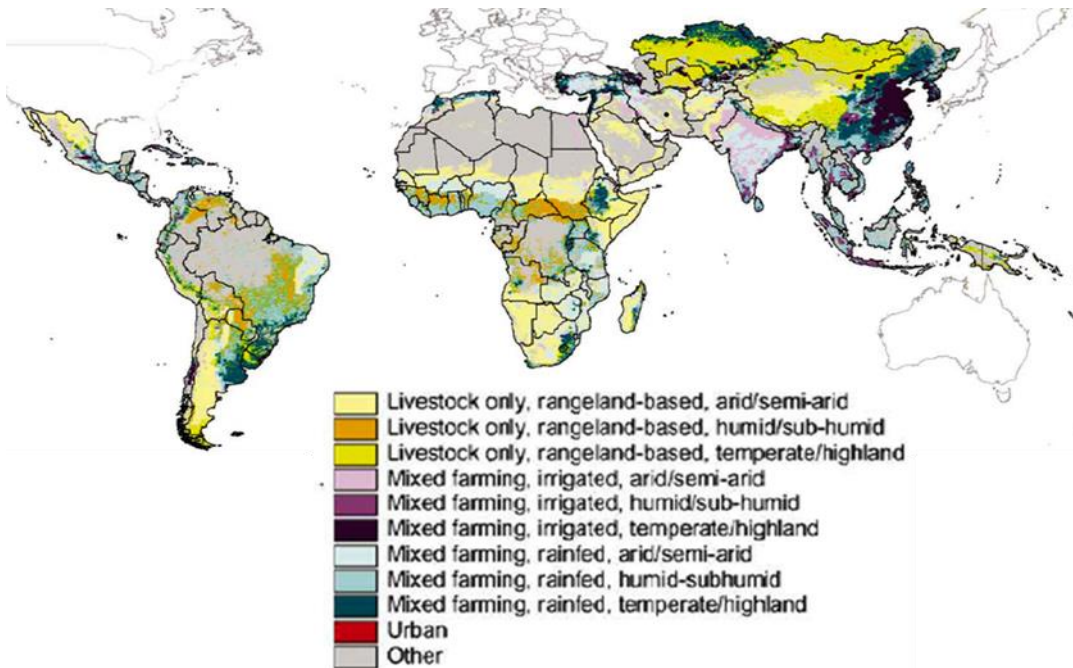
R3.Fig. 24: Map of world climate classification (REFERENCE: <http://en.wikipedia.org/wiki/Koppen-climate-classification/> kottek et al, 2006)

• World Biomes Classification



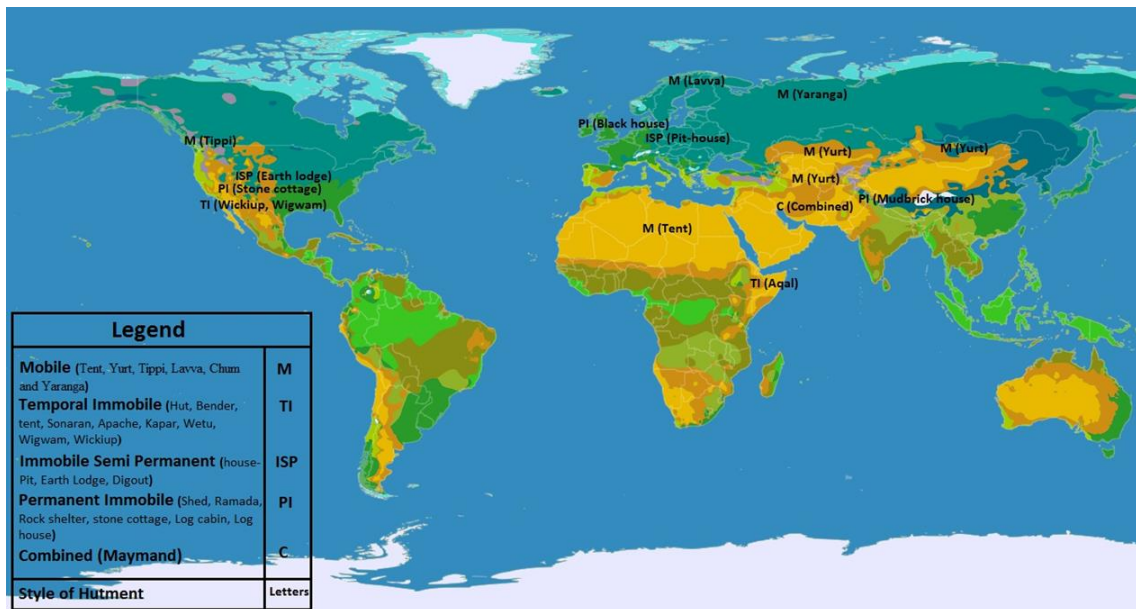
R3.Fig. 25: Map of world biomes classification (reference: <http://en.wikipedia.org/wiki/Biome>)

- World Livestock production systems



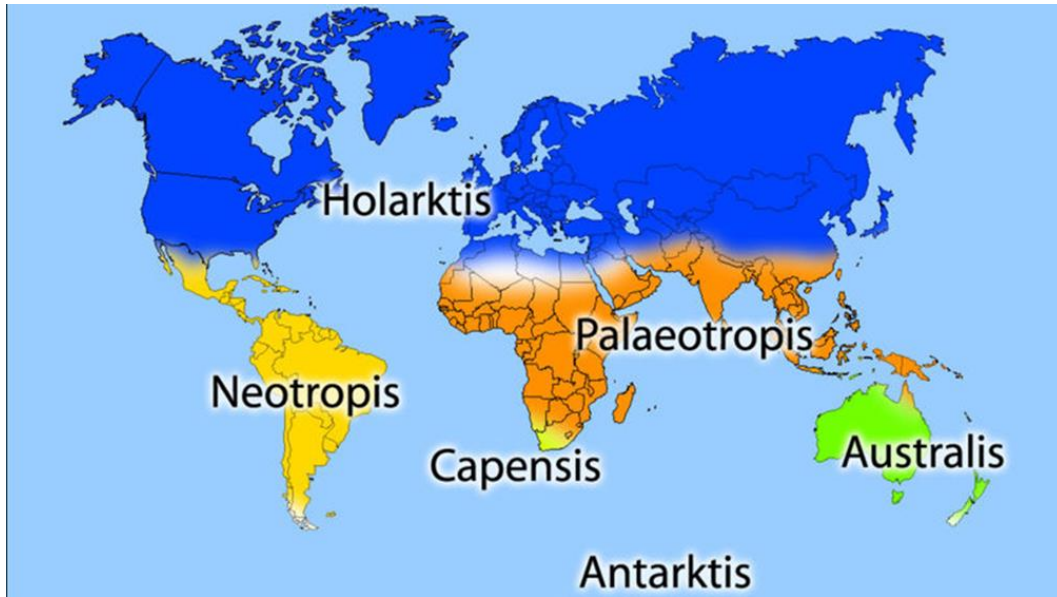
R3.Fig. 26: MAP OF WORLD LIVESTOCK PRODUCTION SYSTEMS (REFERENCE: KRUSKAA ET AL, 2003)

- Hutment styles

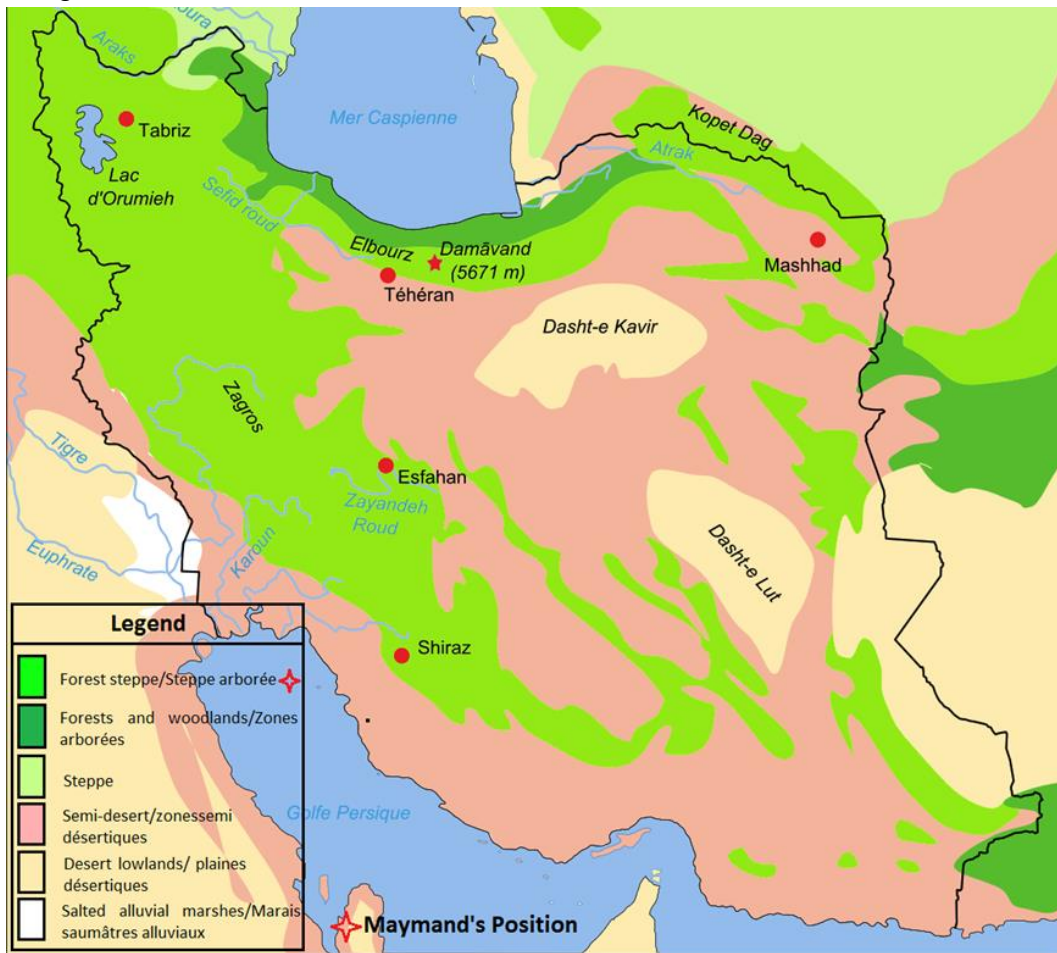


R3.Fig. 27: Map of Hutment styles in the world (Reference: <https://www.wikipedia.org/>)

Vegetation & Biogeography

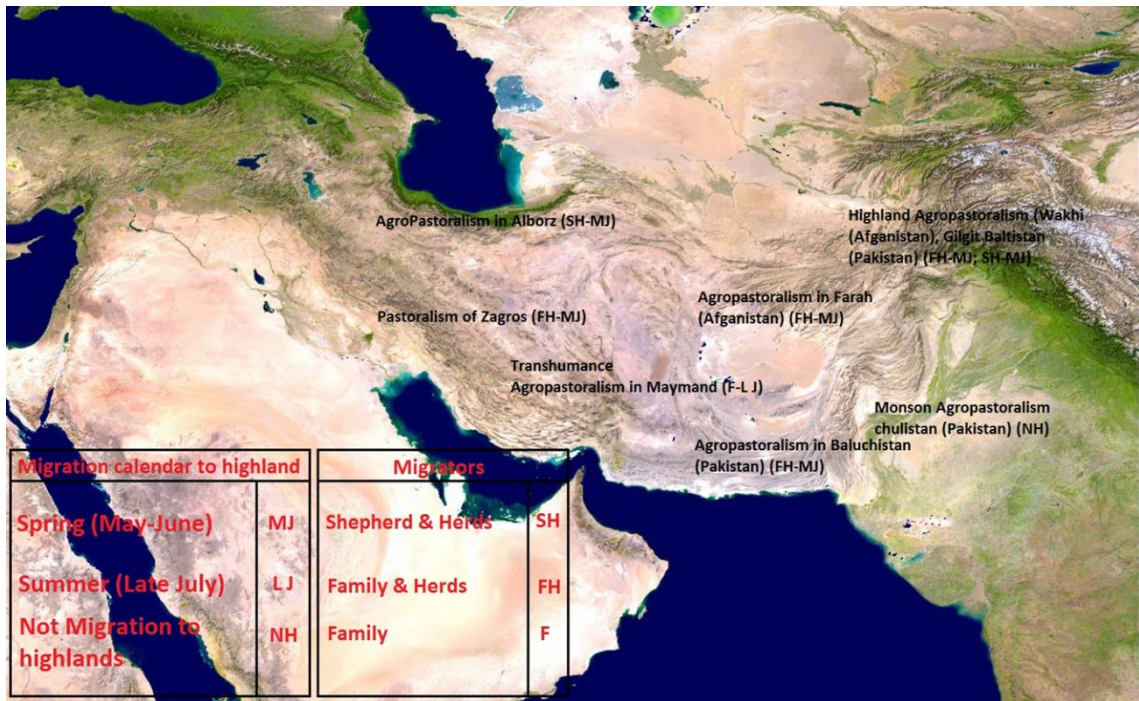


R3.Fig. 28: MAP OF VEGETATION & BIOGEOGRAPHY WORLDWIDE

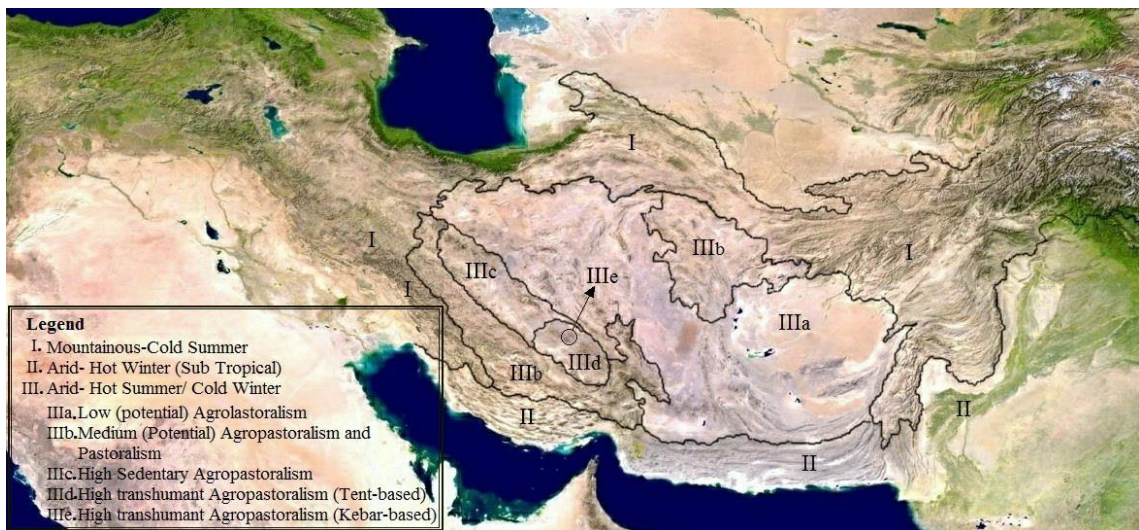


R3.Fig. 29: MAP OF BIOTOPES IN IRAN

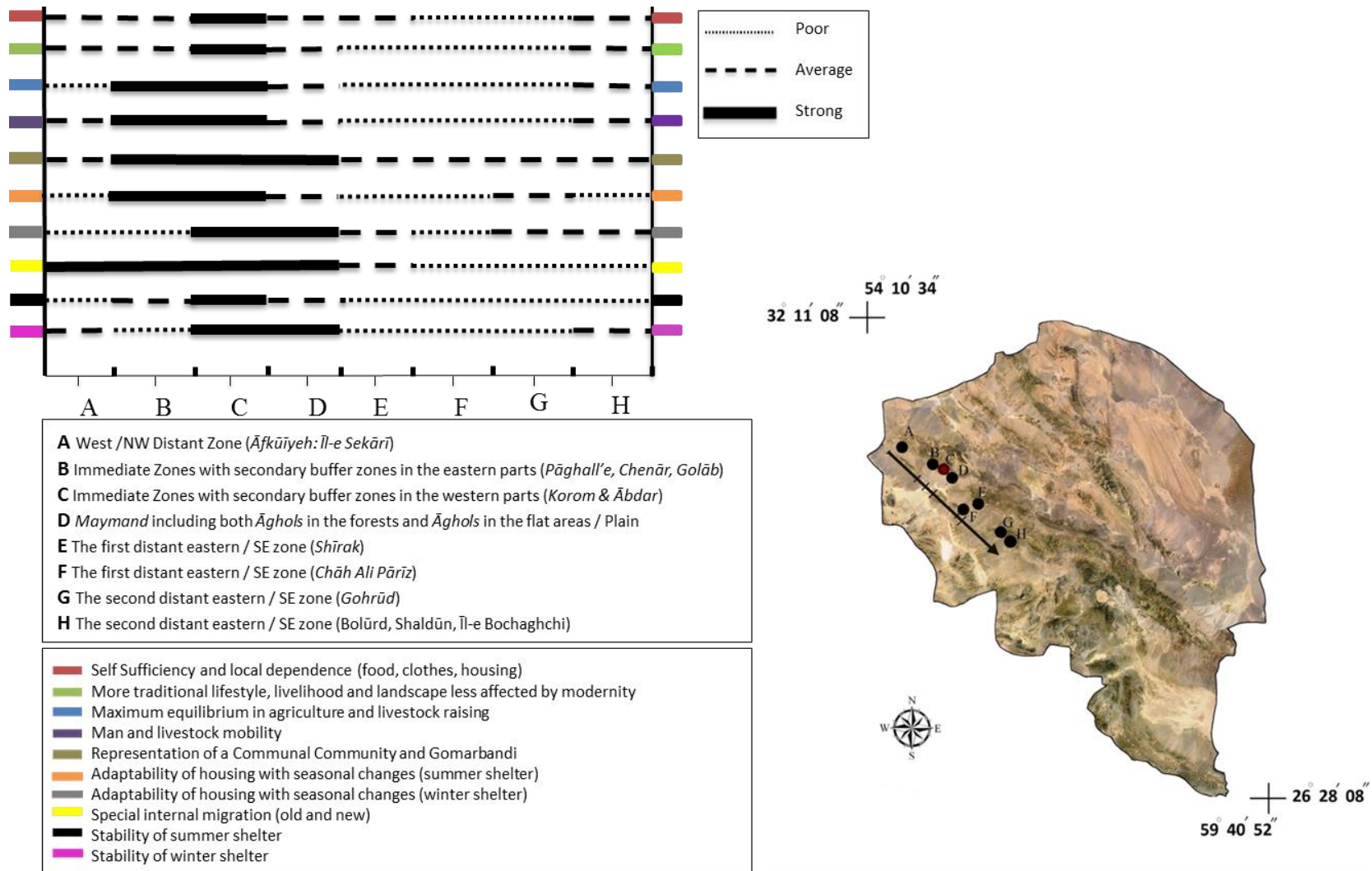
([HTTP://COMMONS.WIKIMEDIA.ORG/WIKI/FILE:MAP_IRAN_BIOTOPES_SIMPLIFIED-FR.PNG](http://commons.wikimedia.org/wiki/File:MAP_IRAN_BIOTOPES_SIMPLIFIED-FR.PNG))



R3.Fig. 30: Distribution of Agro-pastoralism in Iran and on the adjacent regions



R3.Fig. 31: Distribution of Agro-pastoralism and climate conditions in Iran and on the adjacent regions



R3.Fig. 32: *Maymand* and surrounding area in Kerman province

Map References

Kruskaa, R. L., Reida, R. S., Thorntona, P. K., Henningerb, N. and Kristjansona, P. M., 2003. Mapping livestock-oriented agricultural production systems for the developing world. *Agricultural Systems*, 77: 39–63.

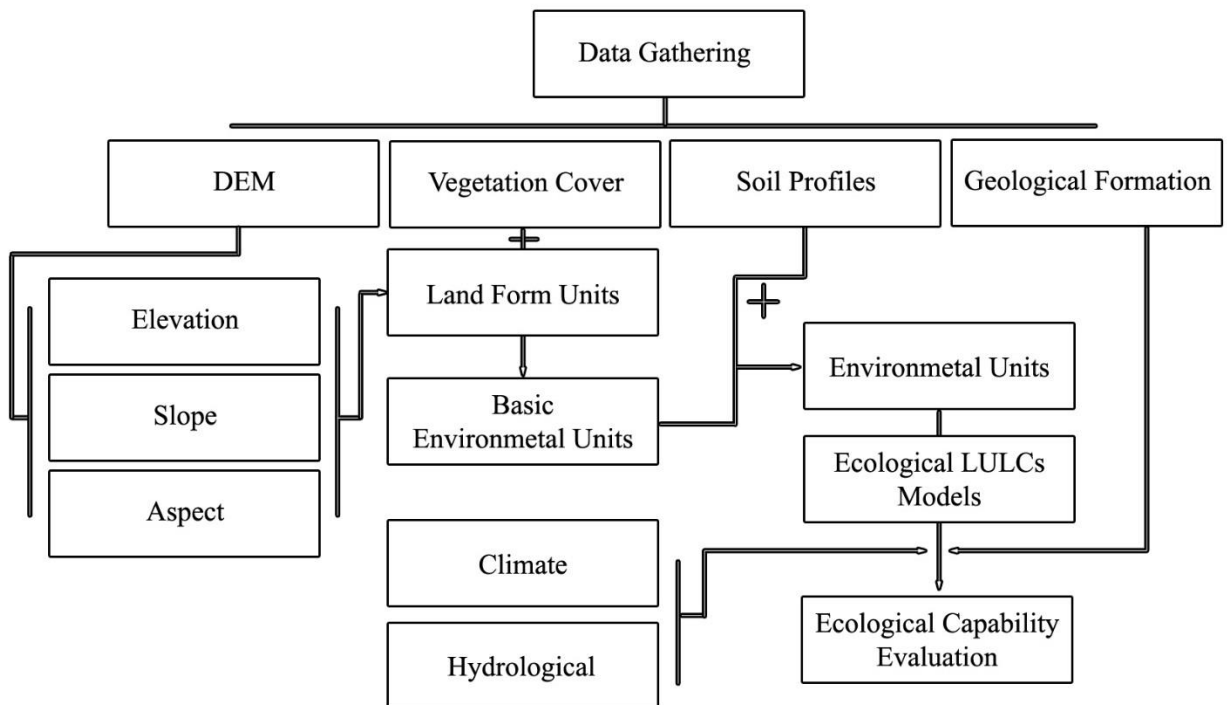
KOTTEK1, M., GRIESER, J., BECK, C., RUDOLF, B. and RUBEL, F., 2006. World Map of the Köppen-Geiger climate classification updated. *Meteorologische Zeitschrift*, Vol. 15, No. 3, 259-263.

Report 4

Ecological Capability Evaluation of
The Cultural Landscape of Maymand

1- Ecological Capability Evaluation

Ecological capability evaluation is a mid-step process of the land use planning approach, which contains identification and mapping land ecological resources. It also produces environmental units map by overlaying resources and land units maps. Then the ecological capability of environmental units will be determined by comparing each environmental unit ecological attributes with land use ecological models, which are developed and nationalized for Iran (Makhdoum, 1991). Ecological models evaluate land capability for each land use/cover and also demonstrate the capability class for each unit. Hence, implementing these methods will result in both evaluation and classification of the land, and the suitable areas for performing each LULC in, will be determined by comparing unit' attributes with national ecological models. The flow chart of carrying out this project is illustrated in chart.1.



R4.Chart.1.: Project development flow chart

1-1 Landform units mapping

Based on chart.1, the first step in ecological capability evaluation process is to produce landform units' map, which includes landform units each developed to current condition through-out passing individual microclimate, erosion and environmental conditions. Therefore, soils which developed on same landform units, bed rock type and same conditions, are physically same. Hence, land units determine the soil and vegetation cover above that.

To produce the landform units map, between mentioned parameters; slope, elevation and geographical aspect are the most determinants. Therefore, first these maps (i.e. slope, aspect, and elevation) must produce and then overlay to produce the land form units map. Finally, to determine the basic landform unit composite code, the dual-composite approach is implemented. In this approach, first, the elevation map overlaid by slope class map. Then to produce final landform units map, the geographical slope map overlaid with the composite map (basic land form units map) and another composite map developed.

To determine the landform units' code the dual-composite equation is used. This is as follow;

$$E=j(l-1)+j_i$$

Where, E = dual-composited unit code

j = total number of below map units in dual-composite

l = unit code in upper map

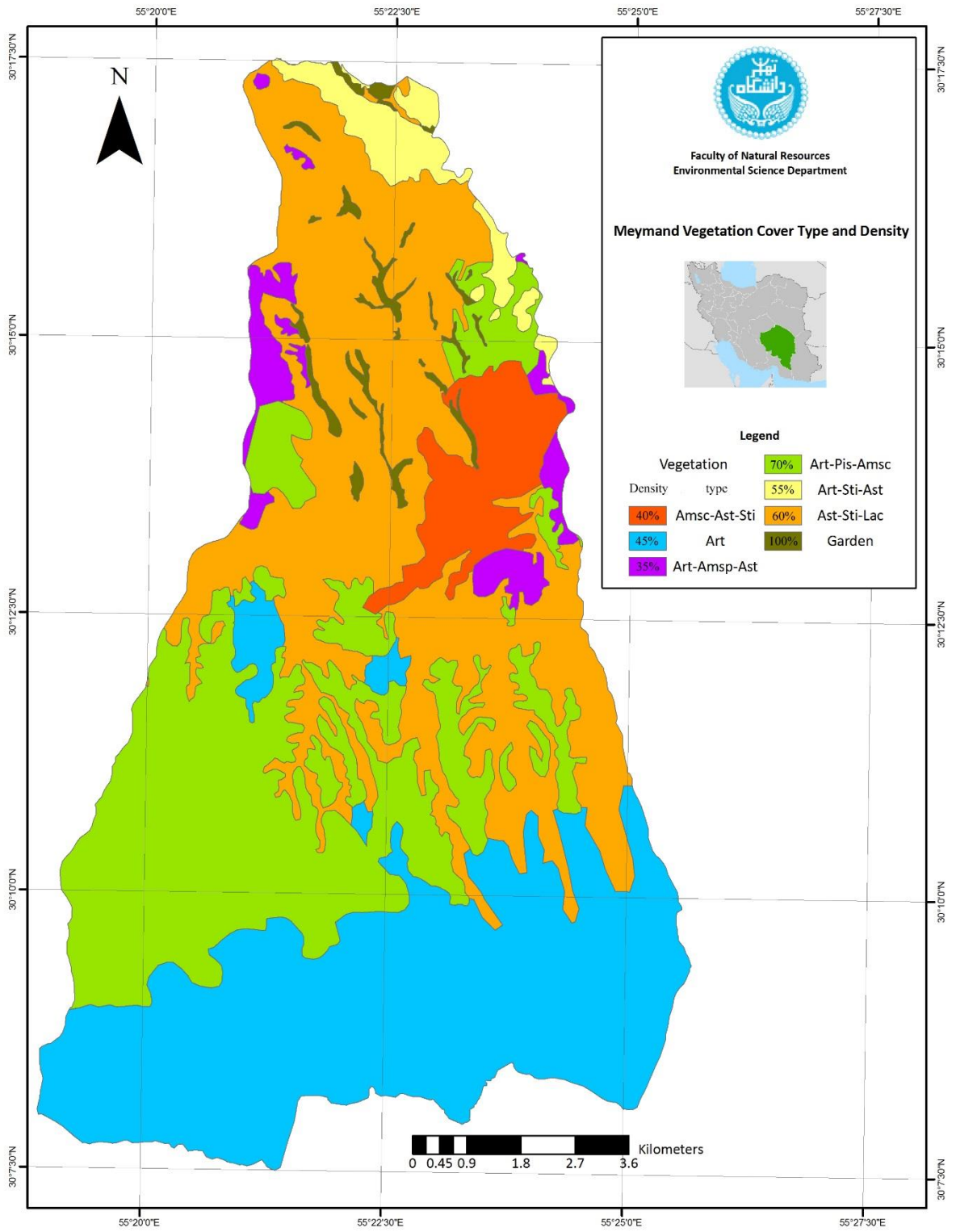
j_i = unit code in below map

1-1-1 Basic environmental units mapping

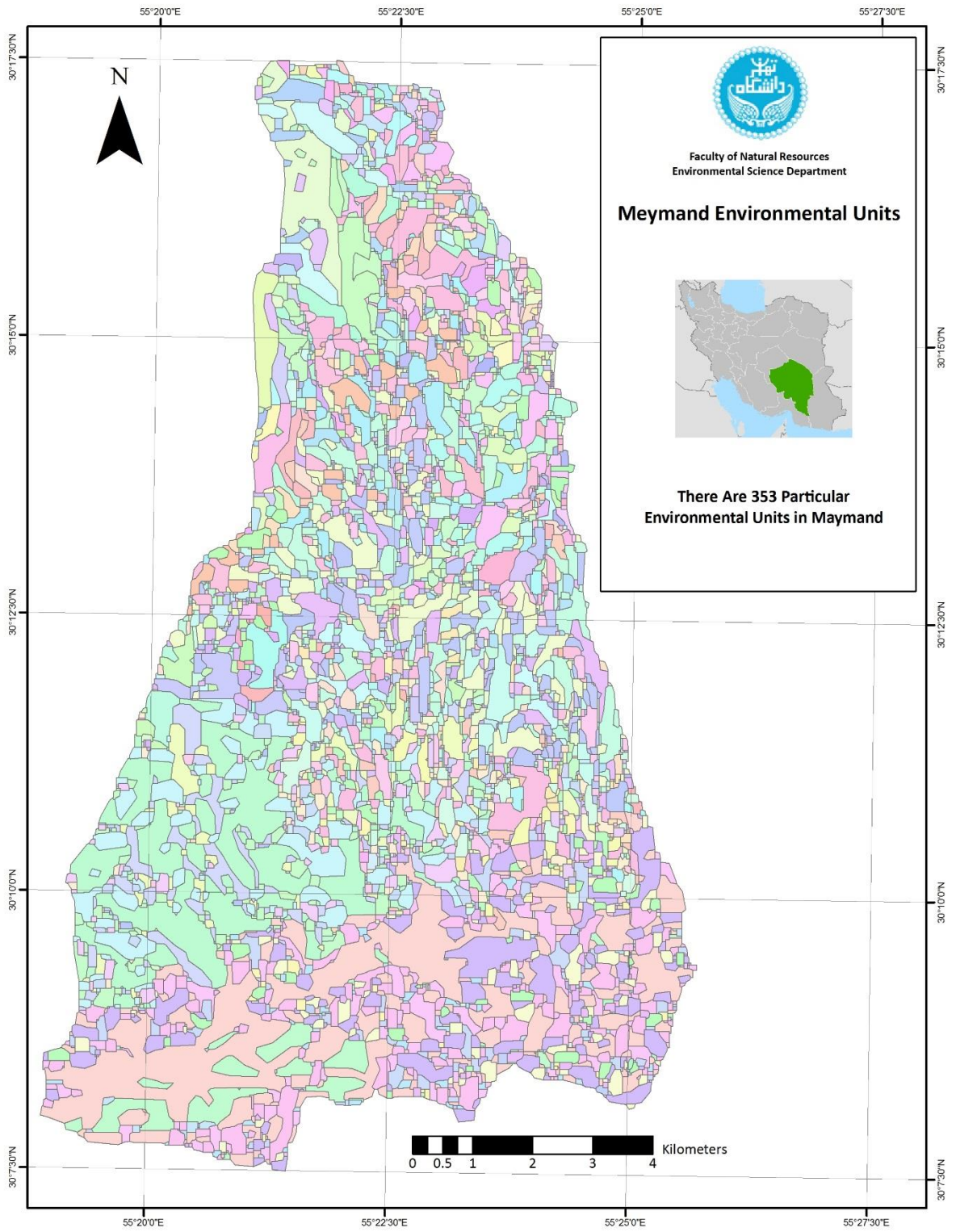
Basic environmental units are mapped overlaying the soil type map with land form units' map.

1-1-2 Environmental units mapping

As shown on chart.1, it produced overlaying vegetation cover map, which is illustrated in R4.Fig.01 with basic environmental units map. Then the environmental units map produced, composing other basic resources' maps, which is used as a basement in land use planning approach to access sustainable development and proper conservation. Therefore, 353 individual environmental units produced compositing essential ecological resources maps, R4.Fig.02, demonstrate the environmental units, and individual attributes of each can be found in attachments part. Then, comparing this units' attributes with ecological LULC models of Iran, capable areas for each LULC is mapped (i.e. R4.Fig. 03-08), which included; forestry, agriculture, rangeland, intensive tourism, extensive tourism and rural development.



R4.Fig. 01: Maymand vegetation covers type and density



R4.Fig. 02: *Maymand* ancient village environmental units

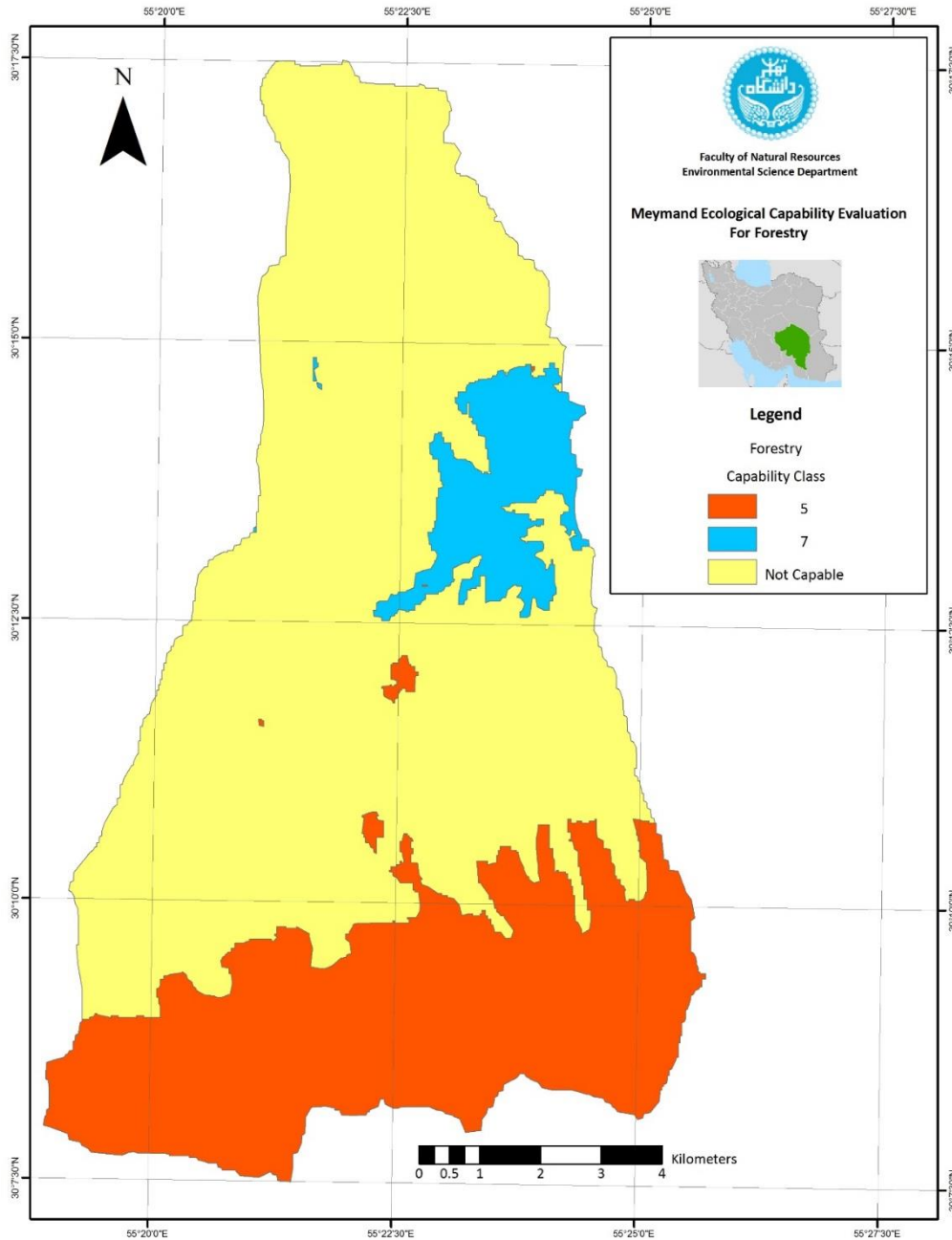
1-2 Ecological land capability evaluation

Ecological LULC models of Iran, which are alphabetic and contain essential capability criteria' attributes for following LULCs;

- 1- Forestry land use/cover ecological model
- 2- Agriculture land use ecological model
- 3- Rangeland land use/cover ecological model
- 4- Aquaculture land use ecological model
- 5- Environmental conservation ecological model
- 6- Tourism land use ecological model (i.e. includes; intensive and extensive tourism)
- 7- Urban, rural and industrial land use ecological model

1-2-1 Maymand ecological land capability evaluation for forestry

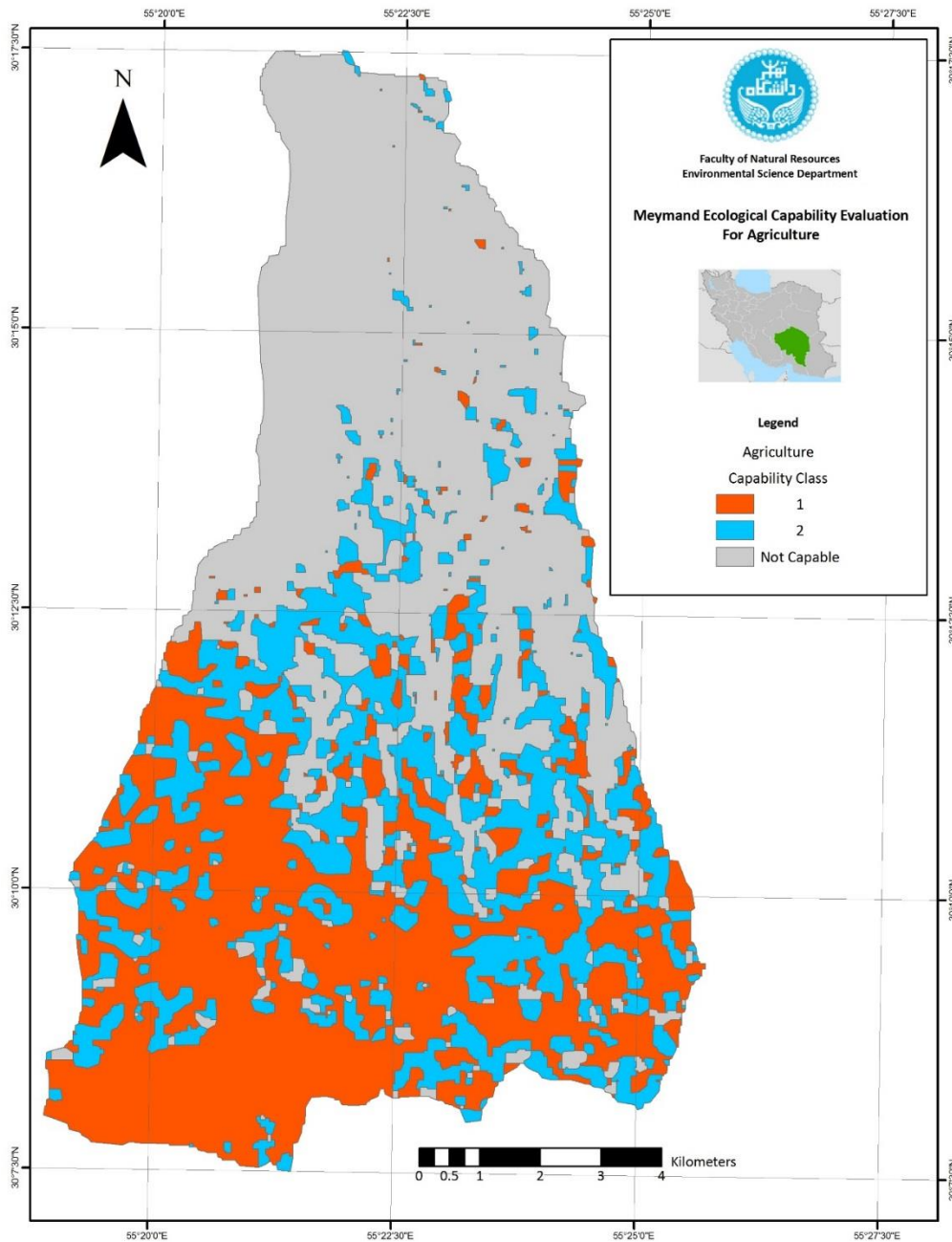
This model demonstrates the capability and also suitability rate class of land for natural and human-made forestry. *Maymand* ecological capability evaluation result for forestry is illustrated in R4.Fig. 03. Base on those 41.59 square kilometers, which is about 35.24% of Maymand area, is capable for forestry.



R4.Fig. 03: *Maymand* forestry capability

1-2-2 Maymand ecological land capability evaluation for agriculture

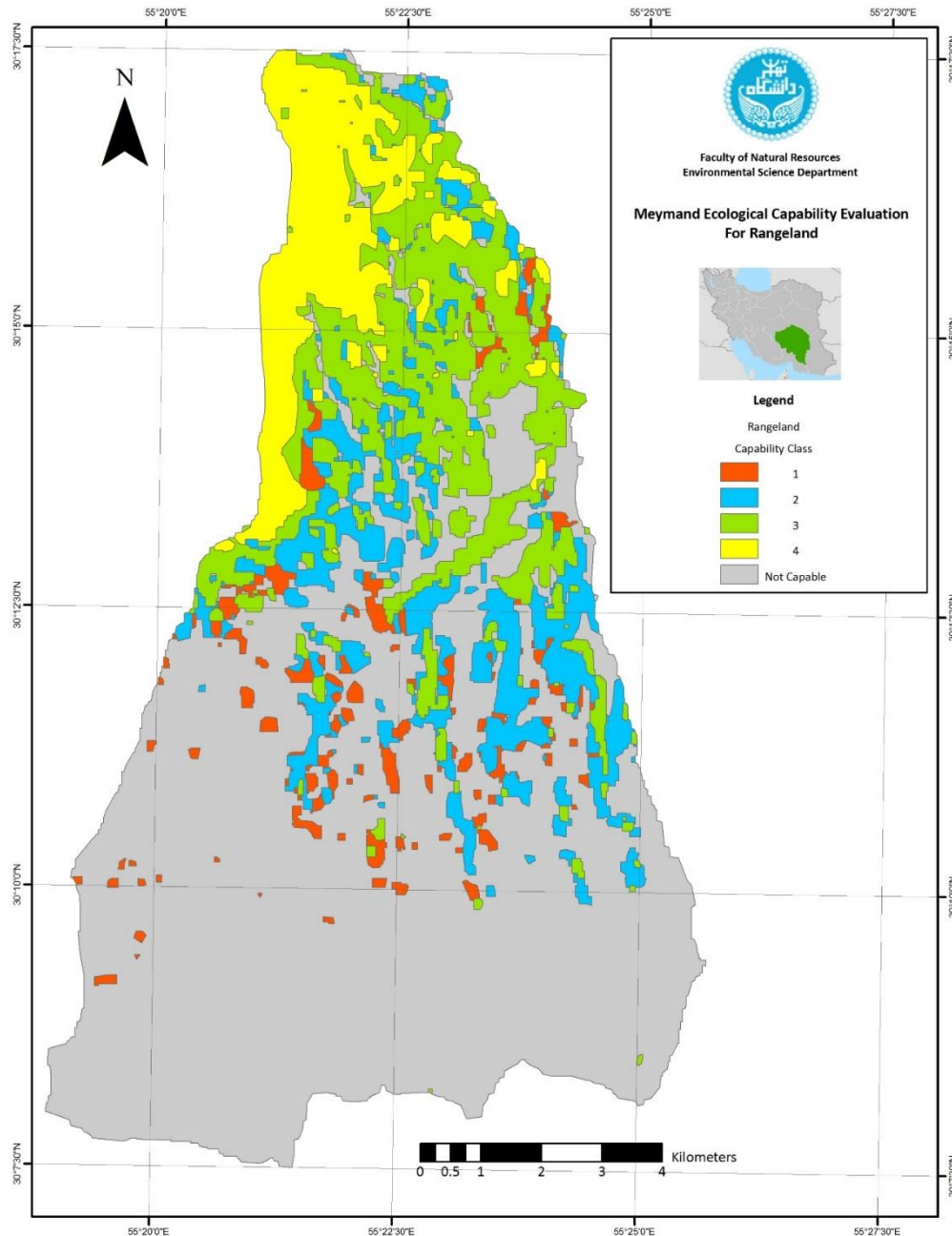
This model demonstrates the capability and also suitability rate class of land for agriculture. *Maymand* ecological capability evaluation result for this land use is illustrated in R4.Fig. 04. Results show that about 66.74 square kilometers of *Maymand* area which is about 56.55% is capable for agriculture.



R4.Fig. 04: *Maymand* agriculture capability

1-2-3 Maymand ecological land capability evaluation for Rangeland

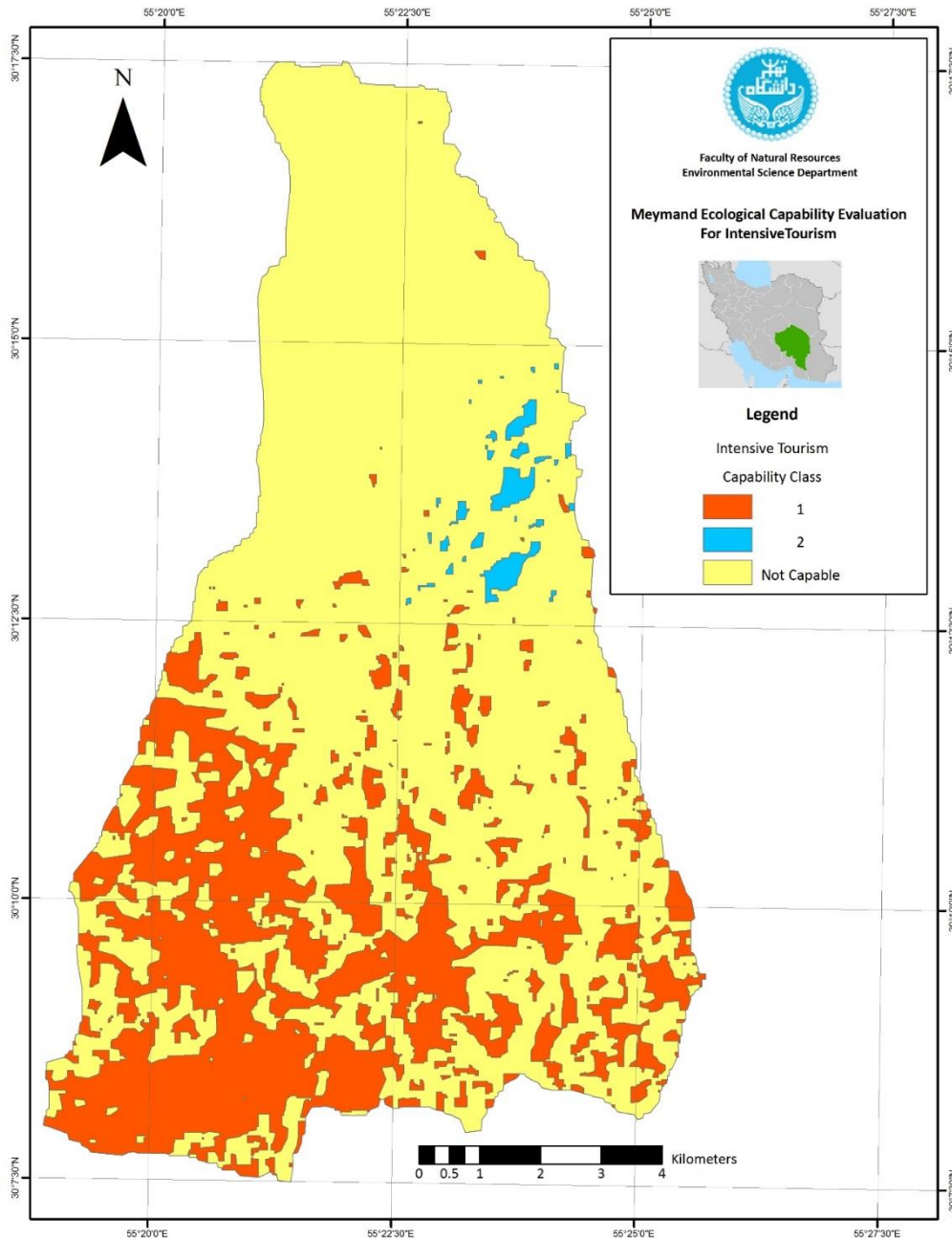
This model demonstrates the capability and also suitability rate class of land for rangeland. *Maymand* ecological capability evaluation result for this land use/cover is illustrated in R4.Fig. 05:. Results show that about 45.65 square kilometers of *Maymand* area which is about 38.67% is capable for rangeland.



R4.Fig. 05:. *Maymand* rangeland capability

1-2-4 Maymand ecological land capability evaluation for intensive tourism

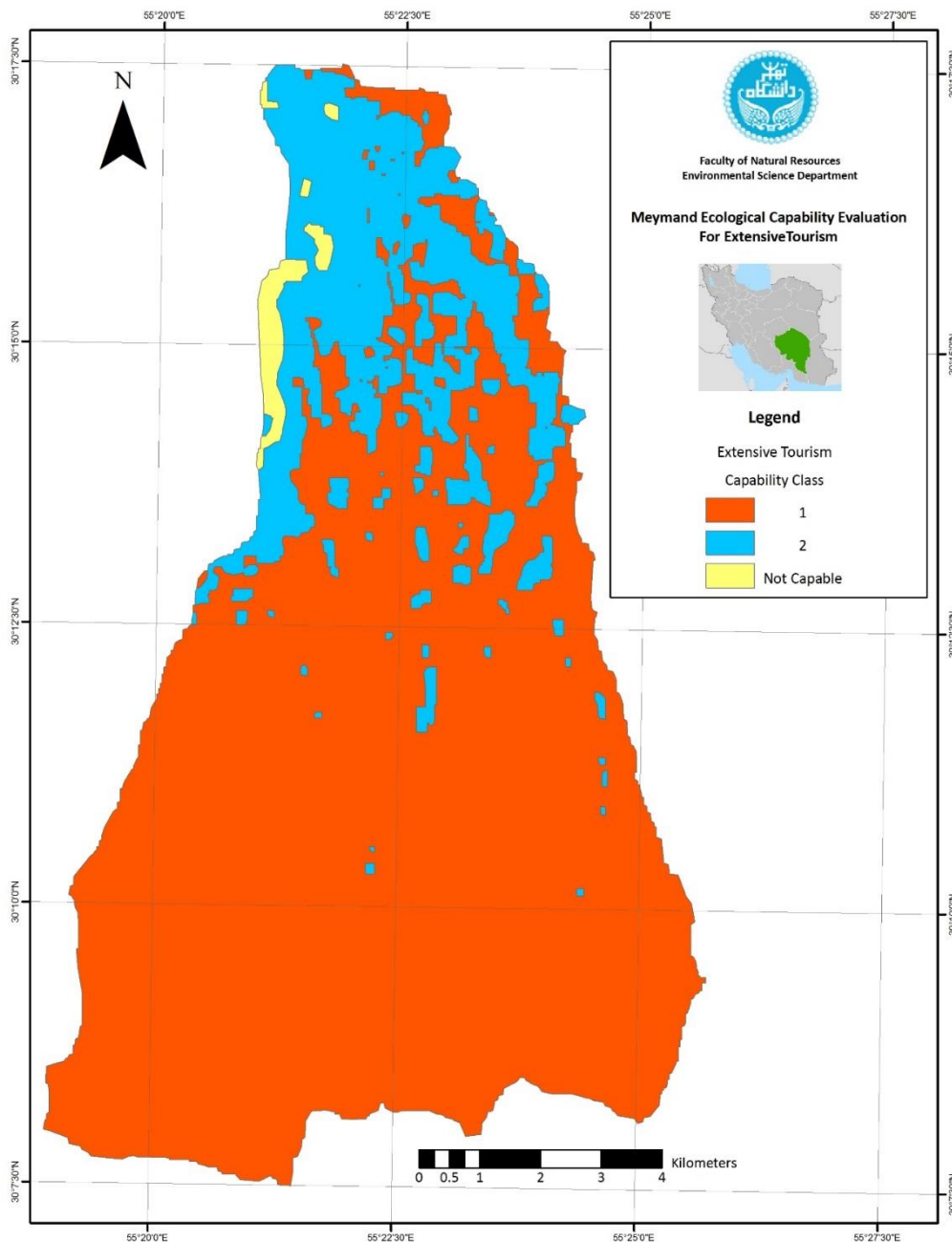
Intensive tourism includes activities like; swimming, skiing, camping, biking and cultural tourism, which need development. *Maymand* ecological capability evaluation result for this land use is illustrated in R4.Fig. 06. Results show that about 33.22 square kilometers of *Maymand* area which is about 28.15% is capable for intensive tourism.



R4.Fig. 06.: *Maymand* intensive tourism capability

1-2-5 Maymand ecological land capability evaluation for extensive tourism

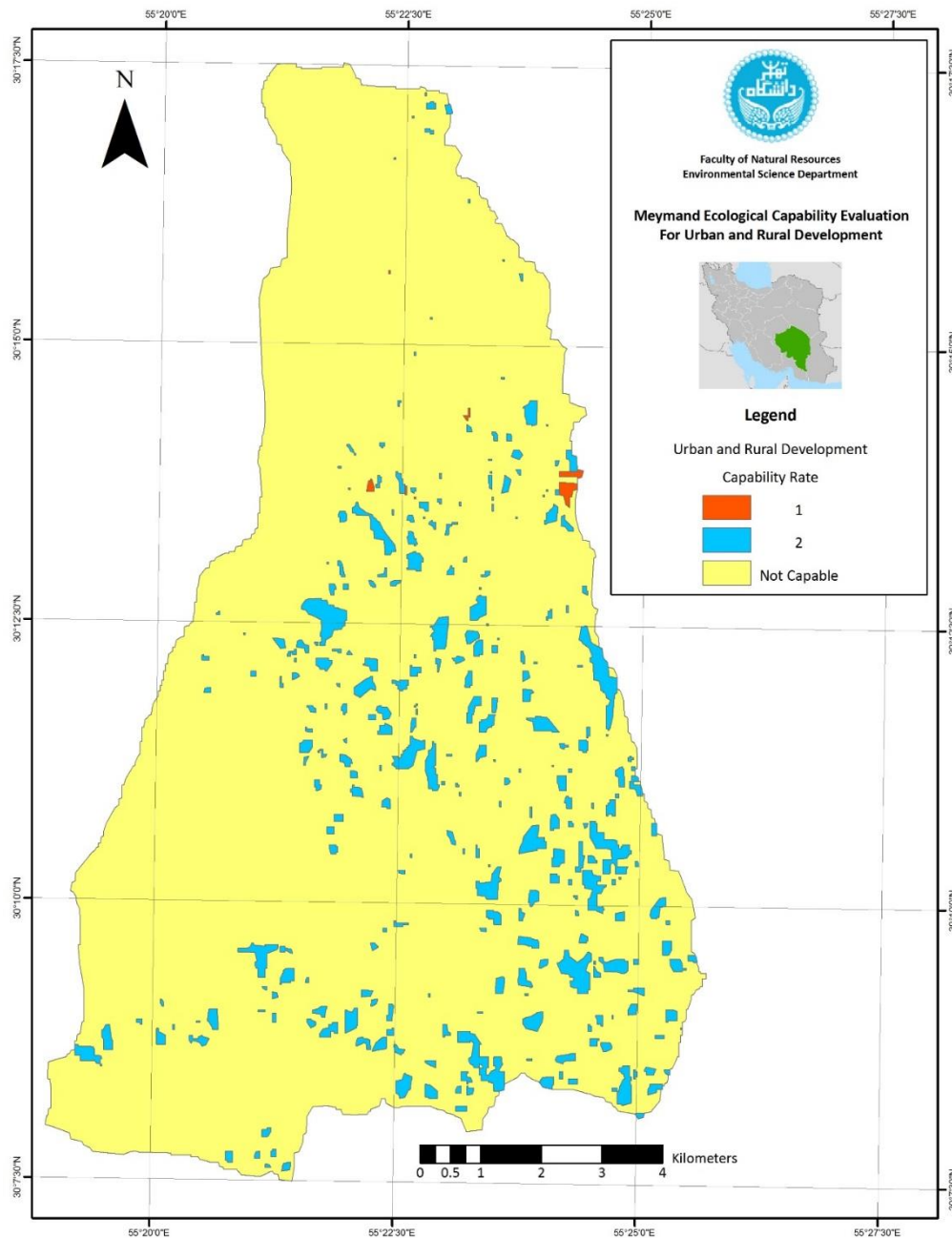
Extensive tourism includes activities like; hiking and hunting, which need no development, or activities like; fishing, safari and wild life watching, which need few developments. *Maymand* ecological capability evaluation result for this land use is illustrated in R4.Fig. 07. Results show that about 116.55 square kilometers of Maymand area which is about 98.75% is capable for extensive tourism.



R4.Fig. 07.: *Maymand* extensive tourism capability

1-2-6 *Maymand* ecological land capability evaluation for rural development

Urban, rural and industrial development model, determine the capable area considering ecological criteria attributes of land, like; slope, elevation, aspect, soil features and water accessibility etc. R4.Fig.08. demonstrates *Maymand* capability for rural development.



R4.Fig. 08: *Maymand* rural development capability

Conclusion

Ecological capability evaluation is carried out for various LULCs, include; forestry, agriculture, rangeland, intensive and extensive tourism and rural development. Agriculture and rangeland are the most feasible land uses which are critical to *Maymand* economy. Considering the feature condition of *Maymand* as a cultural landscape, tourism (i.e. intensive and extensive) will be one of the most necessary land uses to be introduced to this village.

Then the ecological capability evaluation map can be overlay with current LULCs map to minimize the conflict between current LULCs in *Maymand* and the land capable LULCs. The other point which is based on vegetation cover studies, over-ranching rate in *Maymand* rangeland area is not high, hence, rangeland quality of this area is at average level.

Considering studies about land ecological capability evaluation, it's the point that, local humanities of any area, get benefits from land ecological and environmental resources, based on ecological capability of that area, therefore, their livelihood is supposed to be sustainable in long time, just like the *Maymand* social-economy situation in relationship with land resources.

Another notable point is that, the results of *Maymand* cultural landscape sustainable management plan has been shared between related organizations and regional decision makers, just like; agriculture, natural resources and cultural heritage organizations, to be used as a guide line in any kind of development in future of *Maymand*.

Attachment1. Ecological attributes of *Maymand* environmental units

Order	Unit code	Elevation (m)	Slope (%)	Aspect	Vegetation cover type	Vegetation cover density(%)
1	141	2600-2200	0-2	Flat	Art	45
2	143	2600-2200	0-2	Flat	Art-Pis-Amsc	70
3	148	2600-2200	0-2	North	Art	45
4	150	2600-2200	0-2	North	Art-Pis-Amsc	70
5	155	2600-2200	0-2	East	Art	45
6	157	2600-2200	0-2	East	Art-Pis-Amsc	70
7	161	2600-2200	0-2	East	Ast-Sti-Lac	60
8	162	2600-2200	0-2	South	Art	45
9	164	2600-2200	0-2	South	Art-Pis-Amsc	70
10	168	2600-2200	0-2	South	Ast-Sti-Lac	60
11	169	2600-2200	0-2	West	Art	45
12	171	2600-2200	0-2	West	Art-Pis-Amsc	70
13	175	2600-2200	0-2	West	Ast-Sti-Lac	60
14	185	3000-2600	0-2	North	Art-Pis-Amsc	70
15	199	3000-2600	0-2	South	Art-Pis-Amsc	70
16	203	3000-2600	0-2	South	Ast-Sti-Lac	60
17	210	3000-2600	0-2	West	Ast-Sti-Lac	60
18	421	2600-2200	2-5	Flat	Art	45
19	423	2600-2200	2-5	Flat	Art-Pis-Amsc	70
20	428	2600-2200	2-5	North	Art	45
21	430	2600-2200	2-5	North	Art-Pis-Amsc	70
22	434	2600-2200	2-5	North	Ast-Sti-Lac	60
23	435	2600-2200	2-5	East	Art	45
24	437	2600-2200	2-5	East	Art-Pis-Amsc	70
25	441	2600-2200	2-5	East	Ast-Sti-Lac	60
26	442	2600-2200	2-5	South	Art	45
27	444	2600-2200	2-5	South	Art-Pis-Amsc	70
28	448	2600-2200	2-5	South	Ast-Sti-Lac	60
29	449	2600-2200	2-5	West	Art	45
30	451	2600-2200	2-5	West	Art-Pis-Amsc	70
31	455	2600-2200	2-5	West	Ast-Sti-Lac	60
32	465	3000-2600	2-5	North	Art-Pis-Amsc	70
33	467	3000-2600	2-5	North	Amsc-Ast-Sti	40
34	468	3000-2600	2-5	North	Garden	100
35	469	3000-2600	2-5	North	Ast-Sti-Lac	60
36	470	3000-2600	2-5	East	Art	45

Order	Unit code	Elevation (m)	Slope (%)	Aspect	Vegetation cover type	Vegetation cover density(%)
37	472	3000-2600	2-5	East	Art-Pis-Amsc	70
38	474	3000-2600	2-5	East	Amsc-Ast-Sti	40
39	475	3000-2600	2-5	East	Garden	100
40	476	3000-2600	2-5	East	Ast-Sti-Lac	60
41	477	3000-2600	2-5	South	Art	45
42	479	3000-2600	2-5	South	Art-Pis-Amsc	70
43	480	3000-2600	2-5	South	Art-Amsp-Ast	35
44	481	3000-2600	2-5	South	Amsc-Ast-Sti	40
45	482	3000-2600	2-5	South	Garden	100
46	483	3000-2600	2-5	South	Ast-Sti-Lac	60
47	484	3000-2600	2-5	West	Art	45
48	485	3000-2600	2-5	West	Art-Sti-Ast	55
49	486	3000-2600	2-5	West	Art-Pis-Amsc	70
50	487	3000-2600	2-5	West	Art-Amsp-Ast	35
51	488	3000-2600	2-5	West	Amsc-Ast-Sti	40
52	489	3000-2600	2-5	West	Garden	100
53	490	3000-2600	2-5	West	Ast-Sti-Lac	60
54	504	3400-3000	2-5	North	Ast-Sti-Lac	60
55	511	3400-3000	2-5	East	Ast-Sti-Lac	60
56	517	3400-3000	2-5	South	Garden	100
57	520	3400-3000	2-5	West	Art-Sti-Ast	55
58	708	2600-2200	5-8	North	Art	45
59	710	2600-2200	5-8	North	Art-Pis-Amsc	70
60	714	2600-2200	5-8	North	Ast-Sti-Lac	60
61	715	2600-2200	5-8	East	Art	45
62	717	2600-2200	5-8	East	Art-Pis-Amsc	70
63	721	2600-2200	5-8	East	Ast-Sti-Lac	60
64	722	2600-2200	5-8	South	Art	45
65	724	2600-2200	5-8	South	Art-Pis-Amsc	70
66	728	2600-2200	5-8	South	Ast-Sti-Lac	60
67	729	2600-2200	5-8	West	Art	45
68	731	2600-2200	5-8	West	Art-Pis-Amsc	70
69	735	2600-2200	5-8	West	Ast-Sti-Lac	60
70	745	3000-2600	5-8	North	Art-Pis-Amsc	70
71	747	3000-2600	5-8	North	Amsc-Ast-Sti	40
72	749	3000-2600	5-8	North	Ast-Sti-Lac	60
73	750	3000-2600	5-8	East	Art	45
74	752	3000-2600	5-8	East	Art-Pis-Amsc	70
75	753	3000-2600	5-8	East	Art-Amsp-Ast	35
76	754	3000-2600	5-8	East	Amsc-Ast-Sti	40

Order	Unit code	Elevation (m)	Slope (%)	Aspect	Vegetation cover type	Vegetation cover density(%)
77	755	3000-2600	5-8	East	Garden	100
78	756	3000-2600	5-8	East	Ast-Sti-Lac	60
79	757	3000-2600	5-8	South	Art	45
80	759	3000-2600	5-8	South	Art-Pis-Amsc	70
81	760	3000-2600	5-8	South	Art-Amsp-Ast	35
82	761	3000-2600	5-8	South	Amsc-Ast-Sti	40
83	762	3000-2600	5-8	South	Garden	100
84	763	3000-2600	5-8	South	Ast-Sti-Lac	60
85	764	3000-2600	5-8	West	Art	45
86	766	3000-2600	5-8	West	Art-Pis-Amsc	70
87	767	3000-2600	5-8	West	Art-Amsp-Ast	35
88	768	3000-2600	5-8	West	Amsc-Ast-Sti	40
89	769	3000-2600	5-8	West	Garden	100
90	770	3000-2600	5-8	West	Ast-Sti-Lac	60
91	779	3400-3000	5-8	North	Art-Sti-Ast	55
92	784	3400-3000	5-8	North	Ast-Sti-Lac	60
93	786	3400-3000	5-8	East	Art-Sti-Ast	55
94	787	3400-3000	5-8	East	Art-Pis-Amsc	70
95	790	3400-3000	5-8	East	Garden	100
96	791	3400-3000	5-8	East	Ast-Sti-Lac	60
97	793	3400-3000	5-8	South	Art-Sti-Ast	55
98	794	3400-3000	5-8	South	Art-Pis-Amsc	70
99	797	3400-3000	5-8	South	Garden	100
100	798	3400-3000	5-8	South	Ast-Sti-Lac	60
101	800	3400-3000	5-8	West	Art-Sti-Ast	55
102	801	3400-3000	5-8	West	Art-Pis-Amsc	70
103	819	3400<	5-8	North	Ast-Sti-Lac	60
104	826	3400<	5-8	East	Ast-Sti-Lac	60
105	833	3400<	5-8	South	Ast-Sti-Lac	60
106	988	2600-2200	8-12	North	Art	45
107	990	2600-2200	8-12	North	Art-Pis-Amsc	70
108	995	2600-2200	8-12	East	Art	45
109	997	2600-2200	8-12	East	Art-Pis-Amsc	70
110	1001	2600-2200	8-12	East	Ast-Sti-Lac	60
111	1002	2600-2200	8-12	South	Art	45
112	1004	2600-2200	8-12	South	Art-Pis-Amsc	70
113	1008	2600-2200	8-12	South	Ast-Sti-Lac	60
114	1009	2600-2200	8-12	West	Art	45
115	1011	2600-2200	8-12	West	Art-Pis-Amsc	70
116	1015	2600-2200	8-12	West	Ast-Sti-Lac	60

Order	Unit code	Elevation (m)	Slope (%)	Aspect	Vegetation cover type	Vegetation cover density(%)
117	1025	3000-2600	8-12	North	Art-Pis-Amsc	70
118	1027	2600-2200	8-12	North	Amsc-Ast-Sti	40
119	1029	3000-2600	8-12	North	Ast-Sti-Lac	60
120	1030	3000-2600	8-12	East	Art	45
121	1032	3000-2600	8-12	East	Art-Pis-Amsc	70
122	1033	3000-2600	8-12	East	Art-Amsp-Ast	35
123	1034	3000-2600	8-12	East	Amsc-Ast-Sti	40
124	1035	3000-2600	8-12	East	Garden	100
125	1036	3000-2600	8-12	East	Ast-Sti-Lac	60
126	1037	3000-2600	8-12	South	Art	45
127	1038	3000-2600	8-12	South	Art-Sti-Ast	55
128	1039	3000-2600	8-12	South	Art-Pis-Amsc	70
129	1040	3000-2600	8-12	South	Art-Amsp-Ast	35
130	1041	3000-2600	8-12	South	Amsc-Ast-Sti	40
131	1042	3000-2600	8-12	South	Garden	100
132	1043	3000-2600	8-12	South	Ast-Sti-Lac	60
133	1044	3000-2600	8-12	West	Art	45
134	1045	3000-2600	8-12	West	Art-Sti-Ast	55
135	1046	3000-2600	8-12	West	Art-Pis-Amsc	70
136	1047	3000-2600	8-12	West	Art-Amsp-Ast	35
137	1048	3000-2600	8-12	West	Amsc-Ast-Sti	40
138	1049	3000-2600	8-12	West	Garden	100
139	1050	3000-2600	8-12	West	Ast-Sti-Lac	60
140	1059	3400-3000	8-12	North	Art-Sti-Ast	55
141	1064	3400-3000	8-12	North	Ast-Sti-Lac	60
142	1066	3400-3000	8-12	East	Art-Sti-Ast	55
143	1067	3400-3000	8-12	East	Art-Pis-Amsc	70
144	1070	3400-3000	8-12	East	Garden	100
145	1071	3400-3000	8-12	East	Ast-Sti-Lac	60
146	1073	3400-3000	8-12	South	Art-Sti-Ast	55
147	1074	3400-3000	8-12	South	Art-Pis-Amsc	70
148	1075	3400-3000	8-12	South	Art-Amsp-Ast	35
149	1077	3400-3000	8-12	South	Garden	100
150	1078	3400-3000	8-12	South	Ast-Sti-Lac	60
151	1080	3400-3000	8-12	West	Art-Sti-Ast	55
152	1081	3400-3000	8-12	West	Art-Pis-Amsc	70
153	1083	3400-3000	8-12	West	Amsc-Ast-Sti	40
154	1085	3400-3000	8-12	West	Ast-Sti-Lac	60
155	1099	3400<	8-12	North	Ast-Sti-Lac	60
156	1106	3400<	8-12	East	Ast-Sti-Lac	60

Order	Unit code	Elevation (m)	Slope (%)	Aspect	Vegetation cover type	Vegetation cover density(%)
157	1108	3400<	8-12	South	Art-Sti-Ast	55
158	1113	3400<	8-12	South	Ast-Sti-Lac	60
159	1120	3400<	8-12	West	Ast-Sti-Lac	60
160	1270	2600-2200	12-15	North	Art-Pis-Amsc	70
161	1275	2600-2200	12-15	East	Art	45
162	1277	2600-2200	12-15	East	Art-Pis-Amsc	70
163	1281	2600-2200	12-15	East	Ast-Sti-Lac	60
164	1282	2600-2200	12-15	South	Art	45
165	1284	2600-2200	12-15	South	Art-Pis-Amsc	70
166	1288	2600-2200	12-15	South	Ast-Sti-Lac	60
167	1289	2600-2200	12-15	West	Art	45
168	1291	2600-2200	12-15	West	Art-Pis-Amsc	70
169	1295	2600-2200	12-15	West	Ast-Sti-Lac	60
170	1309	3000-2600	12-15	North	Ast-Sti-Lac	60
171	1312	3000-2600	12-15	East	Art-Pis-Amsc	70
172	1313	3000-2600	12-15	East	Art-Amsp-Ast	35
173	1314	3000-2600	12-15	East	Amsc-Ast-Sti	40
174	1315	3000-2600	12-15	East	Garden	100
175	1316	3000-2600	12-15	East	Ast-Sti-Lac	60
176	1317	3000-2600	12-15	South	Art	45
177	1319	3000-2600	12-15	South	Art-Pis-Amsc	70
178	1320	3000-2600	12-15	South	Art-Amsp-Ast	35
179	1321	3000-2600	12-15	South	Amsc-Ast-Sti	40
180	1322	3000-2600	12-15	South	Garden	100
181	1323	3000-2600	12-15	South	Ast-Sti-Lac	60
182	1324	3000-2600	12-15	West	Art	45
183	1325	3000-2600	12-15	West	Art-Sti-Ast	55
184	1326	3000-2600	12-15	West	Art-Pis-Amsc	70
185	1327	3000-2600	12-15	West	Art-Amsp-Ast	35
186	1328	3000-2600	12-15	West	Amsc-Ast-Sti	40
187	1329	3000-2600	12-15	West	Garden	100
188	1330	3000-2600	12-15	West	Ast-Sti-Lac	60
189	1339	3400-3000	12-15	North	Art-Sti-Ast	55
190	1344	3400-3000	12-15	North	Ast-Sti-Lac	60
191	1346	3400-3000	12-15	East	Art-Sti-Ast	55
192	1347	3400-3000	12-15	East	Art-Pis-Amsc	70
193	1348	3400-3000	12-15	East	Art-Amsp-Ast	35
194	1351	3400-3000	12-15	East	Ast-Sti-Lac	60
195	1353	3400-3000	12-15	South	Art-Sti-Ast	55
196	1354	3400-3000	12-15	South	Art-Pis-Amsc	70

Order	Unit code	Elevation (m)	Slope (%)	Aspect	Vegetation cover type	Vegetation cover density(%)
197	1355	3400-3000	12-15	South	Art-Amsp-Ast	35
198	1357	3400-3000	12-15	South	Garden	100
199	1358	3400-3000	12-15	South	Ast-Sti-Lac	60
200	1360	3400-3000	12-15	West	Art-Sti-Ast	55
201	1361	3400-3000	12-15	West	Art-Pis-Amsc	70
202	1362	3400-3000	12-15	West	Art-Amsp-Ast	35
203	1365	3400-3000	12-15	West	Ast-Sti-Lac	60
204	1379	3400<	12-15	North	Ast-Sti-Lac	60
205	1393	3400<	12-15	South	Ast-Sti-Lac	60
206	1550	2600-2200	15-20	North	Art-Pis-Amsc	70
207	1555	2600-2200	15-20	East	Art	45
208	1557	2600-2200	15-20	East	Art-Pis-Amsc	70
209	1562	2600-2200	15-20	South	Art	45
210	1564	2600-2200	15-20	South	Art-Pis-Amsc	70
211	1568	2600-2200	15-20	South	Ast-Sti-Lac	60
212	1569	2600-2200	15-20	West	Art	45
213	1571	2600-2200	15-20	West	Art-Pis-Amsc	70
214	1575	2600-2200	15-20	West	Ast-Sti-Lac	60
215	1585	3000-2600	15-20	North	Art-Pis-Amsc	70
216	1587	3000-2600	15-20	North	Amsc-Ast-Sti	40
217	1589	3000-2600	15-20	North	Ast-Sti-Lac	60
218	1590	3000-2600	15-20	East	Art	45
219	1592	3000-2600	15-20	East	Art-Pis-Amsc	70
220	1593	3000-2600	15-20	East	Art-Amsp-Ast	35
221	1594	3000-2600	15-20	East	Amsc-Ast-Sti	40
222	1595	3000-2600	15-20	East	Garden	100
223	1596	3000-2600	15-20	East	Ast-Sti-Lac	60
224	1597	3000-2600	15-20	South	Art	45
225	1599	3000-2600	15-20	South	Art-Pis-Amsc	70
226	1600	3000-2600	15-20	South	Art-Amsp-Ast	35
227	1601	3000-2600	15-20	South	Amsc-Ast-Sti	40
228	1602	3000-2600	15-20	South	Garden	100
229	1603	3000-2600	15-20	South	Ast-Sti-Lac	60
230	1604	3000-2600	15-20	West	Art	45
231	1606	3000-2600	15-20	West	Art-Pis-Amsc	70
232	1607	3000-2600	15-20	West	Art-Amsp-Ast	35
233	1608	3000-2600	15-20	West	Amsc-Ast-Sti	40
234	1610	3000-2600	15-20	West	Ast-Sti-Lac	60
235	1619	3400-3000	15-20	North	Art-Sti-Ast	55
236	1626	3400-3000	15-20	East	Art-Sti-Ast	55

Order	Unit code	Elevation (m)	Slope (%)	Aspect	Vegetation cover type	Vegetation cover density(%)
237	1627	3400-3000	15-20	East	Art-Pis-Amsc	70
238	1628	3400-3000	15-20	East	Art-Amsp-Ast	35
239	1630	3400-3000	15-20	East	Garden	100
240	1631	3400-3000	15-20	East	Ast-Sti-Lac	60
241	1633	3400-3000	15-20	South	Art-Sti-Ast	55
242	1634	3400-3000	15-20	South	Art-Pis-Amsc	70
243	1635	3400-3000	15-20	South	Art-Amsp-Ast	35
244	1637	3400-3000	15-20	South	Garden	100
245	1638	3400-3000	15-20	South	Ast-Sti-Lac	60
246	1640	3400-3000	15-20	West	Art-Sti-Ast	55
247	1641	3400-3000	15-20	West	Art-Pis-Amsc	70
248	1644	3400-3000	15-20	West	Garden	100
249	1645	3400-3000	15-20	West	Art-Sti-Ast	55
250	1654	3400<	15-20	North	Art-Sti-Ast	55
251	1659	3400<	15-20	North	Ast-Sti-Lac	60
252	1661	3400<	15-20	East	Art-Sti-Ast	55
253	1666	3400<	15-20	East	Ast-Sti-Lac	60
254	1673	3400<	15-20	South	Ast-Sti-Lac	60
255	1680	3400<	15-20	West	Ast-Sti-Lac	60
256	1835	2600-2200	20-30	East	Art	45
257	1837	2600-2200	20-30	East	Art-Pis-Amsc	70
258	1855	2600-2200	20-30	West	Ast-Sti-Lac	60
259	1865	3000-2600	20-30	North	Art-Pis-Amsc	70
260	1867	3000-2600	20-30	North	Amsc-Ast-Sti	40
261	1869	3000-2600	20-30	North	Ast-Sti-Lac	60
262	1870	3000-2600	20-30	East	Art	45
263	1872	3000-2600	20-30	East	Art-Pis-Amsc	70
264	1873	3000-2600	20-30	East	Art-Amsp-Ast	35
265	1874	3000-2600	20-30	East	Amsc-Ast-Sti	40
266	1875	3000-2600	20-30	East	Garden	100
267	1876	3000-2600	20-30	East	Ast-Sti-Lac	60
268	1877	3000-2600	20-30	South	Art	45
269	1879	3000-2600	20-30	South	Art-Pis-Amsc	70
270	1880	3000-2600	20-30	South	Art-Amsp-Ast	35
271	1881	3000-2600	20-30	South	Amsc-Ast-Sti	40
272	1882	3000-2600	20-30	South	Garden	100
273	1883	3000-2600	20-30	South	Ast-Sti-Lac	60
274	1885	3000-2600	20-30	West	Art-Sti-Ast	55
275	1886	3000-2600	20-30	West	Art-Pis-Amsc	70
276	1887	3000-2600	20-30	0	Art-Amsp-Ast	35

Order	Unit code	Elevation (m)	Slope (%)	Aspect	Vegetation cover type	Vegetation cover density(%)
277	1888	3000-2600	20-30	West	Amsc-Ast-Sti	40
278	1890	3000-2600	20-30	West	Ast-Sti-Lac	60
279	1899	3400-3000	20-30	North	Art-Sti-Ast	55
280	1900	3400-3000	20-30	North	Art-Pis-Amsc	70
281	1904	3400-3000	20-30	North	Ast-Sti-Lac	60
282	1906	3400-3000	20-30	East	Art-Sti-Ast	55
283	1907	3400-3000	20-30	East	Art-Pis-Amsc	70
284	1908	3400-3000	20-30	East	Art-Amsp-Ast	35
285	1910	3400-3000	20-30	East	Garden	100
286	1911	3400-3000	20-30	East	Ast-Sti-Lac	60
287	1913	3400-3000	20-30	South	Art-Sti-Ast	55
288	1914	3400-3000	20-30	South	Art-Pis-Amsc	70
289	1915	3400-3000	20-30	South	Art-Amsp-Ast	35
290	1917	3400-3000	20-30	South	Garden	100
291	1918	3400-3000	20-30	South	Ast-Sti-Lac	60
292	1920	3400-3000	20-30	West	Art-Sti-Ast	55
293	1921	3400-3000	20-30	West	Art-Pis-Amsc	70
294	1923	3400-3000	20-30	West	Amsc-Ast-Sti	40
295	1924	3400-3000	20-30	West	Garden	100
296	1925	3400-3000	20-30	West	Ast-Sti-Lac	60
297	1934	3400<	20-30	North	Art-Sti-Ast	55
298	1939	3400<	20-30	North	Ast-Sti-Lac	60
299	1941	3400<	20-30	East	Art-Sti-Ast	55
300	1946	3400<	20-30	East	Ast-Sti-Lac	60
301	1953	3400<	20-30	South	Ast-Sti-Lac	60
302	1960	3400<	20-30	West	Ast-Sti-Lac	60
303	2145	3000-2600	30-65	North	Art-Pis-Amsc	70
304	2147	3000-2600	30-65	North	Amsc-Ast-Sti	40
305	2149	3000-2600	30-65	North	Ast-Sti-Lac	60
306	2152	3000-2600	30-65	East	Art-Pis-Amsc	70
307	2153	3000-2600	30-65	East	Art-Amsp-Ast	35
308	2154	3000-2600	30-65	East	Amsc-Ast-Sti	40
309	2155	3000-2600	30-65	East	Garden	100
310	2156	3000-2600	30-65	East	Ast-Sti-Lac	60
311	2161	3000-2600	30-65	South	Amsc-Ast-Sti	40
312	2163	3000-2600	30-65	South	Ast-Sti-Lac	60
313	2165	3000-2600	30-65	West	Art-Sti-Ast	55
314	2167	3000-2600	30-65	West	Art-Amsp-Ast	35
315	2168	3000-2600	30-65	West	Amsc-Ast-Sti	40
316	2170	3000-2600	30-65	West	Ast-Sti-Lac	60

Order	Unit code	Elevation (m)	Slope (%)	Aspect	Vegetation cover type	Vegetation cover density(%)
317	2179	3400-3000	30-65	North	Art-Sti-Ast	55
318	2180	3400-3000	30-65	North	Art-Pis-Amsc	70
319	2181	3400-3000	30-65	North	Art-Amsp-Ast	35
320	2184	3400-3000	30-65	North	Ast-Sti-Lac	60
321	2186	3400-3000	30-65	East	Art-Sti-Ast	55
322	2187	3400-3000	30-65	East	Art-Pis-Amsc	70
323	2188	3400-3000	30-65	East	Art-Amsp-Ast	35
324	2190	3400-3000	30-65	East	Garden	100
325	2191	3400-3000	30-65	East	Ast-Sti-Lac	60
326	2193	3400-3000	30-65	South	Art-Sti-Ast	55
327	2194	3400-3000	30-65	South	Art-Pis-Amsc	70
328	2195	3400-3000	30-65	South	Art-Amsp-Ast	35
329	2198	3400-3000	30-65	South	Ast-Sti-Lac	60
330	2200	3400-3000	30-65	West	Art-Sti-Ast	55
331	2201	3400-3000	30-65	West	Art-Pis-Amsc	70
332	2202	3400-3000	30-65	West	Art-Amsp-Ast	35
333	2203	3400-3000	30-65	West	Amsc-Ast-Sti	40
334	2205	3400-3000	30-65	West	Ast-Sti-Lac	60
335	2214	3400<	30-65	North	Art-Sti-Ast	55
336	2219	3400<	30-65	North	Ast-Sti-Lac	60
337	2221	3400<	30-65	East	Art-Sti-Ast	55
338	2222	3400<	30-65	East	Art-Pis-Amsc	70
339	2223	3400<	30-65	East	Art-Amsp-Ast	35
340	2225	3400<	30-65	East	Garden	100
341	2226	3400<	30-65	East	Ast-Sti-Lac	60
342	2230	3400<	30-65	South	Art-Amsp-Ast	35
343	2233	3400<	30-65	South	Ast-Sti-Lac	60
344	2240	3400<	30-65	West	Ast-Sti-Lac	60
345	2467	3400-3000	65<	East	Art-Pis-Amsc	70
346	2468	3400-3000	65<	East	Art-Amsp-Ast	35
347	2474	3400-3000	65<	South	Art-Pis-Amsc	70
348	2499	3400<	65<	East	Ast-Sti-Lac	60
349	2502	3400<	65<	East	Art-Pis-Amsc	70
350	2503	3400<	65<	East	Art-Amsp-Ast	35
351	2506	3400<	65<	East	Ast-Sti-Lac	60
352	2510	3400<	65<	South	Art-Amsp-Ast	35
353	2513	3400<	65<	South	Ast-Sti-Lac	60

