

**World Heritage Convention
China • Wulingyuan**

Periodic Report

The State of Conservation of the World Natural Heritage: Wulingyuan

**Wulingyuan People' s Government, Zhangjiajie City, Hunan
Province**

**Wulingyuan Scenic Resort Administrative Department
September 16, 2002**

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Editor : Yang Xinming

Editors : Deng Huaxin, Hu Shaocong, Liu Xingguo

Planned by : Mao Chengli, Liu Xingguo

Translated by : Sheng Zhi, Du Yiwei, Tian Peng

Video : Chen Hongquan

Photo : Tian Bo, Liao Boru, Deng Huaxin, Song Guoqing, Tang Jiezhi, Luo Zhaoyong, Zhang Jianguo

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Part I Report

Periodic Report About the Status-quo of World Natural Heritage: Wulingyuan

1.1 Foreword

- a. Signatory State: China
- b. Name of the World Heritage: Wulingyuan Scenic Resort, in short, Wulingyuan
- c. Geographic Location: Longitude 110⁰ 20'30" Latitude 29⁰ 16'25"
- d. Date of Inscription on the World Inventory of World Heritages: December 14, 1992
- e. Report Preparing Organization: Wulingyuan People's Government, Zhangjiajie City, Hunan Province
- f. Time of Submitting: September, 2002
- g. Signed by:

Name: Xu Xianhui

Position: Director of Wulingyuan People's Government, Zhangjiajie City

Director of Wulingyuan Scenic Resort Administrative Bureau

1.2 Significance:

a. The grounds and standards for inscribing the place on the Inventory of World heritage:

Wulingyuan is a very rare view of forested sandstone peaks coupled with Karst caves. Wulingyuan has very rich variety of plants and other resources. It is known as "Gene Bank of Plants", "Natural Museum", "Indicator of Environment", and "a laboratory to study ecological systems and a classroom for environment education". It is a place which can integrate research, sightseeing, education and tourism. It is on the basis of its geological features and value of ecological system that the place has been inscribed on the Inventory of World Heritage.

In May, 1992, IUCN, authorized by the World Heritage Committee, sent world heritage senior consultant Dr. Jim Thonsell and Dr. Bing Lucas to make an on-the-spot investigation of Zhangjiajie. In their report, they said:

"Similar landscape of rock pillars exist elsewhere in China and the world.

With the cluster of sandstone pillars, Wulingyuan compares scientifically with several national parks and monuments in the Western U.S.A. such as Bryan Canyon, Colorado, Canyonlands and Capital Reef. Another outstanding area of sandstone towers is found in the Bingle Bungles of Australia. Due to its lower elevation and sub-tropical location, however, Wulingyuan has dense forest and abundant water. It also has a great number of peaks (over 3000) and most of them display a much greater vertical relief(over 200m.) than the US and Australian sites.”

“Boundaries encompass the main features of the site and the legal basis provides adequate protection.”

“Wulingyuan has undeniable natural beauty with its spectacular jagged stone peaks, luxuriant vegetation cover and clear lakes and streams. ... The site thus meets criterion (iii) for natural areas and satisfies the related conditions of integrity”

In December, 1992, the 15th meeting of World Heritage Committee of UNESCO has approved to inscribe Wulingyuan on the Inventory of World Heritage, under Criterion III.

In September, 1998, UNESCO and IUCN sent their experts to make a 2-day on-the-spot investigation in Wulingyuan. In the report it is said:

“ Wulingyuan is certainly a landscape area which has outstanding sightseeing value. It is quite reasonable that the scenic area is inscribed as world natural heritage under Criterion III.”

“ In 1992 when World Heritage Committee inscribed Wulingyuan on the Inventory, they suggested to China authority that they should prepare a report about the status of protection of the species found in Wulingyuan. The committee will also consider inscribing the place under Criterion IV.”

b. Buffer Zone’s Role in Protecting the Value of the Heritage

In 1990 we worked out “The General Plan for Wulingyuan Scenic Resort”. We defined the boundaries of the scenic and administrative areas according to the natural geological features and distribution of tourism resources, including Zhangjiajie Forest Park, Suoxiyu, Tianzishan, Yangjiajie. The total area of the four scenic areas is 264 square kilometers, with the peripheral area being 133.48 square kilometers. Due to historical reasons, the boundaries are just roughly defined due to lack of sufficient data. It is hard for us to guarantee the independence of the core area and integrity of the buffer zone. Luoguta is a typical example. In recent years, we have taken drastic measures with the reception facilities in the scenic area. We have asked the peasants in the peripheral area to return the land to forest , which has achieved desirable effect. The forest coverage

has reached 73%. In the scenic area it has reached 98%. Every year the storage of water in the forest has reached 120 million cubic meters, conserving soil 750000 tons. Thus the buffer zone has played a desirable role in protecting and preserving the value of the heritage. Besides this protective role is becoming more and more obvious.

To guarantee the protection and preservation of the value of heritage, we have defined the criterions for the division of the buffer zone in the General Plan for Wulingyuan Scenic Resort completed in this year. "The buffer zone includes the main river courses ; the buffer zone for the protection of the forested peaks; the buffer zone for vegetation coverage in the core area; habitat of animals." In the meantime we shall extend the buffer zone outward so as to offer better protection to world heritage. Some of the areas will go beyond the administrative boundaries of Wulingyuan. For example, Maohuajie Mountain in the north of Wulingyuan extends as far as Sangongshi Township in Cili County, as far as Xinlong and Shati Townships in Yongding District in the northwest."

I.3 A Statement About Validity and Integrity

a. The evaluation comment made UNESCO experts in 1998

UNESCO made an on-the-spot investigation in Wulingyuan in September, 1998. In the report the experts acknowledged the validity and integrity of the world heritage and pointed out the following problems:

"Wulingyuan has become a surrounded island between agricultural production and rapidly developing tourism. The investigation group is very amazed at the rapid development after 1992 evaluation. "Chinese government is very busy with personnel management and solving the problems of roads, hotels and cable cars."

" Wulingyuan has become a place where the tourist facilities developed in an uncontrolled manner. Whether it has done harm to bio-diversification is unknown. But the influence on the aesthetic value is obvious. Most of the scenic areas are like botanical garden or park in the suburbs of a city."

" Viewed as a whole and compared to other heritage sites such as Taishan, Huangshan, Jiuzhaigou, Huanglong , Wulingyuan's construction is completed at a fast speed. But in construction and planning there is a large gap. The plan is not very well coordinated, resulting in partial damages to the natural environment. It is hoped that more work will be done in the future in the area of protection."

This uncontrolled development has indeed affected the natural environment and bio-diversification and reduced the value of the natural views.

We are very grateful to the UNESCO officials for their timely, objective, fair, and practical evaluation and criticism. For it has made us aware of the validity and integrity of Wulingyuan and the importance of restoring the place to its original heritage value.

b. Major Analysis Indexes for Heritage Protection :

(I) Quartzite Sandstone Forested Peaks

Wulingyuan World Heritage is well known for its grotesque forested peaks. We count it our duty to protect genuineness and integrity of the peaks. Thus, our protection work mainly lies in two areas: First, we forbid sand dredging and quarrying. When we do necessary construction, we should take care not to damage the original geological features. Especially we should not damage the peak columns. Secondly, we protect the forest, vegetation coverage, water and soil , slow down the corrosion of the peaks. In short, the quartzite sandstone peaks are preserved in a good state.

But to offer convenience to tourists, we have done some supporting infrastructure facility construction, which has resulted in damages of different degrees to some parts of the areas. For example, when we built the cable car in Huangshizai between 1994 and 1997 and the cable car in Tianzishan between 1995 and 1997 and the sightseeing elevator between 1998 and 2002, we had to drill holes on the rocks. Thus damages were done to the surrounding rocks to different extent.

(II) Vegetation Resources:

Due to the special geological movement of Wulingyuan, the water-cutting force of the streams, which creates an environment for vegetation to grow. The place is very rich in vegetation resources. According to investigation, the plants of high order have reached as many as 3000 kinds. According to statistics, the plants which are among the first listed on the inventory of China's Rare Plants" are 35 kinds, taking up 62.5% of Hunan

Wulingyuan is located in subtropical evergreen broadleaf belt. Such plants can usually be found in the valleys about 600m above sea level such as Golden Whip Rock, Shuiraosimen, Ten-li Gallery. The major representative plants are: Yichan Nanmu, Lichuan Nanmu; Duying etc.

The number of wild flowers in Wulingyuan has reached 450 in kinds such as red magnolia, cocoo flower ; primetin, Lycoris radiata etc.

Wulingyuan Scenic Area also has very rich tree resources. The most famous are camphor tree, Nanmu, Catalpa Ovata pines.

Besides, Wulingyuan's slopes among the peaks are dense in trees and shaded by broad leaves and damp. It is a hotbed for fungi.

The major factors that affect the vegetation is the construction of the infrastructure facilities. For example, when we build the cable cars at Huangshizai and Tianzishan, some surrounding trees and plants have died. A few Nanmu trees have died at the Golden Whip stream. Whether it has anything to do with the

construction of the tourists roads is subject to further proof and investigation..

We have already completed the project of removing the reception facilities in the scenic area and residential houses. All these measures will play an important role in restoring the place to their original and natural beauty.

(III)Animal Resources

Wulingyuan is rich in animals. The place is complicated in its topographical features. The weather is mild, plentiful in rain, dense in trees, which has created a good environment for animals. Investigation shows that there are 50 families and 116 kinds of animals. The first-class animals on The Inventory of the Animals to Be Protected include: Neofelis Nebulosa, Leopard, red-belly pheasant, yellow belly pheasant ; the second-class protected animals include : rhesus monkeys, pangolin, black bear, otter, big civet, giant salamander etc.. The existence of all these animals has added a lot to the beauty and charm of Wulingyuan. With the development of tourism, the reception facilities such as tourist roads, highways, hotels, sheds, cable cars, elevator etc. has gone out of control. The human disturbance on the animals such as loud talking has greatly affected the animals, reducing their scope of movement. For example, the commonly seen leopard, black bear and other animals had to move away, thus making difficult for us to see them today. In the Golden Whip Rock Stream there used to be 30 kinds of fishes. According to recent investigation, the number has been reduced to under 20. The giant salamander and otter which used to be found easily in the streams are difficult to see. Due to the development of tourism, we have changed the river course, filled up the spring caves, built roads and houses, dredged sand , changing the living conditions for animals and thus reducing their number. In the meantime, in the peripheral area of Wulingyuan people used to do hunting. To solve this problem, between January and July in 2001 we implemented the Regulation of Wulingyuan Scenic Resort Protection. With the help of the security department, we confiscated 446 guns in Wulingyuan, which effectively stopped the hunting. According to the latest investigation, the number of these wild animals are increasing in number..

c. Environment Protection Status Analysis

The water quality in Wulingyuan is better than criterion I of the state according to the latest investigation. The noise pollution is controlled.

(I) Air Quality

Prior to 1998 Wulingyuan has 75 boilers, consuming coal 5930 tons every year. Thus the sulfur dioxide in the air has reached 0.241 milligram /cubic meter. The acid rain becomes common.. With view to the lowering of air quality, between 1998 and 1999 we have taken drastic measures to abolish all the coal boilers in the

scenic area., thus greatly reducing the pollution in the area and restoring the air quality to the state prior to 1992. But later we have new problems. Due to the increase of the number of tourists, and flow of traffic, it is estimated that everyday the number of vehicles running in the scenic area is no less than 300. The exhaust gas discharged on the roads in the mountains can not be dispersed easily, thus reducing the quality of air in some places such as Luoguta, Shuiraoshimen, Tianzishan. To solve this problem, Wulingyuan People's Government is now building a new shuttle line for the purpose of environment protection. On these buses, the petroleum gas will replace gasoline or diesel oil. This project will be implemented by the end of 2002.

(II) Water Quality

The main stream in Wulingyuan is Golden Whip Stream. Next are Draon Tail Stream. Kuangdong Stream, Gan Stream. They join each other before flowing into Suoxi Stream. As the source of Golden Whip Stream is Luoguta where the reception facilities have 7000 beds. The sewage water is discharged into Golden Whip Stream before being treated, thus resulting in great pollution for Golden Whip Stream. On the river bed grows a large quantity of algae. The colorful stones in the water turned black, spoiling the good image of Golden Whip Stream. Besides as Suoxi is located at Jundiping at the tourist center, the reception facilities with more than 10,000 beds, the hospitals, schools, government institutions, discharge more than 2 million tons of sewage water into Suoxi Stream. As the water quality deteriorates, it is affecting the health of the residents along the stream. To solve this problem of drinking water for Suoxi residents, we have built Dongjiayu Reservoir .

To change the condition Golden Whip Stream and Suoxi Stream, in 2002 we invested 50 million yuan to build two sewage water disposal plants at Luoguta and Suoxiyu, which will restore the mountains and streams to greenness. This project will be completed by the end of 2002. But the sewage water at Luoguta can not be solved completely at the moment, besides the cost is very high. For this reason we plan to remove all the residents and reception facilities in this area in the next ten years.

(III) Noise Control

Wulingyuan's noise pollution is negligible. The noises mainly come from vehicles, horns and motors.. Thus we have regulated that all vehicles running: In the scenic area are not allowed to use the horns. In 1999, we have suspended the helicopter service which take tourists to have a bird's eye view of the mountains, restoring the place to quietness.

I. 4. Management

a. We have worked out protection regulations for heritage protection.

In September, 1998, UNESCO's suggestions about Wulingyuan immediately caught the attention of state leaders. In May, 1999, the leaders of State Council Wang Binchen, Wu Xuemin made an investigation at Wulingyuan and gave their serious criticism. The commercialization and industrialization of Wulingyuan is getting increasingly serious. The management system, sense of protection, law enforcement and plan implementation are far from satisfactory and funds are far from enough." They pointed out that Wulingyuan World Natural Heritage's resources are very valuable. We must take more drastic measures to protect them." The two leaders' suggestions were supported by Premier Zhu Rongji and Vice-premiers Qian Qichen and Wen Jiabao. In response to the state leaders' instructions Hunan government has worked out a series of protection measures. On May 15, 2000 a report was submitted to Premier Zhu Rongji One of the major measures was drafting the heritage protection regulations for Wulingyuan.

At the beginning of 2000 Hunan People's Congress decided to take Wulingyuan Natural Heritage Protection Regulations into law. Immediately a drafting committee was set up. It went into work in early April. Zhangjiajie City especially Wulingyuan District has made a lot of efforts in drafting the protection regulations. The work has also received a lot of support from Hunan Construction Bureau, Forestry Bureau and other government departments. The drafting work went on very smoothly. On June 21, the Secretary of Zhangjiajie CCPC Committee Liu Liwei called a meeting to discuss the protection regulations. Present were representatives from the municipal government, people's congress, people's government. At the meeting all the representatives agreed with the terms and clauses of the protection regulations. On June 27, Hunan People's Congress held a meeting and passed Hunan Wulingyuan World Natural Heritage Protection Regulations.

On September 28, 2000, the Regulations after being passed at the 9th People's Congress and was put into force on Jan 1, 2001. This is the first law documents in China about world heritage protection.

The Regulations has become very effective. On Jan 1, 2001, prior to the implementation of the regulations, the government has printed 20,000 copies of the Regulations and distributed them to every household. To make the regulations operable, the government has also worked out the implementation method.

After the Regulations having been put into use for one year, Wulingyuan has achieved desirable effects in environment protection.

b. Completely Revising the Plan for the Scenic Area and Making Possible

Heritage Protection.

After Wulingyuan being inscribed on the Inventory on Dec 14, 1992, we have always adhered to the principle of putting protection in the first place and planning next. In 1992, Wulingyuan has invited experts from Tongji University to work out the General Plan for Wulingyuan Scenic Resort” and “The General Plan for Suoxi Town of Wulingyuan Scenic Resort” , “The Detailed Plan for Jundiping”. Wulingyuan district government is becoming more and more aware of the importance of planning. They believe a good plan is the key to the protection of the heritage. In 2001, Wulingyuan submitted the plan to Hunan Construction Bureau for approval. A special fund of 6 million yuan is allotted for the preparation of the General Plan for Wulingyuan Scenic Resorts well as the general plans for Suoxiyu, Tianzishan and Zhonghu.

In order to work out a feasible, authoritative and standard international plan, Wulingyuan District has organized its staff to visit many first-class planning institutes and invited bids. Many famous experts in planning, gardening, architecture and forestry have been invited to assess the bid. Finally the City Planning Center of Beijing University has won the bid. At present the outline of The General Plan for Wulingyuan Scenic Resort has been completed and passed the appraisal of the relevant departments in Zhangjiajie City and Hunan Government. It is now submitted to Construction Ministry for approval. The following preparation work is under way. In order to make it easier to carry out the plan, Wulingyuan Government has issued a document Zhang Wu[2001]13 “Urgent Notice about Strengthening Construction Management” and stopped all the construction work in the area.

c. Establishing a Complete Management System for Heritage Protection

In Year 2000, Wulingyuan District set up a management department to deal with township planning and construction and heritage protection, that is, heritage protection planning and construction management committee, with district committee, people’s congress, government, political consultative congress being its four major members. The committee hold meetings to discuss important issues relating to heritage protection. We have set up Heritage Office. Three full-time employees are put in charge of the work. Wulingyuan Scenic Resort Administrative Bureau is the legal person of heritage protection.

In 2002, Wulingyuan District has added other institutions in the reform such as Protection Station, Scenic Area Office, Planning Bureau, House Management Bureau. Especially we have set up 4 specialized heritage protection institutions in Zhangjiajie, Tianzishan, Yangjiajie and Suoxiyu. Now Wulingyuan has a staff of 500. They strictly abide by the Regulations and crack

down on any acts that destroy heritage resources.

In recent years, Wulingyuan District has established a hearing system and three-stage approval procedure (Province, city and district). Besides, they have also worked out rewarding and punishment and supervising systems, which has effectively controlled the destruction of heritage resources and environment.

d. Removing the Structures in the Scenic Area and Restoring the Heritage to Its Original Appearance:

Wulingyuan is a precious resource which has evolved after million years of development. Protecting it is not only of great significance to the protection of human existence, but also of great significance to maintaining ecological equilibrium of environment. The reason why the natural scenery of Wulingyuan is maintained is because the production forces at that time was low and people had no access to this area. With the development of production forces and tourism, Wulingyuan's natural heritage resources has become the object for tourism development. If it is not properly developed or not properly managed after being developed, or we violate the law of nature, it can easily lead to the destruction of the heritage.

In September, 1998, two experts from UNESCO made an investigation in Wulingyuan ; in September, 1999 , two leaders from State Council also made an investigation in Wulingyuan. They made a negative comment on the urbanization tendency of Wulingyuan and warned : The heritage ecological environment is being threatened, the aesthetic value of heritage is being spoiled. These remarks have caught the attention of the central government. Wulingyuan must put an end to the urbanization tendency and restore the heritage to its original appearance. Before UNESCO come again for another monitoring, we shall demolish all the buildings in the scenic area and move all the residents out of the scenic area. We have no other choice.

In 1999 , we have demolished 190 buildings on the road side in Wulingyuan Scenic Area about 25000 square meters. We have completed the first stage of clearance. In 2000, Wulingyuan District has set up an institution to clear the house in the scenic area. The work has achieved effective result. An investigation has been made about the buildings in the scenic area and worked out plans for clearance and settlement, raised funds from many channels and win the support from Hunan financial departments.

On April 6, 2001 Premier Zhu Rongji pointed out when visiting Wulingyuan : Wulingyuan world natural heritage resources and ecological environment must be protected. On June 17, Governor Yang Zhengwu pointed out after hearing the report : strengthening ecological environment construction is the

most important work of Zhangjiajie.

On October 15, 2001, Wulingyuan held a mobilization meeting to demolish the buildings in the scenic area. Afterwards in Wulingyuan 78 organizations turned their attention to clearance of their buildings in the scenic area and more than 300 of our management staff became busy with the clearance work. By the end of the first half of 2002 , we have already cleared 59 reception facilities at Yuanjiajie, Shuiraosimen, Tianzishan, moving 377 households or Wulingyuan and 1162 persons in this area, clearing buildings 155,000 square meters. The clearance of buildings in the first and second stages has been completed, and the urbanization tendency stopped. The world natural heritage is restored to its original appearance. 65 reception facilities and 169 households will be demolished or moved out of the scenic area in the second stage at Suoxiyu Forest Farm, Yangjiajie. This time we shall clear about 36,000 square meters. At present about 66.2 million yuan has been spent on the clearance project.

e. Strengthening Ecological Environment Construction and Making a Sustained Use of Heritage Resources.

Since 1999 , Wulingyuan District has strengthened its ecological environment construction.

First of all , we should further the afforestation work. By the end of 1996 , Wulingyuan has brought its afforestation work up to provincial standard, on the basis of which, Wulingyuan has further pushed its work in ecological forest protection and restoration of fields to forest. In the last 5 years , Wulingyuan has covered 16784.6 mu of land with tress, with the investment being 14,569 million yuan. In the afforestation process , Wulingyuan has taken a number of measures such as mixed planting of bush and arbor trees etc, trying to protect the genuineness and integrity of the ecological system. At present, Wulingyuan vegetation coverage rate has reached 74.4% , and that in the core area to 98%. The amount of reserved water in forest has reached 120 million cubic meters, reducing the loss of water and soil 750,000 tons and absorbing dust 960,000 to 204,000 tons.

We have controlled environment pollution to the maximum extent. By the end of 1999, Wulingyuan has put an end to the use of all coal boilers and replaced them with oil and gas boilers. To protect water environment, in Wulingyuan District all the new projects are required to install buried power-free automatic purifying device. In addition to the 8 small-scale sewage disposal plants, Wulingyuan District has put in 50 million yuan to build two sewage disposal plants at Luoguta and Suoxiyu. They will be put into use by the end of 2002. The whole urban area is equipped with network of sewage discharge. We shall practice

responsibility system for the hygiene in the scenic area. The garbage will be cleared punctually and buried deep free from public nuisance. To protect the quiet environment, in Wulingyuan fireworks are strictly forbidden, noises are controlled, helicopter sightseeing services are suspended. In the scenic area are gas-driven buses . Fast food restaurants are being built.

Thirdly , we should improve the energy structure and forbid cutting of forest. The residents in Wulingyuan are applying energy-saving and ecological resources replacing the original firewood resources to prevent loss of water and soil and protect ecological environment. At present, Wulingyuan has put in an investment of 3.13 million yuan building 1564 marsh gas tanks, over 80% of residents have used clean and ecological energy resources.

Fourthly , we should strengthen management order , protect ecological resources. Wulingyuan has 3 million yuan of funds from financial department for fire prevention. We practice responsibility system for fire-prevention and one-vote veto . Fire guards are on duty all around the clock. In addition in the scenic area are built fire-prevention belt, separating the core area from the peripheral area, effectively protecting the safety of world heritage. Restaurants in Wulingyuan are forbidden to serve wild animals.

f. Improving the Quality of Tourism and Relieving the Environment Pressure.

By now, in Wulingyuan, in the four scenic areas are built the network of roads leading to various tour sights. We have built cable cars at Tianzishan and Huangshizai ; completed Suoxiyu-to-Zhangjiajie highway, the highway between the two parks , offering a lot of conveniences to tourists coming in and out of the scenic area. In 2000 , to improve tourism management and service level , Wulingyuan District has reformed the of admission ticket management system. Zhangjiajie State Forest Park, Suoxiyu, Yangjiajie, Tianzishan, Shuiraoshimen have adopted one-ticket system. The ticket bought today will be valid for the next day. In 2001 , to facilitate the tourists , Wulingyuan district adopted IC card ticket system , further improving One-ticket operation method. At the best season of tourism, it strictly controls the number of visitors.

With the improvement of tourism facilities and optimization of operation and management methods , the advanced operation mode of touring on the mountain and living at the foot of mountain has become a reality, greatly reducing the pressure on the environment.

g. Grasping the Knowledge about the Heritage and Enhancing the Sense of Protection

In order to make the people have a better understanding of Wulingyuan

heritage and enhance their sense of protection, since 1999, Wulingyuan District has put environment protection laws and world natural heritage knowledge into the curriculum for the leader training classes. In the schools of the District courses about environment protection and heritage-related knowledge are given. Since 2001, Hunan Wulingyuan World Natural Heritage Protection Regulations has become part of the law dissemination work. The District encourages to breed or set free wild animal and actively organize tree planting activities. Two tourists' centers located respectively in Zhangjiajie National Forest Park and Suoxiyu Protection District are being considered. They will play a very good role in educating the tourists about the heritage and enhance their heritage protection.

Wulingyuan District has tried various means, channels and mediums to advertise Wulingyuan World Natural Heritage, trying to make it known to all. Wulingyuan District has put up world natural heritage signs at the entrance to Zhangjiajie and Suoxiyu. Besides, there are Chinese and English introductions. All the books and CD disks and picture albums published about Zhangjiajie have mentioned or included introduction about Wulingyuan scenic resort being part of world natural heritage. Quite a few articles about Wulingyuan have been put on the school textbooks. It has an effective role in advertising Wulingyuan. In addition Wulingyuan District has also put up a lot of introduction about Wulingyuan through news media.

h. Conducting Research and Investigation and Offering Instruction to the Heritage Protection.

In recent years, Wulingyuan District has invited over many experts to conduct multi-disciplinary and multi-level investigation on Wulingyuan Natural Heritage, which has born rich research fruits. It has played an active role in promoting the protection work. We have also invited experts from Beijing to do specialized research on digital scenery, including tourism development of Wulingyuan and the influence of construction on environment, research on the distribution pattern of Wulingyuan towns, cultural specialties in Xiangxi and renovation in scenic area construction, Wulingyuan scenic resort and bio-diversification in the peripheral areas and protection strategies. We have invited experts from State Land Resources Bureau to do research on Wulingyuan geographical features. In such research work we have discovered the scientific value of Wulingyuan World Natural Heritage. It is of great social significance for scientific knowledge dissemination. Thus in 2001, Wulingyuan world Natural Heritage has been put on the list of state geology park. We have worked out The General Plan for State Geology Park.

I.5 Factors Affecting Heritage

a. Development Pressure

The main factor that affects Wulingyuan is the conflict between heritage protection and tourism development. As Wulingyuan is an old revolutionary base as well as a minority area and mountainous and poverty-stricken area. The local people have always lived in an isolated world. The undeveloped world regarded as very malicious land. After China adopted the policy of opening to the outside world, Wulingyuan vigorously tourism with fantastic natural scenery, which has brought tangible benefits to the local people and greatly aroused their enthusiasm to develop tourism. Due to historical reasons, the management staff who have just switched their role from managing the peasants to managing a tourist resort, they are not yet well-armed and prepared. As a result, they only focus their attention on the economical benefits. Thirdly, the value of Wulingyuan has caught world attention. Many enterprises and investors came over to make investment in reception facilities. To attract investment, for a time we have offered very loose investment environment". Even though some of us are already aware of the seriousness of the problems, but due to various kinds of pressure, they find it difficult to say no. Fourthly "The General Plan for Wulingyuan Scenic Resort" compiled in 1990 is quite limited in its guidelines and principles. In this plan we are quite aware of the importance of tourism development, but not of the importance of environment protection, thus resulting in the conflict between tourism development and landscape protection. Due to the above factors, with the elapse of time, we began to see the problems: increase in artificiality, urbanization and commercialization; decrease in primitiveness, scientific and cultural value and ecological value and aesthetic value. This fast development speed has exerted great pressure on the heritage protection. If we replace science with ignorance, stupidity with wisdom. It will invite great punishment for us.

To relieve the pressure and protect Wulingyuan Heritage, we must implement protection management laws and regulations of the People's Republic of China, especially "Hunan Wulingyuan World Natural Heritage Protection Regulations" , and strictly follow the revised "General Plan for Wulingyuan Scenic Resort" in construction. We should strongly resist any short-sighted, narrow-minded acts so as to offer the site better protection and maintain sustained development.

b. Environment Pressure

Development will no doubt exert pressure on heritage environment protection. The environment pressure mainly consists of environment pollution, air environment pollution ,damages to ecological vegetation and loss of water and

soil.

According to the monitoring results in 1998, Wulingyuan's environment quality is good on the whole. The air quality of most of the area remains above grade-1, but in some living quarters it is lower than grade-1. The carbon dioxide in the air and suspended particles and acid rain are on the rise.

The water system in Wulingyuan consists of Golden Whip Stream, Dragon-tail Stream, Kuangdong Stream, Gang Stream, which join into Suoxi Stream. The pollutants of Golden Whip Stream mainly come from Luoguta and Shuiraosimen which are discharged from the reception facilities. Luoguta discharges about 400,000 tons of sewage water, Shuiraosimen 160,000 tons. This sewage water has been preliminarily treated and then discharged into Golden Whip Stream, resulting in the lowering of the water quality in the stream. Some of the indexes such as dissolved oxygen has exceeded criterion for surface water. The look of water is also deteriorating. We can find algae on the cobble stones in the stream. The original lucid water is turning black, spoiling the image of Golden Whip Stream. Suoxi Stream is polluted by upstream source and also by reception facilities at Jundiping, which discharges about 2 million tons of sewage water without being properly treated.

The ecological environment of Wulingyuan remains in good condition. It is rich in variety and the forest coverage rate has reached 98%. High-order plants have reached 3000 species, vertebrates 50 families 153 species. The place is referred to by some experts as Gene bank rarely found in the subtropical area". The rapid development of tourism is posing a threat to bio-diversification.

With view to the pressure on environment, between 1999 and 2002 we moved out a lot of residents in the scenic area and then planted trees on the cleared site. At the same time in an area of 397.48 square kilometers we restored the land to forest. It has played a very good role in relieving the environment pressure. But the situation we are facing is still far from being optimistic. To restore the place to its original beauty, we still have to fight against all kinds of short-sighted and greedy acts. Wulingyuan World Natural Heritage belongs to the world. Its wealth will benefit its descendants. The people in Wulingyuan should take it upon themselves to protect the heritage.

c. Natural Disasters and Prevention Work

The natural disasters in Wulingyuan include flood, landslide, collapse, earthquake, pest and forest fire.

1、Flood :

Wulingyuan is located in sub-tropical area with sufficient rainfall. The annual rainfall is 1485-1518 millimeters. Storms are common and floods are frequent.

Since September,1998 after submitting the first copy of Periodic Report of Wulingyuan World Natural Heritage Status, though Zhangjiajie has witnessed many storms, the place did not suffer heavy losses. In July 2001 alone , the storm only damaged 20 meters of road and it caused no other losses. At the same time, we are aware that flood is repetitive natural phenomenon. These natural factors affecting Wulingyuan Scenic Resort are not the most serious. The man-made factors are the most serious. For example the 7.23 disaster in 1998 caused a heavy loss. Houses were built along the narrow river course in the valley. We have now cleared all these buildings.

2、 Landslide :

There exists the phenomenon of landslide in Wulingyuan. Most of the cases are the result of road construction. Though small in scale, they are large in quantities. Most of them take place between Tianzishan Township and Sinanyu and Shiheyu. This section of the road is located at Silurian stratum, and there are roads around the mountain. The soil on the two sides are rather loose. Besides, the road constructors use explosives to blast the rocks. Landslides are quite common here. Between Shuiraosimen and Zhangjiajie landslides are also often seen, resulting in traffic jam. With view to this fact, we build a lot of fencing walls and dredge water-discharging ditches.

In September, 1998 in our periodic report, we said that “ Between Shentangwan of Tianzishan and Len-li Gallery was found a 1100-meter rift”. After investigation and monitoring. Nothing unusual is found at the moment.

3、 Collapse

After the scenic area has been developed, large scale of collapse has not yet been found. Single piece of rock or several large pieces collapsing can be heard from time to time. In 1980 in Zhangjiajie Forest Park opposite to Golden Whip Rock, a piece of rock fell off from the peak known as Drunk Monk. In April, 2002 , a big piece of rock fell off from a large peak at the Southern Gate of West Sea in Tianzishan, resulting in damages to the surrounding trees. So far we do not have effective measures against collapse.

4、 Earthquake:

The geological movement in Wulingyuan is frequent. Earthquakes are quite likely. On February 14, 2001, an earthquake took place between Cili County and Shangzhi County. Besides, the Suoxi Reservoir with capacity exceeding 20 million cubic meters is undergoing a rift at the base of the dam. Slide and earthquake may take place at this position. Now we are taking preventive measures.

5、 Pest :

The wood pest found in Wulingyuan mainly are citrus canker, pine moth, termite etc. The forestry department has been taking effective preventive measures and no insect disaster has ever taken place.

6、 Forest Fire :

As the trees are very dense in the scenic area and the number of tourists is big , and the peaks are perpendicular, vehicles have no access to the mountains. They are quite far from the city of Zhangjiajie. Once fire disaster has taken place, if we can not control it immediately, it will result in great damages to heritage. We should divide the scenic area into different categories according to their importance and sensibility. The following specific measures may be taken (1) Establishing fire monitoring system and alarm system such as watching station, detection station ; (2) We shall use the streams for fire-fighting purposes; (3) We shall establish fire emergency system.

d. Pressure from Tourism

The increasing number of tourists in Wulingyuan constitute the biggest pressure on heritage protection. From 1998 to 2002, the number of tourists are as the following :

1998 : 1,561,000 persons

1999 : 2,258,000 persons

2000 : 3,661,000 persons

2001 : 4,663,000 persons

2002 (From Jan to July) : 3,075,000 persons

The tourists on the one hand have brought wealth to Wulingyuan Scenic Resort, on the other hand, they have also brought negative influence on protection work. Especially in the peak time of tourism on National Day and Labor Day. The whole scenic area is full of people. In order to relieve the pressure, prior to the holidays we send out a lot information through media and travel agencies about the reception conditions there. This measure has worked effectively. The new general Plan has strictly controlled the number of tourists.

e. Hidden Problems in Resettlement

As for the pressure from the residents in the area, we have moved a lot of them out at three times. The pressure has been greatly relived. Even under a very tight budget, we have managed to move some of the residents to some out-of-the-way places. But we still need to keep a close watch on them. If we are not strict with our control, they return at any time. After careful planning, we only keep a few households in the area so as to combine the aesthetic value with cultural value and produce a picture of bucolic life.. These households in the scenic area are allowed to cultivate but not allowed to do reception. They are not

allowed to use pesticide and fertilizer. We shall completely restore the place to their original beauty.

f. Further Smoothing the Relationship between Wulingyuan District People's Government and Zhangjiajie Forest Park

Zhangjiajie Forest Park is subordinate to administration of Wulingyuan People's Government. But due to historical reasons, Zhangjiajie Forest Park Administrative Department are on the same level with Wulingyuan District Government. They are independent of each other in manpower and finance. Thus there is some conflict between the two organizations. For example, in 1990 when they prepared The General Plan for Wulingyuan Scenic Resort, Luoguta belongs to controlled area but it has somehow developed into a busy town center with 7000 beds for reception. Thus all the functional departments are violent in reaction. We have tried to combine the two organizations. But due to various reasons, we are not able to make it. It needs coordination and solution from superior organizations.

g. The Leasing Operation Mode Unsuitable for Heritage Protection

Wulingyuan District Government leased Baofeng Lake to a Malaysian company in 1994 with the leasing period being 60years and in 1998 leased Yellow Dragon Cave to China Datong Industrial Company(Beijing) with the leasing period being 45 years. At that time there seemed to be a lot of advantages. But today we can see that there are a lot of problems for heritage protection. There are a lot of buildings built illegally such as Hiaguan Holiday Inn at the source of Baofeng Lake. To build a road leading to the Inn, the rocks in the way are blasted and trees cut. All of these are done without our permission. We lack strict control and management over them. Another example is yellow dragon cave. As it is in service for hours receiving so many tourists everyday, the quality of the scenery in the Cave is deteriorating. As a result we have to close the beautiful "Labyrinth" for it to recover.

I.6. Monitoring

a. Various Indexes for Heritage Protection.

① We should protect the formation process of quartzite sandstone forested peaks and their genuineness and integrity.

② We should protect the developing process of the vegetation as well as their genuineness and integrity.

③ We should protect the natural water flow and their genuineness and integrity.

④ We should protect genuineness and integrity of scientific investigation and aesthetic experiencing process.

⑤ We should protect the existing rare species of animals and their habitat. We

should also protect the channels between different habitats of these animals.

⑥ We shall strictly control the air and noise pollution in the core scenic area. The quality standard should be higher than criterion I.

⑦ We should strictly control the construction in the core area. Except the necessary facilities for management and protection, we shall forbid any construction. By the end of 2002, we have demolished the buildings that contaminate environment, obstruct the views and hinders traffic. We gradually restore the place to its natural beauty.

b. Major Organization Involved in Heritage Monitoring

- ① Wulingyuan Environment Protection Bureau ;
- ② Wulingyuan Forestry Bureau ;
- ③ Wulingyuan Water Administrative Bureau ;
- ④ Wulingyuan State Land Administrative Bureau ;
- ⑤ Wulingyuan Construction Bureau ;
- ⑥ Wulingyuan Planning Bureau ;
- ⑦ Wulingyuan House Management Bureau

c. Heritage Monitoring System

1、 Water Monitoring :

① Cross-section of river : Laomowan of Golden Whip Stream, Purple Weed Pool, Shadaogou, Shuiraosimen , Wujiayu of Suoxi River, Yujiazhui.

② Monitoring time : January (low water period) , May (high water period) , September (par level water period) are the sampling periods for monitoring.

③ Monitoring items : PH, total suspended particles, hardness, DO, hypermanganate, BOD₅, nitrite, volatile phenol, non-ionic ammonium cyanide, arsenic, mercury, sexvalent chrome, lead, cadmium, petroleum, COD.

④ Monitoring results : According to the 1999 monitoring results in 1999 , no volatile phenol, cyanide, arsenic, petroleum, and heavy metals such as lead, mercury and cadmium are detected ; except in January the dissolved oxygen and in May hypermanganate have exceeded the standard in three sections and the rest of the quality has reached Grade-1 standard of the state. The water quality in the scenic area is good. In 2000 the water quality in Golden Whip Stream and Suoxi River is good. According to the monitoring results, the chemical oxygen demand (COD), cyanide, volatile phenol, arsenic, petroleum and heavy metals such as lead, mercury and cadmium are not found in the water. Only PH, hypermanganate ammonia nitrogen have exceeded the standard. The rest indexes have all reached the requirement of the state for water quality (GHZBI—1999)(Grade-1). According to the monitoring results in 1999 and 2000, the water in Golden Whip Stream and Suoxi River is slightly

contaminated. In 2001 water quality in Suoxi River and Golden Whip Stream remains good. According to the monitoring results in January and May, DO slightly exceeded the standard but the rest of the indexes have reached state standard for Grade-1 (GHZBI—1999) .

2、 Air Monitoring :

①Standards for Air Environment : (GB3095—1996)

Grade-1 Standard :SO₂ ,annual average value0.02mg/N.m³ ;TSP ,annual average value0.08mg/N.m³ ; NO_x , annual average value0.05mg/N.m³。

Grade-2 Standard :SO₂ ,annual average value0.06mg/N.m³ ;TSP ,annual average value0.20mg/N.m³ ; NO_x , annual average value0.05mg/N.m³。

②Air monitoring: For monitoring we have adopted continuous sampling machine to take samples for monitoring.

1999: SO₂, annual average value0.004mg/N.m³; NO₂, annual average value 0.02mg/N.m³ ; TSP , annual average value0.014mg/N.m³。

Conclusion : air quality better than international grade-1.

2000: SO₂ , Annual average value0.003mg/N.m³ ; NO₂ , annual average value0.002mg/N.m³ ; TSP , Annual average value0.030mg/N.m³。

Conclusion : The quality of air is higher than Grade I of the state.

2001: SO₂ , Annual average value0.003mg/N.m³ ; NO₂ , annual average value0.002mg/N.m³ ; TSP , Annual average value0.031mg/N.m³。

conclusion : air environment quality better than international standard Grade-1.

2002: SO₂ , Annual average value0.003mg/N.m³; NO₂, annual average value0.002mg/N.m³ ; TSP , annual average value0.012mg/N.m³。

conclusion : air environment quality better than international standard Grade-1.

Remarks: The pollutant SO₂ has decreased from 0.004 in 1999 to 0.003. The major reason is we have abolished the use of coal burners in the District ; TSP rises from 0.014mg/ N.m³in 1999 to 0.031mg/ N.m³ in 2001. The reason is the climate become dry and removal of the houses creates dust.

3、 Biology Monitoring :

①According to the investigation of China Science Academy ,Wulingyuan has wood plants 107families 250genus 700species. Vertebrate animal 22order, 58families, 149 species., most of which are birds, taking up 46.9% ; the next is mammals taking up 28.9% ; reptiles 16.1% , amphibians 8.1%. Animals of state protection are rhesus monkeys, giant salamander, pangolin, red-belly pheasant, leopard, etc.

②In 1992, we invited experts from South-central Forestry Institute, Hunan Normal University to conduct an integrated investigation of Wulingyuan's forest resources. It is found that there are vertebrate animals 22 orders, 59families,

156species , among which mammals 8order 21families 43kinds , birds 10orders 24families 70 species ,reptiles 2orders 7families, 24species ,amphibians 2orders 7families19species. Among them some are animals of state protection such as Neofelis Nebulosa 2species , grade-2 protection animals 22species. The number of species of wood plants is about 751, which belong to 298genus 102 families. The gymnosperm has 18 species, 16 genus and 6 families according to Zhen Wanjun's system. Gymnosperm, according to Ha Qingsong's system has 734 species , 282genus , 96families. The flora of Wulingyuan belongs to China-Japan Flora. This flora is characterized by diversification, peculiarity.

③In 2000, we invited experts from Hunan Forest Resources Management Protection Bureau to make an investigation about the biological resources in Wulingyuan. The investigation found that vascular plant 193families, 730 genus, 1630species , among which wood plant 103families, 297 genus 751species , herbaceous plant 879families, among which gymnosperm has 7 families, 11 genus, 17 species. Angiosperm 96families,286genus, 734species. According to the statistics of State Forestry Bureau and Ministry of Agriculture published in 1999 in "Inventory of Wild Plants for key protection", Wulingyuan has 4 kinds of grade-1 protection trees , 19 kinds of grade-2 protection trees. Among the 195 vertebrate animals in Wulingyuan, 30 fall into the category of protection of the state; 69 of the province.

④In Zhangjiajie Forest Park and Suoxiyu Natural Protection District we are building monitoring mobile station to prevent insect pest.

4、 Water Monitoring :

According to the statistics of Zhimata Rainfall Station in the last three years (1999—2001) , the rainfall in the District is 1387.9—1779.3mm. The heaviest rainfall months are 6—8, with the maximum rainfall in a month being 247.5—454.6mm. The rainfall is plentiful in the District, evenly distributed. Floods are never found.

5、 Geological and Geographic Monitoring :

①In the flood period from April to September, guards are put on duty. They watch for any landslide, mud flow, collapse, rift, land subsidence.

②In 2000 , we invited experts and technicians from Team 403 and 405 of Hunan Geology Mineral Surveying Development Bureau to make an investigation about the geological disasters in Wulingyuan and worked out "An Investigation Report About the Geological Disasters in the Core Scenic Area of Tianzishan" and "Report about the Unstable Rocks in Wulingyuan Scenic Area". According to the investigation report, there are 186 unstable rocks, 11 extremely serious cases, 69 very serious cases , 73 rather serious cases, 33 slightly serious

cases.

③In 2001, control measures have been taken against No. 99 unstable rock at Tianzishan.

④In 2002, we invited Team 405 of Hunan Geology Mineral Surveying Development Bureau to work out “Plan for Emergency Solutions to Geological Disasters in Wulingyuan”. The major measures are: water discharge, surface protection, wall fencing, fixing, intercepting, evading and monitoring.

⑤Since 1999, Wulingyuan has put in an investment of 400,000yuan for geological and geographical monitoring and control.

d. Improvement Needed for Heritage Monitoring.

At present, in Wulingyuan is established special institutions for monitoring world natural heritage. Only the relevant departments are involved in monitoring. It needs unified actions. The water monitoring institutions are far from perfect. The water monitoring is not continuous and standardized and accurate. According to the requirement of Zhangjiajie Water Station, we plan to build a water monitoring station at Huanglong Cave or Yujiashui, providing high-quality monitoring service for Wulingyuan. The District government will support Zhangjiajie Water Station and substations and conduct water quality monitoring by the month, and guarantee the continuity and accuracy of water monitoring so as to lay a foundation for the protection of Wulingyuan natural heritage. The monitoring means of geographical features are rather backward. We need advanced geographical monitoring equipment.

0 Monitoring

1 All the indexes for heritage protection:

2 (1) Protecting the validity and integrity of the forested sandstones

3 Outline of decision and recommended actions:

4 Main conclusion about the status of world heritage:

5 At present, Wulingyuan World Heritage's quartzite sandstone and Karst topographical features and bio-diversification are well preserved. It not only complies with Criterion III but also with Criterion IV for world heritage.

6 Wulingyuan World Heritage is inscribed under criterion III, we hope that the World Heritage Committee will consider inscribing the place under Criterion IV.

7 Though the buffer zone of Wulingyuan World Heritage has played a role in protection, it is not enough in the long run.

8 Main conclusions about management and factors affecting the heritage:

9 The management of Wulingyuan World Natural Heritage is good. The local management institutions and people have taken great efforts in protection.

But as the laws and regulation about heritage protection and replanning work of the scenic area come out rather late, the Site is exposed to the pressure of tourism, geological disasters, climatic disaster, pest and other man-made damages. The funds for heritage protection is limited and the internal management system is not yet very good. Thus the factors affecting the heritage are very complicated. To preserve Wulingyuan in a good state is long time job.

e. Actions to be taken

10 We shall set up a heritage museum and introduce systematically and scientifically Wulingyuan.

11 We shall set up specialized monitoring institutions, meteorological stations and make periodic monitoring of the quality of air, water, environment, electromagnetic radiation, noises, vegetation ecology, animal so as to provide scientific data for protection and management of Wulingyuan.

12 We shall build tourists centers at the main entries of the park.

13 We shall establish an introductory system about world heritage and its history and culture.

14 We shall work out a detailed plan for the protection of Wulingyuan.

15 We shall start the training program for the management staff.

16 We shall go on with research on the bio-diversification.

17 The institution for implementing these actions:

Construction Bureau, Planning Bureau, Forestry Bureau, Heritage Office, State Land Resources Management Bureau, Environment Protection Bureau

18 Timetable:

2003 to 2009

f International aid needed:

We hope that World Heritage Committee can offer support in training our local management staff and offer us guidance and technical and financial aid in protecting the Heritage.

Part II Questionnaire

Status-quo of Protection of Wulingyuan World Natural Heritage

II.I Foreword

001 Signatory State:

People's Republic of China

002 Name of World Heritage:

Wulingyuan Scenic Resort, simply referred to as Wulingyuan

003 To mark the exact location of the heritage, please attach geographical map,. Mark out the scale, location of the place. Give out their name, date and cell chart, in which the boundaries should be defined. It is encouraged to provide geological data which can be incorporated into GIS”:

Wulingyuan is located in the northwest of Hunan Province, with its east longitude being $110^{\circ} 20' 30''$

--- $110^{\circ} 41' 15''$ and north latitude $29^{\circ} 16' 25''$ --- $29^{\circ} 24' 25''$. The area includes Zhangjiajie Forest Park, Suoxiyu, Tianzishan Protection Zone, Yangjiazai Scenic Area and the neighboring Suoxiyu Town, Tianzishan Town, Zhonghu Township, Xiehe Township, with the total area being 264 square kilometers and the peripheral area being 133.48 square kilometers. The total of the above two areas is 397.48 square kilometers.

004 The exact date of inscription of Wulingyuan on Inventory of World Heritage:

Dec. 14, 1992

005 Organization Preparing and Drafting This Report:

Hunan Zhangjiajie Wulingyuan People's Government, Hunan Wulingyuan Scenic Resort Administrative Bureau

Person-in-charge: Yang Xinmin

Address: China.Hunan.Zhangjiajie Wulingyuan

Post Code: 427400

Tel: 0744-5618010

Fax:5618002

006 Submission Date of the Report:

September, 2002

007 Representative of the Signatory State:

Signed by:

Name: Xu Xuanhui

Position: Director of Zhangjiajie Wulingyuan People's Government

Director of Wulingyuan Scenic Resort Administrative Bureau

II.2 Importance:

008 Qualifications of the Heritage Site. Natural Standard: I---II---III---IV

It is qualified for Category IV.

009 After being inscribed on the Inventory, has the heritage site been renominated or expanded which lead to new standards?

No.

010 If it has, please specify:

Not available.

011 Quotations from Experts of UNESCO:

“Similar landscape of rock pillars exist elsewhere in China and the world. With the cluster of sandstone pillars, Wulingyuan compares scenically with several national parks and monuments in the Western U.S.A. such as Bryan Canyon, Colorado, Canyonlands and Capital Reef. Another outstanding area of sandstone towers is found in the Bingle Bungles of Australia. Due to its lower elevation and sub-tropical location, however, Wulingyuan has dense forest and abundant water. It also has a great number of peaks (over 3000) and most of them display a much greater vertical relief(over 200m.) than the US and Australian sites.”

“Boundaries encompass the main features of the site and the legal basis provides adequate protection.”

“Wulingyuan has undeniable natural beauty with its spectacular jagged stone peaks, luxuriant vegetation cover and clear lakes and streams. ... The site thus meets criterion (iii) for natural areas and satisfies the related conditions of integrity”

012 Please cite the decision and suggestions made by World Heritage Committee:

In December, 1992, at the 15th meeting of World Heritage Committee of UNESCO, Wulingyuan was inscribed on the Inventory of World Heritage. Wulingyuan has become of the first three natural heritages in China. At the same time, the Committee instructed us to conduct research on diversification of plants so that the place can be inscribed under category IV. The committee also suggested us that we build up a tourists center and museum to make Wulingyuan better known to the world.

013 Subsequent actions taken on the basis of the above decision and suggestions:

We have conducted a lot of research: We have invited experts from Beijing University to conduct digital scenery research which includes Wulingyuan Scenic area development for tourism and the affecting factors on environment., research on planning of the tourist town, the special features of Xiangxi culture as well as renovation and strategies to protect Wulingyuan Scenic Resort and Bio-diversification. We have invited experts from State Land Resources Bureau to

conduct geological and geographic features of Wulingyuan. Research has revealed that the geological and geographical features in Wulingyuan have great research value. It has great social significance to disseminate the general knowledge of geological science. Thus in Year 2001, Wulingyuan World Natural Heritage has become the geological park of the state. A general plan has been worked out for the Geological Park of the State.

014 A Statement about the importance:

In December, 1992, World Heritage Committee of UNESCO approved of inscribing Wulingyuan on the Inventory at the 15th meeting under Category III.

In September, 1998, UNESCO and IUCN investigation group made a two-day visit to Wulingyuan. In the report, a statement has been made about the importance:

“Wulingyuan is no doubt a scenic area which has outstanding scenic value. The investigation group believes that it is reasonable that the Site is inscribed under Criterion III.”

“The Committee should recommend the preparation of a species conservation status report and leave open the prospect of also inscribing the site on the basis of criterion IV when the data becomes available.”

“Wulingyuan is an island of nature within a heavily populated agricultural region. Because of its ruggedness and inaccessibility it has survived relatively intact until recent years.”

“The investigation is very surprised to find the tourist facilities in Wulingyuan developed at such a fast speed. The Chinese authorities are all busy with management and solving the problems of roads, hotels and cable cars.”

“The construction of tourist facilities in Wulingyuan is getting out of control. It is hard to predict how much impact it has upon the bio-diversification. But aesthetic influence is obvious. Most of the scenic area is like a botanical garden or park in the suburbs of a city.”

“On the whole, the construction of Wulingyuan as compared with other protection areas such as Tanshan, Huangshan, Jiuzhaigou and Huanglong goes on much faster. But in construction, planning and protection, it is poorly coordinated, which has a negative impact on the environment. We hope that more efforts can be made in protection.”

015 Do you consider to renominate the site?

Yes

016 If yes, please provide reasons:

According to the research and investigation on bio-diversification, Wulingyuan qualifies for Criterion IV for World Natural Heritage. Please refer to Appendix 8.

017 Is the buffer zone of the heritage site enough to protect the value of the world heritage?

No.

018 If no, please give the reasons and the measures to be taken:

(1) The division line between Zhangjiajie Forest Park and the neighboring Xinglong and Shati Townships in Yongding is unreasonable. On one side of the mountain is the core area of world heritage; on the other are the two townships engaged in agricultural production.

(2) Sanguanshi Township bordering on Wulingyuan has the same geological structure with Wulingyuan. Thus there are experts suggest that this area should also be included in the protection zone.

Actions to be taken: Solve the problems through legislative and administrative efforts.

019 Does the signatory state actively promote the construction of protection zone and buffer zone?

Yes.

020 If, what are the exact measures?

We have enlarged the peripheral area so as to protect the ecological integrity. The site consists of: the core area, buffer zone, development area and peripheral area. In compliance with the Regulations for Scenic Resort”, the core area is further is divided into special protection area, first-class protection, and second class protection area.

The peripheral area plays a role in protecting the integrity of the heritage. Measures: (1) We should allow for certain amount of protection and control area outside the buffer zone to prevent future influence of the construction out of the protection area. (2) We should taken Sanguanshi as the peripheral area of the Heritage Site; (3) To protect the bio-diversification, we should also take part of Wuling Mountain into World Heritage. But all these work involves the division of administrative area. It is very complicated. It is subject to further research and proof. But (1) has already been incorporated into general plan of Wulingyuan Scenic Resort.

021A Statement About Validity and Integrity

After being inscribed, have the above values of the site been well protected?

Yes.

022 If not, give the reasons.

023 When the Site is inscribed, what is the evaluation comment by INCU?

Wulingyuan is a scenic area which has outstanding landscape value. It is reasonable to have it inscribed under criterion III.

024 After being inscribed, have the integrity and validity changed?

No.

025 If yes, give reasons:

No.

026 In the future, will the validity and integrity change?

Yes.

027 If yes, how will it affect the value of the world heritage?

There are experts suggest that we should include Sanguanshi in the protection zone. To preserve the bio-diversification we should bring Wuling Mountain into protection zone. This will greatly improve the effectiveness of protection. But this work is rather complicated. It has gone beyond the administrative power of the administrative organization for Wulingyuan Heritage protection. The problem should be solved at a higher level of government.

II.4 Management

028 How to exercise effective protection and management on the heritage site?

The laws.

029 Please introduce the actions taken to protect the value of the Site and their effectiveness:

We have worked out the Regulation of Protection; the general plan for the scenic area; a complete system of management; removed all the buildings in the core area and restored the area to their original appearance; strengthened ecological environment construction; preserved the bio-diversification and integrity; improved the quality of environment; reduced the pressure on the scenic zone; enhanced people's sense of environment protection.

030 Generally speaking, are the laws and traditional measures effective?

Yes.

031 Please give your reasons:

The various laws and regulations for heritage protection have provided a guarantee. All the destructive actions will be severely punished. Scenic area planning will be standardized. Through the training programs, people have a much stronger sense of protection world heritage. The validity and integrity of world heritage are preserved and protected.

032 Please list the laws and regulations concerning protection and management of natural and cultural heritage:

“Constitutions”, “Criminal Laws”, “Land Use Law”. “Environment Protection Law”, “Forest Law”, “City Planning Law”, “Interim Regulation Concerning Protection of Scenic Resort”, “Protection Regulations for Wulingyuan World Natural Heritage”.

033 Please introduce the management for the Heritage Site, especially operation of the organizations or institutions which have administrative power over

the heritage:

- (1) Establish a sound management institution;
- (2) Strengthen the law enforcement;
- (3) Standardize the management of construction in townships and be strict with the approval procedure;
- (4) Remove the buildings in the scenic area and reduce the pressure on the scenic area;
- (5) Strengthen management of tourist area and maintain the order of the area and keep the area clean and tidy.

034 The level of administration of the Site:

Local.

035 Name, address, tel. Number, fax, E-mail of the institutions directly responsible for the management and protection of heritage site:

Full name: Wulingyuan People's Government Zhangjiajie
Wulingyuan Scenic Resort Administrative Bureau
Add: Jundiping, Wulingyuan, Zhangjiajie, Hunan, China
Tel: 0744-5618010
Fax: 0744-5618002

036 Is it necessary to change the ways of management for the heritage site?

No.

037 If it is, please make a statement about the necessity.

No.

038 Does the heritage site have any management plan?

Yes.

039 If it has, please give the time of implementation.

In 1992, we have worked out the general plan for Wulingyuan Scenic Resort. In July 2001, we began to revise the general plan, which has taken into consideration heritage protection and management. After the plan has been passed, it is put into practice immediately.

040 Please make an introduction about the laws and regulations to protect the value of the heritage site:

The laws and regulations already in force: interim Regulations for Scenic Resorts”, regulations of Hunan Concerning the Protection of Wulingyuan World Natural Heritage”, Interim Regulations about Strengthening the protection of the Environment of Wulingyuan Scenic Resort”, interim Management Methods for Wulingyuan”

The laws and regulations to be put into force: Management Regulations for Scenic Resorts”, “Management Regulations for Natural and Cultural Heritages”.

041 Please specify the changes of the Site that have taken place in the following areas:

042 Ownership:

The ownership has remained unchanged. It is state-owned. With Wulingyuan People's Government in charge of its management.

043 Information about the management staff:

Staff: 45000

Management Staff: 500

Ordinary workers: 4000

044 Are the present staff qualified for the management work?

No.

045 If not, how to improve?

We should strengthen our training programs.

046 Do the staff need further training?

Yes.

047 If yes, what kind of training is needed?

Management and protection of scenic resort.. Computers and language training.

048 Please give an introduction about the source of capital:

Revenue from admission tickets and tax. It can maintain the routine work. But we are short of funds for protection of the site.

049 Can the capital meet the needs for management?

Almost.

050 If no, please tell the sources of capital:

No.

051 Did the heritage site receive any international aid?

Japanese loans.

052 Did it receive any international aid from UNESCO?

No.

053 Did it receive aid from Development Department of UN, World Bank or other institutions?

Yes.

We received 6 million dollar loans from the Japanese Bank for the two large-scale sewage disposal plants.

054 Any bilateral cooperation?

No.

055 Others:

No.

056 Please comment on the development level of information industry at the Site or management department:

At the beginning stage.

057 The equipment you are using is network computers.

058 Number of computers available:

500.

059 Do you have access to Internet?

Yes.

060 Do you E-mail?

Yes.

061 Does the Site have GIS?

Yes.

062 If yes, what software do you use? How do you use GIS?

Arcinfo (Arcview). Relevant geographic information data (Available at present are 1:50000, 1:10000 geographical map, 1:2000 township surveying map, 1:50000 remote sensing image, vegetation coverage distribution map, relief analysis, surface water analysis, visuality analysis, animal movement analysis, residents expansion analysis.

063 Please introduce the scientific research activities carried on the heritage site:

(1). Specialized research on digital scenery: Integrated research on the influence of tourism development and construction on environment; research on bio-diversification and protection strategies of Wulingyuan; West Hunan's cultural features and renovation research in scenic area construction; distribution of tourist towns;

(2). Geological and topographical research: Investigation and evaluation of the structure and stratum and geological development have revealed that the geographical and geological features of Wulingyuan have great research value.

064 Capital and Human resources input on research and protection of the heritage site:

The input capital on the above two research projects is over 5 million yuan.

065 The dissemination modes of information and achievement:

Various news media, network, activities and printing materials.

066 Does the Heritage Site have statistics of tourists?

Yes.

067 If yes, please attach it to the report:

Year	Total	Domestic Tourists	Foreign Tourists
1996	980000	964,000	16000
1997	1,253,000	1,239,000	14000
1998	1,561,000	1,514,000	47000
1999	2,258,000	2,151,000	107,000
2000	3,661,000	3,554,000	107,000
2001	4,463,000	4,331,000	132,000
Total	14,176,000	17,753,000	423,000

068 What service facilities are there on the Heritage Site?

Reception facilities (Hotels and restaurants)
Traffic facilities (highway, mountain paths, cable car, elevator)
Supporting facilities (water plant, power station)
Environment hygienic facilities (Sewage disposal plant)
Commercial service facilities
Cultural service facilities

069 What tourist facilities are wanting?

Tourist centers, museum, heritage monitoring facilities, cultural service facilities, high-class hotels.

070 Does the heritage site have public management plan?

Yes.

071 If yes, please make a statement:

We are going to pull down all residential facilities in the core scenic area and control the number of tourists and strengthen the work of heritage protection. We shall build up a few museums.

072 Please introduce how the value of the heritage is introduced to residents, tourists and the public?

Pamphlets, video, posters, Internet and textbooks for children.

073 Is there an education plan oriented to schools?

Yes.

074 If yes, make a statement:

Chinese government has already has taken heritages as a base of patriotic education. A lot of knowledge about Wulingyuan will be disseminated to the public through the textbooks.

075 What kind of role will Wulingyuan play in educating and research?

After Wulingyuan being inscribed, though the tourism environment is not very good, we have managed to maintain a stable of number of tourists. Especially since 2000, we have seen an increase in the number. People have gained a deeper understanding about the heritage. In recent years, research plans about the heritage is on the increase.

The tourists and residents have a much better sense of environment protection today. The Site has become a research base for bio-diversification and geological and geographic studies.

II.5 Factors affecting the Heritage Site:

076 Please state the problems and threats that the Heritage Site is facing:

1. The conflict between protection and development (commercialization and urbanization and artificiality);
2. The unbalanced development of economy. The tourist economy in the

last 20 years has not yet completely improved the life of the residents.

3. The tourist organization and facilities construction is in a confusion. There is great pressure from reception.

4. The scenic resources are damaged and ecological functions are not fully exploited. The construction land is poorly managed and the land value is not fully exploited.

5. The pattern of township development is not clearly defined. The division of their functions is not clearly defined either. As a result, they can not coordinate with each other in development.

6. They are independent with each other in management. The tourism resources and reception facilities are divided between different levels of government. There is no complete system to meet the demand for protection and tourism development.

7. Geological disaster, flood, forest fire etc.

077 Does the Heritage Site have any Emergency Plan against these disasters?

Yes.

078 If yes, please give the plan or their duplicate copies:

We have worked out preventive plans against geological disaster, climatic disaster, forest fire, forest pest. Other preventive measures are being implemented.

079. If no, what measures are taking?

080. What fields need further improvement?

- (1). Strengthen the law enforcement work;
- (2). Straighten the internal management system;
- (3). Strictly organize work according to the plan for the scenic area.
- (4). Strengthen scientific research and guide the protection work.

081 Give examples to show the factors which are on the increase or decrease:

Tourism pressure: With the number of tourists increasing, the pressure is building up.

Environment pressure: With the removal of the reception facilities in the core scenic area, sewage disposal work strengthened, the environment quality and ecological system are improving steadily. The environment pressure is becoming smaller.

082 What measures are you taking against the factors affecting the Site?

Against the growing number of tourists, we have taken the following measures:

1. We control the number of tourists;
2. We systematically expand the area of tourism.

II.6 Monitoring:

083 Please introduce the monitoring activities already given(date,effect and indexes)

1. Water monitoring;
2. Air;
3. Biology
4. Hydrograph
5. Geological and geographical monitoring
6. (For detail please refer to the report.

084 Does the Heritage Site have a routine monitoring mechanism?

Yes.

085 If yes, please comment on the mechanism:

All the monitoring institutions are established at the functional departments of the District Government.

086 If no, is it necessary to establish such a monitoring mechanism?

087 If it is necessary, please define the function of the mechanism. You may refer to the following indexes:

088 Is there any monitoring index?

We have no specific indexes for this heritage. We abide by the general monitoring indexes of the state.

089 If available, please provide the latest data for the key indexes. Please guarantee the accuracy and reliability of the indexes.

090 If not available, please specify the indexes to be used.

The state is organizing experts to work out various kinds of monitoring indexes for natural heritages.

091 Are the routine monitoring activities jointly organized?

No.

092 What are the regulations concerning monitoring activities?

- (1). "Measurement Law of the People's Republic of China"
- (2). "Environment Protection Law of People's Republic of China"
- (3). Environment Protection Bureau of the State has issued the following regulations: "Technical Manual for Environment Monitoring", "Monitoring and Analysis Methods for Water and Waste Water", "Environment and Water Quality Guarantee Manual", "Monitoring and Analysis Methods for Air and Discharge Gas", "Quality Guarantee Manual for Environment and Air Monitoring", "Standard for Water Sampling", "Quality Manual" etc.

093 What improvement measures will the signatory state take?

- (1) It will establish an independent monitoring institution for Wulingyuan Natural Heritage;
- (2) It will make a transition from intermittent monitoring to continuous monitoring.

094 In response to World Heritage Committee's decision to inscribe the place on

the inventory and preserve the state of the heritage, what specific measures has the Heritage site taken?

We have worked out a plan for the scenic spot, issued a number of regulations and laws to protect the resources of the heritage, strengthened the construction of the ecological environment, controlled all sources of contamination, removed all the reception buildings in the scenic area, organized training programs, carried on all kinds of scientific investigation activities and reformed the management modes for tourism.

11.7 Abstract of Conclusion and Recommended Actions:

095 Please state the value of the Heritage.

(1) At present, the quartzite sandstone and Karst topographical features of Wulingyuan Natural Heritage remain in good condition, the diversification of plants maintained, environment well preserved. It not only complies with Category III of World Heritage, but also with Category IV.

(2) Wulingyuan Natural Heritage is inscribed on the inventory of World Heritage under Category III. We hope that Heritage Committee of UNESCO will also consider to inscribe the place under Category IV.

096 Please comment on the management and affecting factors for the site:

Generally speaking, Wulingyuan Natural Heritage is well managed. The local administrative organizations and residents have made great efforts. But the laws concerning the protection of the heritage and the new plan for the scenic area come out rather late. Besides, there are other affecting factors such as the impact and pressure of tourism, geological disaster, climatic disaster, pest, limitation of funds. To preserve Wulingyuan in a good state is a long-time job.

097 Comment on the actions to be taken in the future:

(1) We shall build up a World Heritage Museum, introduce systematically Wulingyuan World Natural Heritage, educate tourists and children about heritage protection, enrich the cultural connotation of Wulingyuan.

(2) We shall establish specialized monitoring institution for the Heritage, monitor the quality of air, water, environment, electromagnetic radiation, vegetation ecology, noises, animals etc. so as to provide scientific data for better protection and management of Wulingyuan.

(3) We shall set up tourist centers at the major entries where we shall disseminate scientific knowledge to make people have a better understanding about the heritage and the importance of protection.

(4) We shall establish a complete introduction system about the world heritage and its culture and history.

(5) We shall work out a specialized plan for heritage protection;

(6) We shall offer training to those engaged in heritage protection;

(7) We shall go on with our research on the biological diversification.

098 Please list the organizations responsible for implementing these measures:

Wulingyuan People's Government (Wulingyuan Scenic Resort Administrative Bureau) and its subordinate Heritage Office, Construction Bureau, Planning Bureau, Forestry Bureau, Environment Protection Bureau.

099 Timetable for implementing the above actions:

2003 to 2008.

100. Which of the above actions need international aid from World Heritage Fund?

We need international aid for (1), (2), (3), (6), and (7) in the above actions.

101. Do you have any connection with other world heritage administrative organizations both in China and abroad?

Yes.

102. If you do, please make a statement.

(1). We keep in close contact with UNESCO and take an active part in the activities organized by UNESCO, and we have received a lot of help and instruction from UNESCO.

(2). Under the guidance of the administrative department of Chinese government, we went about the management and protection work of the heritage.

(3). We attended the annual meeting of China's World Heritage meeting and exchanged experiences about protection and management.

(4). We also took an active part in the exchange meetings held at other heritage sites in China.

103. What experiences do you have in periodic report writing and heritage protection that can be shared with other signatory states?

In heritage protection, we have issued protection laws, worked out a high-quality plan for the scenic area, strengthened overall ecological construction, removed all the houses in the scenic area, offer education about heritage, all of which have played a decisive role in protecting the world heritage and enhancing the sense of protection among the local residents.

104. Please provide the name of the person and address of the expert and organization:

Organization: Wulingyuan Scenic Resort Administrative Bureau

Person-in-charge: Xu Xianhui, Yang Xinming

Address: Wulingyuan, Zhangjiajie City, Hunan Province

Postcode: 427400

Tel./Fax: (744)5615041

E-mail: wlylxg@sohu.com

II.8 Comment on the Exercise (Part 2) in the periodic report:

105. Are the data sufficient that are offered to organization and individual persons at the drafting stage of the periodic report?

Yes.

106. Are the questions easy to understand? Can they meet the requirement of the signatory state?

Yes.

107. What have you learned from the exercise?

We have become more familiar with the requirement for heritage protection.

108. Please comment of the expected effect of this periodic report exercise and your suggestions for the work of World Heritage Committee:

Through preparing this periodic report we have understood the work of heritage protection and the key points. We hope that World Heritage Committee will work out an international index system for heritage monitoring.