

**Regional Experts Meeting on Climate Change Education
for Sustainable Development in the Arab States
(Beirut, 5 - 7 May 2015)**

**Working Document (4)
Sub-Regional Study on Climate Change Education for
Sustainable Development in the Arab States
(Maghreb Countries: Algeria, Mauritania, Morocco, and Tunisia)**

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Foreword

Education in general and Education for Sustainable Development (ESD) in particular play an essential role in increasing the adaptation and mitigation capacity of communities and nations in regard to climate change by enabling individuals to make informed decisions. Quality climate change education for sustainable development designed with the purpose of empowering people to address climate change and sustainability issues improves the adaptation capacities of affected communities. Climate change poses a serious and additional threat to water resources, agriculture and rural communities in the region, especially in remote areas, post-conflict countries, dry lands and deserts; and countries with limited natural resources, communication and transportation networks/systems are particularly impacted. These developments jeopardize the achievement of the current Millennium Development Goals (MDGs), as well as the transition towards Sustainable Development Goals (SDGs) by the year 2030.

UNESCO Regional Bureau-Beirut and the Education for Sustainable Development (ESD) Section at UNESCO HQ-Paris, in cooperation with the National Commission for UNESCO in Lebanon organized a Regional Expert Meeting on Climate Change Education for Sustainable Development (CCESD) in the Arab region (Beirut, 5-7 May 2015), as part of ESD work plan for 2014-2015. The Meeting Programme included the preparation of four Sub-Regional Studies on CCESD key issues and programme development at the country and regional levels. Dr. Mona Zoghbi, Lebanon and Dr. Hani Sewilam, Egypt had prepared the four studies and contributed to the technical programme of the Expert Meeting in Beirut. UNESCO Working Team: Dr. Sulieman Sulieman, Ms. Julia Heiss, and Ms. Julia Viehofer provided guidelines and coordination for the studies and the outcomes of the Regional Expert Meeting.

The Sub-Regional Studies and the Final Report of the Regional Expert Meeting will assist ESD experts and policy makers in the region in developing quality educational and learning opportunities related to Climate Change Education for Sustainable Development (CCESD), and the Global Action Programme on ESD (2015-2019).

We would like to thank the team of experts on their efforts and contributions to the studies and the ESD programme in general, which will reflect positively on developing joint actions in the education and learning communities around the world.

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Executive Summary

This Sub-Regional study highlights good experiences, identifies needs, and generates recommendations for the advancement of climate change education for sustainable development (CCESD) in the Maghreb countries (Algeria, Mauritania, Morocco, and Tunisia). The study is one of four sub-regional studies which have been prepared on CCESD in the Arab States (Mashreq-5, Arab Gulf & Yemen-7, Wadi El-Nile-3, and Maghrib Countries-4), in order to be used as background papers for the Regional Expert Meeting on CCESD in the Arab States (Beirut, 5-7 May 2015). The findings presented in this study are based on a combination of desktop review and a needs assessment survey/questionnaire to identify organizational strategies and CCESD programmes in the countries, and the gaps and needs in capacity building in the area of policy development, teacher training and curriculum on CCESD including Disaster Risk Reduction-DRR at the levels of general education (including technical and vocational education), higher education, and life-long learning (LLL) in the Maghreb countries. The different initiatives performed and implemented in the Sub-Region left more to be desired in order to achieve real CCESD development. The potential power behind the education can lead to solving many of the sub region current environmental, social, political and economical problems. More focus should be given to Developing policies, Teacher training, Curriculum development and cooperation with civil societies in order to successfully implement CCESD and ESD in the sub region. The conclusions of the study give some insights on recommending needed measures in order to enhance general education, TVET, higher education and lifelong learning. Uncertainty, as far as CCESD is concerned, leads to the reluctance of many decision-makers to approve the allocation of funds to the development of this important principle. The reasons for this are the different challenges faced by all the sub region's countries. There are already many economical, social and political challenges facing the studied countries, which make the priorities and agenda not having a major focus on CCESD. This also arises from the uncertainty and low awareness level of climate change phenomenon. Hence, the decision makers are therefore unable to make the right decision, which will lead to the implementation of steps and funding plans that require the expenditure of large sums of funds on CCESD and sustainability in general.

General Education

There are some promising initiatives like the environmental rehabilitation programme for rural schools in Morocco was developed by both the Ministry of National Education and the Ministry of Minerals. The ministries of education are already over loaded with different challenges regarding human resources development. Thus, the private sector, NGOs, and research centers should cooperate in this stage. It is important to integrate all these stakeholders in this stage in order to increase and enhance the amount and quality of the investment given to the teachers.

Key Recommendations: ministries of education need to focus on upgrading the education programmes, in order to integrate CCESD concepts and practices. Education experts need to assure the update the programmes content, not just to address environmental issues, but more on sustainable development issues, such as CCE and DRR. More training and capacity development programmes for teachers and school personnel are needed in all sub-region countries, with more funding and financial resources at the country level.

Higher Education

At the sub-regional level, there are some promising initiatives in numerous universities in the region, such as the initiative by Pan African University for establishing the Institute of Water and Energy Sciences (including Climate Change-PAUWES). It would be valuable to expand these initiatives in order to engage a wider number of universities from the region, as well as to replicate these programmes in more specialized fields on climate change and disaster risk reduction with special focus on the Arab region. At the country level, numerous universities have developed courses on climate change and sustainability. yet only a few have established long-standing specialized diplomas and degrees in climate change and sustainable development.

Key Recommendations: ministries of higher education in the sub-region countries need to focus on linking their programmes on climate change and sustainable development towards solving the existing problems within the area of each university. Making students solve these problems will help in developing CCESD concepts and practices. Higher education ministries need to develop committees for tackling climate change issues that interlink Universities, research centers, industry and governmental institutions together. Universities will assess their programmes and start implementing more CCESD concepts and practices in higher education programmes. It is important to check successful experiences worldwide in upgrading their curricula.

Life-Long Learning

Some of the interesting initiatives include the initiatives by NGO “Alkhayr” for development in Mauritania which supports both teachers and students and organize campaigns for adult education classes. One of the main factors which will directly lead to the success of the CCESD development plan is guaranteeing the participation of civil societies and NGOs in the form of raising awareness and Life Long Learning (LLL).

Key Recommendations: government institutions will work more with NGOs and civil society on the issues of CCESD, by giving them better collaboration alternatives on CCESD programmes. Civil societies should be encouraged to target the target groups which are not connected to both general and higher education systems. Committees and partnerships should be hosted by government in order to enhance the cooperation opportunities between NGOs, private sector and Universities.

1. Introduction

One of the main objectives of developing the Sub Regional study on Climate change education for sustainable development is to increase the flexibility of the Maghreb Sub region community when dealing with the risks and disasters that might be caused by climate change and its impact on different sectors and activities while considering the three pillars of sustainability. It also aims at strengthening the capacity to absorb and reduce the risks and disasters to be caused by such changes. In essence, the study adopts accommodation and protection as the two basic means of defense. There are many issues associated with climate change, which the region has to take in to consideration to overcome any future extreme event.

In the Arab region climate change already has impacted on people's livelihoods and lives. There is evidence of prominent increases in the intensity and frequency of many extreme events such as heat waves, tropical cyclones, prolonged dry spells, intense rainfall, tornadoes, thunderstorms, and severe dust storms in the region. Furthermore, the region is highly subject to natural hazards, such as desertification's, earthquakes and landslides. Such impacts pose additional risks for already vulnerable communities striving to combat poverty and achieve sustainable development.

Climate change poses a serious and additional threat to water resources, agriculture and rural communities in the region, especially in remote areas, post-conflict countries, dry lands and deserts; and countries with limited natural resources, communication and transportation networks/systems are particularly impacted. These developments jeopardize the achievement of the current Millennium Development Goals (MDGs), as well as the transition towards Sustainable Development Goals (SDGs) in the region.

Education in general and Education for Sustainable Development (ESD) in particular play an essential role in increasing the adaptation and mitigation capacity of communities and nations in regard to climate change by enabling individuals to make informed decisions. Quality climate change education for sustainable development designed with the purpose of empowering people to address climate change and sustainability issues improves the adaptation capacities of affected communities. It should be enhanced by educational programmes that explicitly prepare communities for natural disasters. Furthermore, it needs to incorporate sustainable knowledge, and promote sustainable lifestyles and development in which the importance of heritage is recognized as an integral part of their identity and an important asset that can help building resilience. Climate change education for sustainable development can stress the unique cultural and natural heritage of countries in the region, which plays an important role in the building of community resilience.

While education plays a key role in strengthening adaptation and mitigation capacities, such capacities are also needed to equip education systems and infrastructures to prepare for climate change. Entire school communities, including local education authorities, administrative staff, teachers and parents; need to ensure a climate-safe and climate-friendly school environment. Adaptation needs also must be taken into account when constructing new schools which are safe and have a climate-resilient design. Education for mitigation should be supported by sustainable school and campuses that serve as a learning laboratory for students to demonstrate and further deepen understanding of the principles learned in the classroom. Furthermore, the capacity of education systems to respond to new migration streams caused by climate change impacts, or the new skill requirements due to a changing environment needs, to be included in education strategies for adaptation to climate change.

The Regional Expert Meeting in the Arab region (Beirut, 5-7 May 2015) focused on the challenges that climate change poses to education systems. The programme was structured on four thematic areas of CCESD in the region: engaging with youth and communities; developing partnerships for Climate Change Education (CCE); preparing for disaster and emergencies; and building green societies through green job training.

The Expert Meeting set the stage for UNESCO's action in support to Member States in the Arab region to integrate ESD and CCE in their education plans and practices. Moreover, the Meeting will develop recommendations and a plan of action to promote education as an important means to enhance climate change mitigation and adaptation in the context of sustainable development in the Arab region.

As part of the technical preparations for the meeting, the UNESCO Regional Bureau-Beirut has undertaken 4 sub-regional studies and country surveys on CCESD in the Arab States (Mashriq-5, Gulf & Yemen-7, Wadi El-Nile-3, and Maghrib Countries-4). The four sub-regional studies will serve as background papers for the Meeting, presenting an overview of challenges, needs and the state of climate change education for sustainable development (CCESD) in the sub-regions.

The current sub-regional study presents an overview of challenges, needs and the state of CCESD in the Maghreb countries (Algeria, Mauritania, Morocco, and Tunisia).

2. Methodology

In order to obtain a broad overview of CCESD in Algeria, Morocco, Mauritania and Tunisia, and prepare the study, the research methodology in collecting the data and information for the study, included the following:

- Desktop study and analysis of background documents; and
- Questionnaires/Surveys to CCESD stakeholders in each country.

The methodology also included the review of documents and reports; mainly through the internet and websites, such as:

- a. Review national education policies and programmes, formal and non-formal, at primary and secondary education levels including TVET, as well as teacher training programmes and curriculum materials on CCE, DRR and ESD. The review was organized into four sections:
 - Regional documentation (documentation on CCESD, DRR and ESD in the sub-region);
 - Country-specific/national documentation;
 - Academic reports and articles; and
 - Survey/Questionnaire on CCESD in the Arab States (developed and disseminated by UNESCO Regional Bureau-Beirut).
- b. Identification of gaps and needs in capacity building in the area of policy development, teacher training and curriculum on CCESD including DRR.
- c. Consult with main stakeholders including concerned line ministries, NGOs, UN agencies and civil society working on CCESD and DRR on findings and challenges, needs and the state of CCESD in the Arab States.
- d. Undertake a mapping of partners to identify activities and responsibilities.
- e. Develop and submit a draft and final draft of the Study in English and Arabic for the CCESD education and learning programmes and activities.

The study output also includes a proposal for potential national partner institutions at the Cluster/Country levels for implementing the CCESD and GAP-ESD programme activities in the Arab region, including government, universities, international/regional organization, and NGOs.

Desktop Study and Background Documents

Much of the data for the survey report was collected through a desktop study of available relevant background documents. Such documents include government policies and legislation, curricula and education programmes, regulations, annual reports, government and non-governmental publications (magazines, brochures and newsletters), funding proposals and available CCESD related literature. The value of these lies in its ability to reveal the history and how past programmes are regarded by different stakeholders. Such data indicated other areas of enquiry and topics for intensive discussions, while the data also exposed aspects of the programme that would otherwise be ignored. The related documents included:

- Existing strategies of the Basic Education and Higher Education ministries in the cluster countries;
- Reports of all national and international Climate Change education programmes in the cluster countries in the 21st century;
- Governmental policies related to education in the cluster countries.

- Curricula or list of topics of subjects with relevance to climate change in the cluster countries. This includes subjects like: Science, Social subjects and Geography;
- Annual reports of education statistics made by government or third parties; and
- Non-Governmental Organizations (NGOs) reports of projects related to environmental and sustainable education projects.

Analysis of these documents provided a better understanding of the current situation of the cluster regarding climate change education and sustainable education in general. The data extracted from the analysis were highlighted more than the questionnaires, which can be more biased towards to the interviewee opinion.

Questionnaires

Questionnaires were distributed to key stakeholders like schools, teachers, education experts, politicians, environmentalists, NGOs, institutions and funding agencies who play a major role in providing courses and programmes in Education for Sustainable Development (ESD), especially those that have Education Centers nationally or regionally. The participants of the questionnaires were representatives of the following institutions:

- Schools teachers;
- Environmental agencies;
- Ministries of Education;
- Ministries of Higher Education;
- Ministries of Environmental Affairs;
- Civil Societies and NGOs;
- Education and Training initiatives at Universities;
- Education for Sustainable Development (ESD);
- Projects and Initiatives of Business and Industry (Private Sector).;
- ESD Coordinators;
- Policymakers; and
- Researchers.

The survey/questionnaire collected information on national, sub-regional and regional initiatives relevant to CCESD, Organizations and entities that work on ESD and CCE (including Disaster Risk Reduction-DRR). The survey also reviewed relevant national policies, curricula and teacher education programmes. The survey was organized into three sections: Development of Education Strategy; Development of CCESD Programmes (Programme details, including best practices); and general insights into CCESD Strategic Planning.

3. CCESD in the Education and Learning Systems

I. Regional and Sub-Regional Initiatives

The desk study review in the four countries (Algeria, Mauritania, Morocco, and Tunisia) has resulted in the identification of several initiatives related to the four themes related to CCESD in **General Education, TVET; Higher Education; and Life Long Learning (LLL)**.

Mainstreaming Human Rights:

The main action under this objective is the development of a system to monitor how human rights instruments are used in promoting education. This necessitates the creation and enforcement of relevant national legislations that ensure the promotion of equal opportunities in accessing educational and other social services.

Education Management Information Systems (EMIS):

Information is the basis of management, planning and evaluation of an education system. During the education management process, the education management information system (EMIS) should inform the different actors and partners on the state of the sector, its internal and external efficiency, its pedagogical and institutional operation, its performance, shortcomings and needs. The objective of this priority area is the assessment of the current status of data and information management in education.

Culture and Teacher Development:

The goal of the teacher development focus area is “to ensure the provision of sufficient teachers to meet the demands of education systems and to ensure that all teachers are properly qualified and possess the relevant knowledge, skills and attitudes to teach effectively. Teachers should also be properly supported and adequately remunerated, to ensure high levels of motivation.

Provide Good Working Conditions Teachers:

As a way of determining how good or bad working conditions are for teachers, one can look at the teacher attrition rate. The teacher attrition rate is the proportion of teachers in the public sector who leave the profession annually for reasons that include retirement, new job opportunities, marriage, death or illness. These low attrition figures may be a sign that working conditions for teachers in the AMU are good.

Higher and Tertiary Education:

The goal of this priority area is the complete of higher education in Africa with the emergence of vibrant development-oriented research and teaching institutions

playing a critical role in providing African knowledge and innovation to support the continent's position in the world economy.

Promotion and Development in Higher Education:

The aim is to build higher education infrastructure, encourage research collaboration and enhance science and technology capacity across the continent.

Technical and Vocational Education and Training (TVET) and Skills Development:

Technical and vocational education and training (TVET) is an essential part of general education. Despite its focus on preparation for the world of work through specialized technical training, TVET has been under-served in African countries. Where TVET programmes do exist, advantage is often not taken of modern technologies to upgrade facilities and programmes. TVET and skills development are the preference of this new approach and is gaining round in the agenda of most ministries of education, spearheaded by key players such as ADEA.

Algeria is looking to become a viable market for the UK VET Sector, and TVET UK has been working with the British Embassy and a number of Ministries within the country to identify new partners and new projects.

Curriculum Development, Teaching and Learning Materials:

to ensure the development and provision of balanced, relevant, responsive and culturally sensitive curricula adequately supported by appropriate teaching and learning materials, in all forms and levels of Education in Member States. According to the African Union's Plan of Action, curriculum development is a continuous process of translating educational goals into practical guidelines for content, materials, and methods for school and classroom engineered activities to bring about desired learning outcomes. A curriculum reflects the values, attitudes and aspirations of the wider society and should therefore be grounded in culture, while being open to positive global influences.

Quality Management:

The goal of this priority area is to support improved access, relevance, equity, and efficiency of Education in Africa through the development and sustenance of sound quality management systems at national, regional and continental levels.

Information and Communication Technology:

The AMU region recognizes the importance of information and communication technology (ICT) in the globalizing economy. The region is holding an e-Governance conference in Dubai later in 2014, which will focus on the latest technologies in the e-Government systems, as well as the short and long term goals that facilitate ICT transmission to meet the growing challenges in governance.

ClimaSouth (2010-2014):

The ClimaSouth project supports climate change mitigation and adaptation in 9 South Mediterranean countries. The project was initiated in February 2013 and will be implemented over 48 months with a total budget of 5 million Euros provided by the European Union (ENP). Key stakeholders include technical government departments at operational and policy level, UNFCCC focal points, decision makers, and other stakeholders such as local government and civil society representatives. Its overall objective is to assist with the transition of partner countries towards low carbon economies and enhanced climate resilience. The ClimaSouth project supports climate change mitigation and adaptation in 9 South Mediterranean countries: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine and Tunisia. The project was initiated in February 2013 and will be implemented over 48 months with a total budget of 5 million Euros provided by the European Union (ENP). Key stakeholders include technical government departments at operational and policy level, UNFCCC focal points, decision makers, and other stakeholders such as local government and civil society representatives. Its overall objective is to assist with the transition of partner countries towards low carbon economies and enhanced climate resilience. The capacity development initiatives for climate change are mainstreamed with capacity development programmes for domestic negotiations and mainstreaming of climate change related measures. Awareness activities will highlight the importance of climate change and of associated costs and benefits of mitigation and adaptation actions as well as how climate change could be integrated throughout national policymaking. General climate change through technical and help desk facilities (face to face or online) and specific events on practical issues, such as expert meetings and training courses on Low Carbon Development, Resilience to climate change and Finance.

<http://www.climasouth.eu/drupal/en>

Euro-Med (Shared Environmental Information System for the European Neighborhood and Partnerships):

The project aims to modernize and simplify the collection, sharing and use of data and information required for the design and implementation of environmental policy processes, through the dissemination of the principles of shared environmental information system to the neighborhood and developing the capacity of the competent authorities responsible for environmental data management and reporting. The project helps to develop the capacities of stakeholders in the areas of cooperation and networking, monitoring and evaluation, data management, and raise environmental reports based on indicators. It also provides long-term and sustainable opportunities for cooperation with partner countries. It identifies and develops data and information flows and environmental indicators suitable for the design and review of environmental policies. It also develops supporting, monitoring and compliance with various national, regional and international obligations and targets; Improves capacities in

the field of monitoring, collection, storage, assessment, and reporting of environmental data in the relevant environmental authorities including the national statistical systems, in compliance with reporting obligations to international agreements and in coordination with relevant regional initiatives. It supports efforts to set up national and regional environmental information systems in the countries of the ENP area that are in line with the EU's SEIS. It tracks progress in regional environmental initiatives (ENP, Eastern Partnership, Strategic Partnership, Horizon 2020). The project aims to promote the protection of the environment in the countries of the ENPI area by extending the principles of the Shared environmental Information System (SEIS) to the Neighborhood area, and developing the capacities of the relevant authorities responsible for environmental data management and reporting. The SEIS is an EU initiative to modernize and simplify the collection, exchange and use of the data and information required for designing and implementing environmental policy. The project is implemented by the European Environment Agency in collaboration with Eurostat, DG Environment and the EU's Joint Research Centers (JRC). Modernizes and simplifies the collection, exchange and use of the data and information required for the design and implementation of environmental policy. The partner countries include Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, occupied Palestinian territory, Syria, Tunisia (South); Armenia, Azerbaijan, Belarus, Georgia, Moldova, Russia and Ukraine (East).

http://www.enpi-info.eu/mainmed.php?id=489&id_type=10

EuroMed-Disaster Risk Reduction (DRR):

Euro-Mediterranean project and programme focus on the prevention of natural disasters caused by human activity, Preparedness and Response. This programme is funded by the European Union aimed at the national level to raise the national adjustment for each South partner countries level (target countries through political European Neighborhood) prone to natural disasters or those resulting from human activity, and it is mainly through risk reduction. PPRD South Programme supports international cooperation for the reinforcement of Civil Protection capacities between the European Union, the Mediterranean and Balkan Partner Countries under the umbrella of the European Neighborhood Policy (ENP). The purpose of the Programme is to contribute to the development of improved civil protection prevention, preparedness and response capacities at international, national and local levels. These objectives will be pursued over 3 years through four broad areas of activity aimed at risk assessment by developing national and regional risk assessment tools such as risk review, risk maps, CP Operational Manual, prevention and preparedness by organizing training workshops, study visits and technical assistance, by sensitizing the creation of national platforms for disaster risk reduction and by supporting regional cooperation, response by improving the coverage and the coordination of existing warning systems and of the relevant operational centres and implementing simulation exercises, and information/communication by improving

the information and awareness of affected populations regarding risk exposure, prevention and response. Specific activities aimed at achieving the Programme's goal include moreover the establishment of a network of permanent National Correspondents. The PPRD South Programme will also contribute to bringing the Mediterranean Partners closer towards the European Union Civil Protection Mechanism in accordance with the Joint Declaration of the Paris Summit for the Mediterranean in 2008, which states that: "A joint Civil Protection programme linking the region more closely to the EU Civil Protection Mechanism is one of the main priorities of the region".

Islamic Educational, Scientific and Cultural Organization (ISESCO) Education Workshop:

This workshop aims to strengthen the capacity of civil society organizations in the field of theoretical foundations and practical education on sustainable development. It also supports the work of civil society organizations to develop integrated plans and programmes of environmental education activities in the formal education and non-formal education.

<http://www.isesco.org.ma/index.php?lang=en>

MENA-Desert Ecosystems and Livelihoods Programme (MENA-DELP):

The Programme is designed to provide a clear strategic framework to address deserts as valuable ecosystems, reconciling the needs of local and global communities, along with those of humans and other biota. The Programme is particularly important for the Middle East and North Africa (MENA) region. It aims for sustaining the capacity of desert ecosystems in order to provide goods, services and livelihoods in an integrated manner, which represents a critical cornerstone for long-term development prospects in fragile deserts at local, national and regional levels and Targeted investments to integrate biodiversity into production landscapes. It also improves the flow of desert ecosystem services into agricultural systems and reduces vulnerability to climate change impacts, and pilot innovative low carbon technologies. <http://www.oss-online.org/en/mena-delp>

The Algerian project will provide incremental support to Government investments implementing the Territorial Action Programme (PAT) 3 centered on the preservation and restoration of oases systems, and PAT 8 centered on the sustainable development of the Southern regions. The project will also more generally support the implementation of the National Territorial Planning Scheme (SNAT) to 2030. The Algeria project will also complement the proposed Reimbursable Technical Assistance (RTA) entitled "Support for the Integrated Management of Deserts" The proposed project and the RTA will constitute two parallel yet complementary activities in the area of desert management. The AGID will cover a broader scope and will concentrate on strategic and capacity building areas. The ALG-DELP will be more site-specific and will finance actual

investments. The project will also support the integration of climate change adaptation into the current Five Year Agricultural Plan (2010-2014), which also covers desert areas, along with a dissemination strategy for adaptation measures. The FYAP includes national priority actions to address food security and create employment for vulnerable rural communities, particularly: (i) projects under pillar II “Rural Renewal Support Programme”; and (ii) projects under pillar III “Reinforcing Farmers’ Capacity through Technical Assistance.”

The Moroccan project is consistent with the actions of an ongoing programmatic Development Policy Loan (DPL) series in agriculture, aiming to:

- improve the efficiency of domestic markets;
- improve the socio-economic impacts of investments directed to small farmers;
- improve agricultural services; and

Libya

National Climate Change Policy

| Milestones in Libya’s Climate Policy | Date |
|--|------|
| Ratification of the Framework Convention on Climate Change | 1999 |
| Submission of the Initial National Communication | 2005 |
| Ratification of the Kyoto Protocol | 2006 |

Libya is listed as a Non Annex 1 and is eligible to the GEF. Some capacity building to support the preparation of the Initial National Communication to the UNFCCC was completed in 2005 but no new developments are currently on-going due to the post-conflict situation.

The Context of Climate Change in Libya

- Total GHG emissions: 34.89 Mt CO₂e, IEA 2011
- Per capita GHG emissions: 5.43 t CO₂e, IEA 2011
- Carbon intensity of the economy: 1.67 kg CO₂/2005 USD, IEA 2011
- Carbon intensity of the energy sector: 2.26 t CO₂/ toe, IEA 2011
- Share of renewable energy: 0.06%

The sources of CO₂ emissions between 1950 and 2000 show a sharp increase over the last 30 years with annual trend of CO₂ emissions strongly positive for fossil fuels at 284,220 t/year followed by liquid fuel consumption 189,790 t/year, while the emissions of CO₂ from solid fuel consumption decreased at 33,000 t/year from 1950-2000” (Source: Marland et Al 2003). No further GHG analysis or mitigation strategy were carried out.

Adaptation/Resilience

These projected temperature increase and rainfall decrease combined to a key vulnerability indicator such as permanent cropland percentage (which is well below those of other Middle East and North Africa countries) would necessarily result into an acute water/food security issue: the total area of the country is estimated at 1,760,000 km²; the area suitable for cultivation approximates 22,000 km² where approximately 93% of the land surface receives less than 100 mm of rain per year. No further vulnerability assessment nor adaptation strategy were further carried out.

- prove the use and the management of irrigation water and the planning of irrigation infrastructures. The project would also generally support the Plan MarocVert (PMV).

The PMV also aims to develop agro-food chains identified for each region, from production to commercialization, promoting a vertical integration that will bring better opportunities to small farmers.

International Centre for Agricultural Research in the Dry Areas (ICARDA):

This IFAD-funded project builds on previous ICARDA research initiatives to improve awareness of climate change at the policy and community levels, deliver technologies to resource-poor communities, and encourage farmers to adopt sustainable agricultural practices. The research team expects to eventually extend interventions to communities living in similar agro-ecologies throughout the Middle East and North Africa. This IFAD-funded project builds on previous ICARDA research initiatives to improve awareness of climate change at the policy and community levels, deliver technologies to resource-poor communities, and encourage farmers to adopt sustainable agricultural practices. Barley-based livestock production systems largely depend on agricultural production and animal keeping activities, and sustain some of the poorest segments of the rural population in North Africa and West Asia. Although resilient, climate change is a serious threat to the environment, natural resources, and productivity of marginal, semi-arid areas where barley-livestock farmers operate. Interventions for improved barley cultivation such as zero tillage, early sowing, improved drought-tolerant barley varieties, and basic advancements in fertility or early weaning for livestock production will help farmers adjust to the effects of climate variability and boost farming productivity and crop yields. Beneficial technologies being tested and disseminated in this work include seed cleaning machines, village-led seed multiplication schemes, and the introduction of improved drought tolerant barley varieties. The research team expects to reach an initial 1600 households in the target areas in Iraq and Jordan – approximately 10,000 people – and will eventually extend interventions to communities living in similar agro-ecologies throughout the Middle East and North Africa. ICARDA's Regional Programme

works with national agricultural research institutions in Algeria, Libya, Mauritania, Morocco, Nile Valley and Tunisia.

ii. Country Initiatives

- **Algeria**

National Environmental Education Policy

In order to prepare new generations aware of protection from the dangers of the natural degradation of the environment, intentional or resulting from accidents, the educational system developed some educational efforts to ensure inform, sensitize the composition of the educational community, especially students in the various stages of education. It consists of three phases:

Phase I: Launch activities and planning

- Analysis of the programmes and the completion of the diagnosis and status vouch for the field of climate change and sustainable development in Altamat provided, through questionnaires and interviews with educators.
- Activity scheme for the inclusion of education for sustainable development in the academic track preparation.
- The design and distribution of pedagogical support consists of: a systematic evidence for professors, pamphlets activities for students, pedagogical bag, implementation of experimental protocol in a typical 135 Foundation distributed across 7 states in the coast, the highlands and the upper South.

Phase II: Commitment and Construction

- Expanding the experience of all States (912 typical institutions)
- Signing of a joint ministerial decree between the Ministry of National Education and the Ministry of Environment.

Phase III: support, monitoring and evaluation

- The issuance of the joint ministerial instruction on 30 May 2010 (signed by the Ministers of National Education and Environment)
- To provide the contents of a book about the different axes of the breeding environment and how to gradually providing lessons and quotas according to the level of the students and the distribution of 24 280 bag pedagogical at all educational institutions located across the national territory.

National Climate Change Policy

| Milestones in Algeria's Climate Policy | Date |
|--|------------------|
| Ratification of the Framework Convention on Climate Change | 09 June 1993 |
| Submission of the initial National Communication | 30 April 2001 |
| Ratification of the Kyoto Protocol | 16 February 2005 |
| Establishment of the CDM –DNA | 6 February 2006 |
| Submission of the Second National Communication | 25 November 2010 |

The Context of Climate Change in Algeria

Total GHG emissions: 117.3 MtCO₂e

Per capita CO₂ emissions: 3.3 Mt per capita

Carbon intensity of the economy: 0.425 tCO₂ per thousand US Dollars

Carbon intensity of the energy sector: 2.44 t CO₂/toe

Share of renewable energy: 0.22% (IEA, 2012)

The 4th IPCC report and the first outcomes of the 5th IPCC report (WG1 and WG2) showed that one of the most impacted region by the effect of Climate Change is the North African region. Considering those facts, Algeria has gradually included the environmental dimension in its economic development process and put in place an ambitious programme of developing sustainable energy and energy efficiency that aims to provide in the energy mix 40% of renewable energy by 2030. It signed up to the UNFCCC as a non-Annex 1 Party in 1993 and ratified the Kyoto Protocol in 2004, stating publicly its willingness to take part in the international effort to tackle climate change and its potential effects, particularly on the climatic system, the natural ecosystems and the durability of the economic development.

In this context, it has been gradually integrating through all the socio-economic sectors and institutions of the country, the aspects related to climate change regarding mitigation and in particular the adaptation dimension. The National Climate Change Strategy consists in strengthening the institutional and legislative framework as well as the institutional capacities, sensitizing and educating the public by a participative approach.

Adaptation/Resilience

The climate change strategy tools are based on the law relating to sustainable development and environmental protection, promulgated in 2003 and the National Plan of Actions for the Environment and Sustainable Development (PNAE-DD) which establishes the country environmental programmes over the period 2001-2010. It constitutes a synthesis of the various action plans of technical operational organizations and encompasses the whole of protection and rehabilitation of natural environment activities. Its implementation

concerns the whole of implicated sectors: energy, industry, transport, waste, water resources, agriculture and forests.

Being strongly vulnerable to climate change from natural and economic point of view, the Algerian strategy is based primarily on three pillars:

- Adaptation to climate change;
- Ensuring the sustainable development of the country; and
- Mitigation of GHG emissions.

This national strategy is based on the following main sector programmes:

- National Plan of action and adaptation to climate change (PNA-ACC) 2003;
- Programme of sector integrated water management policy;
- National Programme of Energy Conservation (PNME);
- National Programme of Integrated Municipal Solid Waste Management (PROGDEM);
- National Action Plan against Desertification (PAN-LCD); and
- Programme of Renewable Energy and Energy Efficiency.

- **Programmes and Projects by the Government-Public Sector**

Support Environmental Education in Schools Programme:

- The signature of an agreement protocol with the Ministry of National Education in 2002, he was Thianh in 2015 in order to incorporate new concepts, most notably the green economy and climate change and traffic from classical to electronic bonds stage base.
- The completion of pedagogical bonds in the form of a bag.
- Support the establishment of environmental clubs, it has been in this year 2500 processing Club Green teachers this means, with the same number programming for the coming year.
- Formation and training of educators: professors, managers, inspectors, and has been organized six training workshops by more than 1,600 breeders.

World Environment Day:

Every year since 1973 on 5 June, a celebration is held including exhibitions, scientific seminars and environmental campaigns to raise awareness towards climate change. The topic for WED 2006 was Deserts and Desertification and the slogan was "Don't desert dry lands". The slogan emphasized the importance of protecting dry lands, which cover more than 40% of the planet's surface. This ecosystem is home to one-third of the world's people who are more vulnerable members of society. The main international celebrations of the World Environment Day 2006 were held in Algeria.

http://www.unep.org/wed/2008/english/Information_Material/Africa.asp

Teachers Training for Environmental Education:

Teachers are trained in the field of climate change and sustainable development, according to the pace of the installation and application of the second generation of the curriculum at various educational levels.

- *The first phase:* (current school year 2014/2015) first and second year primary and the first year average
 - *Second stage:* the third and fourth year of primary schooling and the second and third year of middle school
 - *Third stage:* the fifth year of primary and the fourth year the middle school and first year secondary
 - *Fourth stage:* the second year secondary
 - *Fifth stage:* the third year secondary
 - All the mentioned steps were supported by three partners:
1. The Ministry of Environment: the signing of a protocol of understanding for the development of supporting environmental education programme for sustainable development in the academic track and organize complementary activities in the school environment.
 2. Media: A media campaign was launched in Algerian radio under the slogan "2013, the year of the environment and sustainable development."

(Climate change, our mountains, the tree and the fight against desertification, protect the beaches and the sea, the sun's energy and the source of life, household waste, air pollution, retrieval and rehabilitation of waste, natural materials).

3. Environmental associations: The educational institutions of the associations and organizations that work to take care of the environment and contribute to the fight against climate change through small changes in their daily behavior of students in educational institutions.

Pan African University and the Institute of Water and Energy:

The Pan African University established and support the Institute of Water and Energy Sciences (including Climate Change-PAUWES). Universities are essential partners in tackling global challenges, for example securing a sustainable water and energy supply in Africa or adaptation to climate change. They educate technical experts and managers, produce and expand essential knowledge, and connect with international knowledge networks. Up to now there has been a lack of higher education that offers high-quality graduate and doctoral programmes that are recognized in accordance with international standards and carries out applied research on energy, water and climate change. This means that employees are often

not sufficiently qualified, African scientists cannot comprehensively research complex issues regarding the future, and knowledge transfer occurs only to a limited extent.

<https://www.giz.de/en/worldwide/26267.html>

- **Private sector and NGOs Programmes and Projects**

Earth Society for the Protection of Ecological and Development:

The programmes of earth Society aim are:

- Environmental and social concern through;
- Uphold the legacy of the land of civilization and economic component;
- Urging the population to environmental field service and maintenance of the natural heritage of the area; and
- Attention to environmental and natural domain for the region as a factor in all developmental renaissances.

- **Mauritania**

National Education Policy

Mauritania was one of the first countries to join the Global Partnership for Education in 2002. Its development partners recently assessed and endorsed the revised Education Sector Development Plan that covers the period 2011-2020. As a long term vision for economic and social development, the Education Sector Plan is articulated around equitable and inclusive education aimed at improved access, learning and system management.

The revised sector plan is built on the lessons learned from the evaluations of programmes implemented over the past decade. It has four strategic objectives: to achieve the Millennium Development Goals (MDGs), especially universal primary education, to pursue previously introduced education system reforms (particularly bilingualism), to improve the relevance and quality of post-primary education in order to match the needs of the labor market, and to consolidate gains and their sustainability in the long term.

Mauritania's budget share going to education is almost 14% (2011), down from almost 15% in 2009. Out of this budget, the largest share goes to basic education.

Using GPE's basic principles, donor partners are supporting Mauritania's education sector plan. All funds are budgeted in the government's Action Plan and the Government leads the Local Education Group (LEG). Participation in the LEG is expanding to include civil society organizations and representatives of the private sector.

- **Programmes and Projects by the Government-Public Sector**

Programme and Projects of the Mauritania Government to Raise Awareness:

Raise awareness on poverty-environment linkages among relevant stakeholders by carrying out public environmental expenditure reviews and studies on ecosystem services, environmental economics and indicators, as well as by arranging mainstreaming trainings at national and regional level. Support the government to include poverty-environment linkages in national and local development policies, including the PRSPs and Agenda 21s by, for example, supporting poverty-environment thematic groups and local planning processes. Provide support to the Water, Energy and Fishery sector to mainstream poverty-environment linkages and indicators into their plans, budgets and monitoring frameworks. Support the development of an environmental fiscal system.

Center-Study Programme:

In 1973 the importance of the environment in the school programmes through the inclusion of the article "center-study" programmes and nutrition and health, in addition to supporting the teaching of science and the nature of geography at the secondary level by adding some of the topics related to the environment.

The Initial Training for Teachers:

The initial composition of the teachers in the schools of teachers are teaching some environmental education concepts in the context of the natural sciences programmes under multiple addresses linked to ecology and particularly the ecosystem and biological balance, pollution, desertification, global warming and green seeds and plants.

As for the continuous training it does not benefit from it for the most part only a small number of teachers, especially in the field of environmental education and sustainable development.

Higher Education:

The analysis of the higher education programmes related highlights on the high level of training institutions environmental education concepts due to the development of those programmes and the most important institutions of higher education in Mauritania:

- Graduate School of Education: High cost of school education professors configure general education secondary and primary education inspectors, the composition of the new functions of secondary education inspectors, technicians and laboratory technicians components of the composition teacher schools.

- University of Nouakchott: The concepts of environmental education and sustainable development exist at the level of multiple colleges affiliated to the University as a college of science and technology as well as the College of Arts and Humanities, so the contents of environmental education has been present on the level of leave in several disciplines including: Applied Geography, running water and technical analysis, food technology science, tourism.
- Higher Institute of Technical Education (ISET) in Rosso: These several development trends of agricultural enterprise as specialties include all topics related to environmental education in the framework contains Specialist? Making environment composed largely present in the units of the high level of education.

Shift in Mauritanian Actions towards Sustainable Development:

- Since 2013 the establishment of a special environment and sustainable development is responsible for coordination between all the ministerial sectors with regard to environment and sustainable development ministry.
- Since 2012 conducted a "cell coordinate the national programme on climate change" 46 formative pattern for the benefit of experts and decision-makers, teachers and professors of natural science and geography in secondary education
- Mauritania has agreed with 11 African countries to complete the project the Great Green Wall (of Keur-Macene to grace the length of 1100 km and a width of 15 km can be increased)
- Go to the work of the state's activities for schoolchildren and high school and university students, in order to prepare for paving the problem of climate change educational tool and established a framework for consultation and formulate concrete proposals with a view to climate change after the introduction of the textbook.
- The involvement of national institutions such as "SNIM" in air pollution problems through the use of less polluting energies and environmentally clean technologies.
- Creating a Forum on Climate Change consists of lecturers and national experts and teachers of all levels (primary, secondary and original, professional and university).
- Setup programme to refine and sensitize the media and the public.
- Sensitize the bodies that hold data and information related to climate change.

The Development of Strategy for Environmental Education:

Mauritania has drafted a strategy for the integration of the concepts of environment and climate change in the educational system in 2012.

This strategy is centered around five themes:

- The development of appropriate legal and regulatory framework for the integration of environmental education and sustainable development;
- Review of educational programmes, roads and school practices;
- Creating suitable for teaching environmental education and sustainable development and educational means;
- Provide the necessary human and material resources for the integration of environmental education and sustainable development in the educational curriculum, which can enhance the capacity of teaching staff in the field of theoretical foundations and practical education in the field of sustainable development; and
- Activation of scientific research to learn about the ocean and Rated.

- **International Organizations Programmes and Projects**

The National Adaptation Programme of Action (NAPA):

The National Adaptation Programme of Action (NAPA) is a mechanism within the United Nations Convention on Climate Change, which is specifically designed to help LDCs to identify their priority adaptation options to climate change and to communicate these in an accessible manner. Mauritania became the lead country to launch the NAPA preparation process and therefore gained the status of pioneer and a reference to consultations for subsequent exercises at regional and even continental level.

The United Nations Environment Programme (UNEP):

The United Nations Environment Programme (UNEP) and the Government of Mauritania undertook to execute the project: Enabling Activities for the Preparation of Initial National Communications to the United Nations Framework Convention on Climate Change. The evaluator compared planned outputs with the actual outputs delivered and assessed the steps needed to complete all the outstanding activities. The evaluator also highlighted lessons learned from the implementation of project activities in the area of climate change and assessed the appropriateness of this project in meeting the longer term objectives of UNEP, Global Environment Facility (GEF) and the Convention on Climate Change.

- **Private sector and NGOs Programmes and Projects**

ONGAlkhayr for Development in Mauritania:

Assembly believes that without an educated generation cannot be any nation that dream advancement so under the education and activity of youth of the leading concerns introduced support for teachers, students and organized campaigns for literacy and adult education classes to strengthen in favor of high school students.
<http://www.ongalkhayr.net/en/>

- **Morocco**

National Environmental Education Policy

Economic and financial instruments were also mobilized for the implementation of these national programmes, namely the National Environment Fund and the Fund for Industrial Clean-up. The incorporation of sustainable development issues into academic and research programmes has been achieved progressively through the following successive education reforms in Morocco:

- **2000:** The National Charter of Education and Training, which recommends including the natural environment of the school in education programmes, as well as the notion of water management and the importance of environmental issues in the socio-economic development of Morocco.
- **2002:** The mission of the Directorate of Strategy, Statistics and Planning was modified to incorporate, as a first item, the elaboration of future-oriented studies on the education system and its integration into the economic and social development of the country.
- **2008:** The Emergency Programme of Education for 2009-2012, with special financial support committed to the improvement of the education system. It had accelerated the pace of reforms and the implementation of some projects.

National Climate Change Policy

| Milestones in Morocco's Climate Policy | Date |
|--|-------------------|
| Ratification of the Framework Convention on Climate Change | 28 December 1995 |
| Submission of the initial National Communication | 1 November 2001 |
| Ratification of the Kyoto Protocol | 25 January 2002 |
| Establishment of the CDM –DNA | 18 September 2002 |
| Issuance of a National Plan against Global Warming (PNRC) | November 2009 |
| Submission of the Second National Communication | 3 November 2010 |

Morocco has developed a National Plan against Global Warming (PNRC) that was presented at the COP 15 held in Copenhagen in 2009. The Plan provides for reducing greenhouse gas emissions through the development and diversification of clean energy sources and the implementation of adaptation measures that rely mainly on the water strategy and Green Morocco Plan for Agriculture, also launched in 2009.

The Plan includes mitigation, adaptation and cross-sectoral measures and is based on two strategic pillars: mitigation of greenhouse gases emissions via the implementation of a low Carbon development policy, in particular through the very ambitious "solar project of 2000 MW in the Moroccan desert"; and the evaluation of the vulnerability and adaptation to climate change impacts. With the National Plan against global warming, Morocco has set up a permanent process for managing these policies which enables making significant progress and ensuring effective monitoring and governance.

The Context of Climate Change in Morocco

Moroccan mitigation policy focuses mainly on measures of energy efficiency and renewable energy production which stemmed from the Energy Strategy launched in 2008. This is an ambitious and voluntarist Energy Strategy aimed at reaching the 42% of renewable energy by 2020, equally distributed among solar power, wind power and hydro-power (2GW each), as well as an energy efficiency programme aiming at reaching the 12% of energy saving by 2020. To achieve these objectives, an attractive legal and institutional framework was set-up and integrated national plans have been rolled-out for both solar and wind power Morocco remains a low emitter of greenhouse gases, indeed they represent only 0.14% of global emissions (2000).

Total GHG emissions: 50.16 Mt CO₂, IEA 2011

- 154.6 Mt CO₂ in 1999, 1.74 t CO₂ / capita
- 63.4 Mt CO₂ in 2000, 2.1 t CO₂ / capita
- 75.0 Mt CO₂ in 2004, 2.5 t CO₂ / capita

Per capita GHG emissions : 1.55 t CO₂ / capita, IEA 2011

- Carbon intensity of economy : 0.64 Kg CO₂/ 2005 USD, IEA 2011
- Carbon intensity of energy sector : 2.9 t CO₂ / toe, IEA 2011
- Share of renewable energy :5.08%

Adaptation/Resilience

A brief assessment of vulnerability to climate change, conducted as part of the Second National Communication, highlights that Morocco's natural resources are exposed to increased climate variability and a growing human pressure. Future Climate Change is likely to exacerbate this vulnerability with significant impacts on

ecosystems and socio-economic activities. A wide range of adaptation tools have been incorporated in Morocco' sectoral adaptation strategies, such as in the Water Sector, Agriculture, Forestry, biodiversity and combating desertification, Housing, Fisheries and coastal management, Health and Tourism.

- **Programmes and Projects by the Government-Public Sector**

World Environment Day:

Since 1973, every year on 5 June, a celebration is held including exhibitions, scientific seminars and environmental campaigns to raise awareness towards climate change. In 2001, Morocco observed World Environment Day within the framework of a programme of local and regional activities developed by the ministry of Land, Urban Development, Housing and Environment. The programme gave priority to information, sensitization and partnership in raising public awareness and interest in environmental issues. There were efforts to control pollution, as evidenced by the theme "Get connected to the cyber web of life," which aimed to mobilize new communication technologies for optimum flow of environmental information and to strengthen cooperation between stakeholders in environmental conservation. On the same time, a campaign to control car pollution was initiated in Rabat, where the Laboratory of the Department of Environment was collecting air samples in the main streets. The campaign, which followed a similar one in Marrakech, Oujda and Mohammedia, continued in other towns of the Moroccan kingdom to lay the grounds for the enforcement of new regulations on exhaust gases.

Al-Moubarak Scientific Meeting:

In 1992, the Moroccan government organized this scientific meeting. Scientists and researchers expressed particular interest in environmental backgrounds, and sent letters to the administration for scientific involvement. The result was development of scientific, professional and political tracks, on Al-Moubarak and its relation with drought phenomena in Morocco. It succeeded in professional examination to the grade of principal engineer of state. It also assisted to develop doctoral studies on Al-Moubarak, analyzing criteria identification of the main climate patterns occurred in Morocco. The research identified the daily synoptic situations, climate patterns, and related rainfall spatial repartition (1961 to 1993) and the main rainy climate patterns and dynamic driving rainfall in Morocco and North Africa.

World Environmental Education Congress (WEEC):

As decided by the President of the Foundation for the Environmental Protection, the 7th World Environmental Education Congress (WEEC) was

held from the 9th to 14th June 2013 in Marrakech, Morocco. The main theme of the event, co-organized by the Foundation and the WEEC permanent secretariat, will be: "Environmental Education in Cities and Rural Areas: Seeking Greater Harmony." In addition to this central theme, other issues affecting environmental education were also addressed through 11 thematic niches. The Foundation, placing Environmental education at the heart of its missions, invited teachers, university researchers and all specialists involved in education to sign up and share their experiences, enrich information exchanges and enjoy the numerous other opportunities offered by holding the Congress in Morocco. <http://www.weec2013.org/index.php?lang=en>

Environmental Education in Morocco Oasis:

This programme of environmental education has enabled Young students from Injad (Ferkla) and the surrounding areas to increase their knowledge about the environmental problems of where they live. These activities were very well received by students, parents and teachers alike and they were the starting point for an environment education Project that was initiated this year. In addition to the Princess LallaHasna highlighted concerns about all these issues in the 7th Congress of Environment Education (WEEC) which took place in Morocco in 2013.

National Education Strategy:

There are eight principles set by the ministry of national education in the field of education for adaptation with climate change. The principles include aiming for launch from the present surrounding environmental issues to better circumstances, allocating the means and available tools to gain required time and fund, depending on the participation of the educational system's key persons and partners in all educational levels, considering media and environmental awareness as main pillars for the educational system inside and outside school. The principles also include considering the values of the society, considering the economic and cultural situation, applying the concept of environmental integration and considering the individual differences.

The Youth Journalists for Environment Programme:

This programme was launched by the Moroccan government for the students of secondary schools who are interested in topics related to environment. The programme works on raising awareness for environmental issues between students. The programme adopts methodologies for direct experience of positive and negative impact of individual and society on the environment. The students are divided to 16 different academies and the winners get prizes from a national committee

of journalists, teachers and experts from the government. The programme deals with the school subjects and relates them to environmental issues like waste, water, energy and cities.

<http://www.youngreporters.org/service-menu/news>

Environmental Rehabilitation Programme for Rural Schools:

It is a joint national programme between the ministry of national education and the ministry of energy, minerals and water, and the environment sector. It works on rehabilitation of organizations like local units, setting up and preparing environmental clubs in these organization and training activists and participants of these environmental clubs with means for raising awareness and environmental education.

Traveling Exhibition of Education for Climate Change:

This programme is an interactive convoy, which visits Moroccan schools to show paintings, documents and experiments on climate change. This programme is a partnership between the Ministry of national education and the Association of Mjursa life sciences and earth in Morocco with, the support of the Embassy of Switzerland.

- **Programmes and Projects by International Organizations (IPCC):**

One of the main IPCC activities is the preparation of comprehensive Assessment Reports about the state of scientific, technical and socio-economic knowledge on climate change, its causes, potential impacts and response strategies. The IPCC also produces Special Reports, which are an assessment on a specific issue and Methodology Reports, which provide practical guidelines for the preparation of greenhouse gas inventories.

Millennium Ecosystem Assessment:

Contributing author to the chapter 13 on climate change of Ecosystems and Human Well-being: Policy Responses: first product of the MEA, a four-year international work programme designed to meet the needs of decision-makers for scientific information on the links between ecosystem change and human well-being. United Nations Secretary-General Kofi Annan launched the programme in June 2001.

<http://catalog.ipbes.net/assessments/11>

UNEP Water Framework:

In 2004, coordinates the Maghreb sub-regional project of UNEP/START on Comprehensive/Detailed Assessment of the Vulnerability of Water Resources to Environmental Change in Africa using River Basin Approach. The project provides robust finding inputs to the AEO2 and the GEO-4 reports.

German-African Project on Water:

Contributes to the steering committee of IMPETUS GLOWA Project on integrated approach to the efficient management of scarce water resources in Morocco and West Africa (Universities of Cologne and Bonn, Germany), to solve present and possible future problems with regard to fresh water. The project thorough investigations of hydrological cycle carried out within two river catchments in West Africa: the Drâa River in the south east of Morocco and the Ouémé River in Benin. <http://www.bmbf.de/en/14646.php>

UN Economic Commission for Africa (UNECA):

The UNECA contributes to writing team launching Africa road map on climate change under the umbrella of UNECA and ICSU ROA. It also contributes to the Seventh African Development Forum on climate change for sustainable development in Africa, to strengthen the African common position in the ongoing international negotiations, raising awareness and building consensus among stakeholders and partners on concerns and expectations for a post-2012 global climate agreement.

Ecological Schools Programme:

It is an international programme, launched in 1994 at the initiative of " Environmental Education Foundation ", which oversees a group of similar projects at the international level. The programme has the support of the European Union and the recognition of the United Nations Development Programme. It has over 32000 engaged educational institutions, and has spread over 49 countries. Morocco became involved in the programme in 2006 at the initiative of Mohammed Foundation sixth to protect the environment. In addition, the number of institutions involved in Morocco increased to more than 1,200 institutions, including 104 which hold a badge international Green Brigade.

UNESCO Associated Schools Programme:

The programme of the UNESCO Associated Schools Network started in 1953. Currently, it has a global network of more than 9,000 educational institutions in 180 countries including 49 schools in Morocco within the affiliated network schools. The programme works to promote topics related to environmental issues, such as desertification project, water, biodiversity and climate change.

- **Private Sector and NGOs Programmes and Projects**

Afak: Afak is an association that develops valuable awareness media programmes to promote attitudes in favour of citizenship, ethical and moral values among Moroccans, such as tolerance, gender issues, solidarity and honesty. AFAK is a good example of a successful association that strives for effective implementation of sustainable development policies and practices in Morocco. www.afak.ma

Association des Enseignants des Sciences de la Vie et de la Terre (AESVT): Many of the activities of this association of life and earth sciences teachers contribute to promoting ESD in Morocco. An example of such an action is the development of “Environment Educational Centres”, which AESVT is carrying out in partnership with the Ministry of National Education. The centres’ work often depends on their location with regard to their environment, regional and socio-economical characteristics and needs. In the region of Mohammedia, for example, the focus is on humid zones, while the centre in Casablanca has opted for a theme related to water, biodiversity and environmental issues in Morocco, and the centre in Benslimane deals with forests and their preservation. In the past two years, the association’s membership has grown, as well as the size of the target population. <http://www.aesvt-maroc.org/>

Association d’Education Environnementale et de Protection des Oiseaux au Maroc: AEEPO (www.tanmia.ma) carries out activities that promote ESD, more precisely environmental education related to eco-tourism and protection of the Moroccan fauna (endangered bird species in particular) and flora. In partnership with national and international organizations, AEEPO has been conducting many workshops, as well as producing and distributing awareness booklet related to bird protection for target populations.

- **Tunisia**

National Climate Change Policy

| Milestones in Tunisia’s Climate Policy | Date |
|--|------------------|
| Ratification of the Framework Convention on Climate Change | 15 July 1993 |
| Submission of the initial National Communication | 27 October 2001 |
| Ratification of the Kyoto Protocol | 22 January 2003 |
| Establishment of the CDM –DNA | June 2005 |
| Submission of the Second National Communication | 01 December 2013 |

The Tunisian government has launched in 2011 the development of a national strategy and action plan for the integration of Climate Change in the country's development strategies.

The Context of Climate Change in Tunisia

- Total GHG emissions: 21.13 CO₂, IEA 2011
- Per capita GHG emissions: 1.98 t CO₂eq/capita, IEA 2011
- Carbon intensity of the economy: 2.20 teCO₂/1000 TND, 2000
- Carbon intensity of the energy sector: 2.22 t CO₂/ toe, IEA 2011
- Share of renewable energy: 3.91%

Although Tunisia has no binding GHG reduction commitment under the Kyoto Protocol, it has adopted an active policy for GHG emission reduction and the adoption of emission attenuation options. Furthermore, Tunisia has devised a strategy, under implementation since 2006, to establish the mechanisms for initiating and approving CDM projects at national level.

Adaptation/Resilience

Projected climate change in Tunisia would have significant impacts on sectors and activities traditionally sensitive to climatic conditions such as water resources, agriculture, tourism, and agro-ecosystems (olive production, arboriculture). In addition, sea level rise will affect coastal areas, particularly with regard to coastal aquifers and coastal wetlands.

- **Programmes and Projects by the Government-Public Sector**

World Environment Day:

Since 1973 every year on 5 June, a celebration is held including exhibitions, scientific seminars and environmental campaigns to raise awareness towards climate change. In 2009 In keeping with the spirit of World Environment Day, staff from UN agencies operating in Tunisia, as well as staff of the United Nations Information Centre (UNIC) in Tunis, gathered at the Africa Hotel in Tunis on 10 June 2009 for a briefing about climate change and how to deal with its effects. Mr. Labban Elyadh, president of Changement Climatique et Développement Durable and Mr. Nejib Osman, director at the National Agency for Energy Conservation (ANME), spoke to the participants, moderated the session and responded to staff inquiries. The information discussed at the briefing will be used to develop a joint programme on climate change. In 2012 it was observed in Tunisia on the motto "Tunisia Invests in Green Economy," this day is an occasion to shed light on the importance of improving the citizens' living conditions, guaranteeing the foundations of social justice and setting up a dynamic encouraging creation of environmental projects.

<http://allafrica.com/stories/201206070386.html>

Africa Environment Day:

In the 3rd of March 2013, the Government of the Republic of Tunisia for responded to the call made by the 14th Session of the African Ministerial Conference in September 2012 in Arusha, Tanzania, to host the Africa Environment Day and Wangari Maathai Day. The offer was to host the celebrations as a clear manifestation of Tunisia's unflinching commitment to the ideals of sustainable environmental management. They invited the AU Member States, Regional Economic Communities, the UN Economic Commission for Africa, the African Development Bank, United Nations Environment Programme (UNEP), and the Greenbelt Movement in order to help supporting the organizing the Africa Environment Day and Wangari Maathai celebration. The celebration afforded the chance to re-dedicate the country to the principles of environmental conservation and sustainable development and to emulate the legacy of the late Prof. Wangari Maathai, who devoted all her life promoting ecosystem conservation and the preservation of biological diversity. In addition, she supported sustainable development efforts and women-empowerment in Africa in particular, and the world in general.

<http://land-l.iisd.org/news/africa-environment-day-2013-highlights-green-economy/>

- **International Organizations Programmes and Projects**

The Women's Enterprise for Sustainability Programme (WES):

The Women's Enterprise for Sustainability (WES), which is funded from the United States Government, announced in January 2015 the launch of five new Centers for Women's Business Development in Baja, Bizerte, El Kef, Touzeur and Tataouine. After the expansion of the programme to five new regions, the programme is currently supporting women entrepreneurs through 13 Centers across 11 regions of Tunisia. The Women's Enterprise for Sustainability programme provides training, curricula and financial support to the partner organizations, enabling them to create new Centers for Women's Business Development using a social enterprise model. By charging nominal fees for training and services, partner organizations recover some of their operating costs and increase their own sustainability and reach, while supporting women entrepreneurs in their communities. <http://www.iie.org/Programs/Womens-Enterprise-for-Sustainability>

Higher Education for Sustainable Development Programme:

In 2012, the Higher Education for Development (HED) organization announced has announced two higher education partnerships focused on water management and renewable energy technologies in Tunisia's agricultural and

industrial sectors. The programme is held with joint funding support from the U.S. Department of State and the U.S. Agency for International Development (USAID). The project is under the Tunisia Job Opportunities for Business Scale-up (Tunisia JOBS) initiative, the University of Colorado Boulder is partnering with three Tunisian Institut Supérieur des Etudes Technologiques (ISETs) to provide education to rural audiences for resource management under the partnerships. The first partnership is made for promoting Water Management and Energy Efficiency Technologies in the Agricultural Sector of Tunisia with partners from University of Colorado Boulder and ISET SidiBouزيد, International Center for Appropriate and Sustainable Development Communities, Colorado State University and the University of Hawaii. The other partnership is made for promoting Sustainable Energy Technologies in the Industrial Sector of Tunisia with partners from University of Colorado Boulder and ISET Tataouine, ISET Médenine, International Center for Appropriate and Sustainable Development Communities and the National Renewable Energy Laboratory.

- **Private Sector and NGOs Programmes and Projects**

Network Association Children of the Earth (RET):

The organization conducts various projects and activities on climate change and environmental education. Some of these projects include:

- "My responsibility against Climate Change", which aims to train school teachers to enhance students' awareness and implementation of concrete actions on climate change;
- Eco-delegates training on climate change through raising awareness and mobilizing around 60 college students to train them to raise awareness on climate change in their colleges and by modeling everyday practices for coping with the adverse effects of climate change and spreading responsible behavior towards the environment among their peers;
- Conference on Climate Change in School Textbooks (2013);
- Training session (2013) for 30 participants consisting of teachers, and teaching inspectors on climate change education;
- Workshop on "Impact of climate change on marine biodiversity and on the proliferation of jellyfish", organized by "STRATEGIC PROJECT Med-Jellyrisk is a project which aims to strengthen the approach to management and mitigation measures against the impact of the proliferation of jellyfish. Target population: eco-delegates; and
- Eco-Farm workshop on "Impact of climate change on biodiversity is the variability in the living world. Target population: educational and scientific teams of teachers, inspectors and school leaders of secondary education and higher education students of biology, geology and geography. (www.jellyrisk.eu)

4. Partners and Stakeholders

Mapping partners and stakeholders should include all the key persons and organizations working closely with the system whether they are in General Education, Higher Education and R&D or Life Long Learning. They have to include:

- Schools teachers;
- Environmental agencies;
- Ministries of Education;
- Ministries of Higher Education;
- Ministries of Environmental Affairs;
- Civil Societies and NGOs;
- Education and Training initiatives at Universities;
- Education for Sustainable development (ESD)
- Projects and Initiatives of Business and Industry (Private Sector);
- ESD Coordinators;
- Policy Makers; and
- Researchers.

Examples of the promising practices on CCESD are presented according to education and learning programmes.

General Education: The Environmental rehabilitation programme for rural schools in Morocco was developed by both The Ministry of National Education and The Ministry of Minerals

Higher Education and R&D: The initiative by Pan African University for establishing the Institute of Water and Energy Sciences (including Climate Change) (PAUWES).

Life Long Learning (LLL): The initiatives by ONG Alkhayr for development in Mauritania which supports both teachers and students and organize campaigns for adult education classes.

5. Developing Plans and Strategies on CCESD

i. Policy Planning and Programme Review

Morocco seems to be the country with most emphasis on CCESD in their educational strategies for different educational levels. There is a promising focus on the adaptation of CCESD and environmental awareness for years in Morocco, and it has translated to building a new generation with basic knowledge and a hope in better alternatives in the future when tackling the environmental issues like climate change. When compared with other countries in the Sub region, we can find some countries having small implementations of

CCESD. However, most of these implementations are ranging between moderate to low. Algeria's and Tunisia's cases seem more experienced and moving towards better results, when compared to Mauritania. But on the other hand, small interaction with the NGOs and private sector is preventing helpful resources for pushing the CCESD condition to higher standards. There seems to be a problem with teachers' education as well.

So even though, the sub region has some strategic steps and national plans to implement principles of CCESD and ESD, there are many missing direct and indirect policies that can provide adaptation procedures to facilitate the incorporation needed into all the educational systems and all educational levels. The support of the governments is needed to develop such policies for enhancing the existing educational programmes. New policies must also provide better interaction between the private sector, NGOs, Universities, research centers and CCESD experts in the region. The sub region should also work on establishing cooperation in different ways, as the climate change problem is a regional problem, which needs the move for CCESD.

Purpose

The main objective of this step is to plan a road map for implementing CCESD in the educational systems in the Sub-Region. The policy should be considering all the challenges and opportunities found around the process. The policies suggested should be sustainable and upgradeable with time in order to adapt with the all updates in the ESD field.

Assessment of the policy

An assessment will be performed to identify the outcomes and results in terms of high-value goods and services that supports education opportunities in the sub region. The assessment will consist of an identification, measurement, and valuation of policies relative to improving education, enhancing sustainable development awareness in the sub region, and generating environmental benefits. An important outcome of the assessment is expected to be the identification of a portfolio of potential educational opportunities for climate change and other environmental issues.

Framework

The future of the MENA drylands, and adjacent or embedded semiarid lands, are certain to face increasing constraints as a direct result of decreasing rainfall, increasing temperatures, growing populations and what appears to be an uncertain political and economic future. Globally, these regions are the most likely to suffer most from climate change, and their generally impoverished populations are also the least able to deal with change. Climate change education attempts to address the range of possible futures that will

confront these regions, given the surprises that have been encountered in the past and which are certain to occur in the future. Thus, rather than work within a set of alternative and ultimately vague scenarios of change, we suggest that the assessment focus instead on the degree to which any activity will build adaptive capacity independent of but resistant to projected climate futures, and create a comprehensive vision of development that is not focused on a single project, but which is coordinated with other efforts to address the well-being of the population of the sub region over the long run.

Efficiency, Equity and Governance

In light of political upheaval in the MENA region since January 2011, it would be difficult to overemphasize issues of equity in any proposed development opportunity. Aside from the number of potential employment opportunities, the potential for engaging male and female teachers from primary, preparatory secondary and higher education levels from rural and urban areas would be very important for the success of the process.

A second equity-related set of issues to be considered are those of governance, particularly as it relates to human resources tenure. While it is essential to consider the effects of any type of development on the educational systems services and how they are practiced, as we are dealing with different systems. Any and every potential educational development opportunity must be framed within the appropriate economic and social contexts at multiple levels of economic integration, resource governance and how these might be changing.

ii. Curriculum Development

The newer policies will facilitate newer cycles of curriculum development. When developing the new materials, it is important to implement ESD and CCESD in all educational levels and systems. It is also important to implement these principles in several educational subjects and topics, instead of concentrating on topics related to environment and climate change. The shifting of the courses content to integrate CCESD will provide an easier and faster transition towards the goals of the new policies. It is also important to learn from other world countries experiences and international organizations including UNESCO in the field of CCESD when developing the new curricula. The new content will provide different levels of knowledge to students from different age ranges and educational backgrounds.

Curriculum development includes a variety of activities around the creation of planned curriculum, pedagogy, instruction, and delivery methods for guiding student learning. is a process of improving the curriculum. Various approaches have been used in developing curricula. Commonly used approaches consist of analysis (i.e. need analysis, task analysis), design (i.e. objective design),

selecting (i.e. choosing appropriate learning/teaching methods and appropriate assessment method) formation (i.e. formation of the curriculum implementation committee / curriculum evaluation committee) and review (i.e. curriculum review committee). New curriculum should be developed by ESD and CCESD experts. The steps of developments should include *analysis, design, match, formation and review*.

iii. Teacher Education and Training

One of the important stages in applying the new policies is the teacher education and training phase. This cannot be achieved only through the government alone. The ministries of education are already over loaded with different challenges regarding Human resources development. Thus, the private sector, NGOs and research centers should cooperate in this stage. It is important to integrate all these stakeholders in this stage in order to increase and enhance the amount and quality of the investment given to the teachers. Developing the Human resource sector in the educational systems is one of the main keys of the success of the new recommended policies.

Teacher education refers to the policies and procedures designed to equip prospective teachers with the knowledge, attitudes, behaviors and skills they require to perform their tasks effectively in the classroom, school and wider community. It is a very important step in developing efficient CCESD and implementing it in the educational systems.

Although ideally it should be conceived of, and organised as, a seamless continuum, teacher education is often divided into these stages:

- Initial teacher training / education (a pre-service course before entering the classroom as a fully responsible teacher);
- Induction (the process of providing training and support during the first few years of teaching or the first year in a particular school); and
- Teacher development or continuing professional development (CPD) (an in-service process for practicing teachers).

There is a longstanding and ongoing debate about the most appropriate term to describe these activities. The term 'teacher training' (which may give the impression that the activity involves training staff to undertake relatively routine tasks) seems to be losing ground, at least in the U.S., to 'teacher education' (with its connotation of preparing staff for a professional role as a reflective practitioner).

iv. Programmes of Civil Society and NGOs (Life Long Learning)

One of the main factors which will directly lead to the success of the CCESD development plan, is guaranteeing the participation of civil societies and NGOs in the form of raising awareness and Life Long Learning (LLL).

CCESD can be implemented through Lifelong learning, which may be broadly defined as learning that is pursued throughout life: learning that is flexible, diverse and available at different times and in different places. Lifelong learning crosses sectors, promoting learning beyond traditional schooling and throughout adult life.

It can be applied through:

Learning to know - mastering learning tools rather than acquisition of structured knowledge.

Learning to do – equipping people for the types of work needed now and in the future including innovation and adaptation of learning to future work environments.

Learning to live together, and with others – peacefully resolving conflict, discovering other people and their cultures, fostering community capability, individual competence and capacity, economic resilience, and social inclusion.

Learning to be – education contributing to a person’s complete development: mind and body, intelligence, sensitivity, aesthetic appreciation and spirituality. This is underpinned by "Learning to Learn".

Lifelong learning can install creativity, initiative and responsiveness in people thereby enabling them to show adaptability in post-industrial society through enhancing skills to manage uncertainty, communicate across and within cultures, sub-cultures, families and communities and negotiate conflicts.

6. Issues, Challenges, and Opportunities

Uncertainty, as far as CCESD is concerned, leads to the reluctance of many decision-makers to approve the allocation of funds to the development of this important principle. The reasons for this are the different challenges faced by all the sub region's countries. There are already many economical, social and political challenges facing the studied countries, which make the priorities and agenda not having a major focus on CCESD. This also arises from the uncertainty and low awareness level of climate change phenomenon. Hence, the decision makers are therefore unable to make the right decision which will lead to the implementation of steps and funding plans that require the expenditure of large sums of money.

Some of the most important challenges are:

- a. The educational systems may have two or three languages for education, which may increase the effort for developing curriculum and Teacher training.
- b. The political situation of the Arab Region in the last years has been one of the negative factors against development.
- c. The limited number and content of Arabic resources of topics related of CCESD.
- d. Funding problems.
- e. The lack of awareness regarding climate change, environmental issues and sustainable development.
- f. The lack of proper interaction between the government and civil societies or Private sector, which minimizes the contribution towards CCESD.

However, some available opportunities are currently present, which can be helpful if used in order to enhance the chance of efficient implementation and integration of CCESD in different educational systems. Some of the most important opportunities are:

- Some countries have already started on implementing CCESD and ESD even on a small level;
- As mentioned above, there are several initiatives by the private sector and civil societies, which needs more attention as they were successful and effective to some extent; and
- The numbers of universities, research centers and training centers which are interested in CCESD in the region is increasing.

7. Conclusions and Recommendations

In this report, an overview was given on the current situation of CCESD in the Maghreb Sub-Region including Algeria, Mauritania, Morocco and Tunisia. The different initiatives performed and implemented in the Sub-Region left more to be desired in order to achieve real CCESD development. The potential power behind the education can lead to solving many of the sub region current environmental, social, political and economical problems. More focus should be given to Developing policies, Teacher training, Curriculum development and cooperation with Civil societies in order to successfully implement CCESD and ESD in the Sub Region. The conclusions of the study give some insights on recommending needed measures in order to enhance General Education, TVET, Higher education and Life Long Learning.

a) Recommendations for General Education and TVET:

- The Ministry of Education should focus on upgrading is recommended all their education programmes in order to implement CCESD concepts.
- Education experts should make sure that the updated programmes do not just address regular environmental issues information, but more of sustainable

development information and how environment, economy and society have to do with climate change.

- The Ministry of Education should supply and train the teacher with new teacher guides, in order to fully develop the new education programmes. This includes providing all support, financial backup and soft skills training.

b) Recommendations for Higher Education:

- One of the main issues with the scope of higher education is that it does not focus on solving the real societal and industrial problems practically. The higher education ministries should focus on linking their study programmes on climate change and sustainable development towards solving the existing problems within the area of each university. Making students solve these problems will help in developing CCESD concepts indirectly, but firmly.
- Higher education ministries should establish committees for tackling climate change issues that interlink Universities, research centers, industry and governmental institutions together.
- Universities should assess their programmes and start implementing more CCESD concepts within it. It is important to check successful experiences worldwide in upgrading their curricula.

c) Recommendations for Life Long Learning (LLL):

- The government should work on increasing the role of NGOs and Civil societies, through giving them better collaboration alternatives on CCESD programmes.
- Civil societies should be encouraged to target the target group which is not connected to both general and higher education systems.
- Committees and partnerships should be hosted by government in order to enhance the cooperation opportunities between NGOs, private sector and Universities.

References and Resources

Regional Initiatives:

ClimaSouth: <http://www.climasouth.eu/drupal/en>

Euro-Med(Shared Environmental Information System for the European Neighbourhood and Partnerships: http://www.enpi-info.eu/mainmed.php?id=489&id_type=10

EuroMed-Disaster Risk Reduction (DRR):
<http://www.preventionweb.net/english/professional/contacts/v.php?id=6147>

Islamic Educational, Scientific and Cultural Organization (isesco) education workshop:
<http://www.isesco.org.ma/index.php?lang=en>

MENA-Desert Ecosystems and Livelihoods programme (MENA-DELP):
<http://www.oss-online.org/en/mena-delp>

ICARDA: <http://www.icarda.org/>

Country Initiatives:

Algerian World Environment Day:
http://www.unep.org/wed/2008/english/Information_Material/Africa.asp

Pan African University and establishing the Institute of Water and Energy:
<https://www.giz.de/en/worldwide/26267.html>

World Environmental Education Congress (WEEC):
<http://www.weec2013.org/index.php?lang=en>

Environmental education in Morocco oasis:
<http://medomed.org/2015/environmental-education-in-moroccan-oasis/>

National education strategy Morocco:
http://www.academia.edu/3664928/Education_for_Sustainable_Development_in_Morocco

The youth journalists for environment programme:
<http://www.youngreporters.org/service-menu/news>

Environmental rehabilitation programme for rural schools:
<http://documents.banquemondiale.org/curated/fr/1991/01/735772/morocco-rural-basic-education-development-project>

Moroccan World Environment Day: <http://www.peacecorpsconnect.org/2014/06/a-world-environment-day-awareness-for-morocco/>

Millennium Ecosystem Assessment: <http://catalog.ipbes.net/assessments/11>

UNEP water framework: <http://www.unep.org/roa/docs/pdf/SustainableWater.pdf>

German-African project on water: <http://www.bmbf.de/en/14646.php>

UN Economic Commission for Africa (UNECA): <http://www.alamau.org/unece/>

UNESCO Associated Schools Programme:
<http://unesdoc.unesco.org/images/0013/001331/133126e.pdf>

Afak: www.afak.ma

Association des Enseignants des Sciences de la Vie et de la Terre: <http://www.aesvt-maroc.org/>

Association d'Education Environnementale et de Protection des Oiseaux au Maroc:
www.tanmia.ma

The National Adaptation Programme of Action (NAPA):
<http://unfccc.int/resource/docs/napa/mau01e.pdf>

ONG Alkhayr for development in Mauritania: <http://www.ongalkhayr.net/en/>

Tunisian World Environment Day: <http://allafrica.com/stories/201206070386.html>

Africa environment day: <http://land-l.iisd.org/news/africa-environment-day-2013-highlights-green-economy/>

The women's enterprise for sustainability programme (WES):
<http://www.iiie.org/Programs/Womens-Enterprise-for-Sustainability>

Higher Education for Development sustainable higher education programme:
<http://www.acenet.edu/higher-education/topics/Pages/higher-education-development.aspx>

Annex 1: Number of Surveys Received from Sub-Region Countries

| COUNTRY | NUMBER OF SURVEYS RECEIVED |
|----------------|-----------------------------------|
| ALGERIA | 1 |
| MOROCCO | 1 |
| MAURITANIA | - |
| TUNISIA | 2 |
| Total | 4 |