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**Office for North Africa**

# **Sustainable Development in North Africa Status and Outlook**

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The document entitled *Sustainable Development in North Africa, Status and Outlook* was presented at the expert group meeting held in Tunis from 18 to 21 November 2007. It was greatly enhanced by the comments and suggestions of the experts as well as their presentations and discussions during the meeting. The experts' presentations and all the seminar documents are available at [www.uneca-na.org](http://www.uneca-na.org).

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## Foreword

Why publish a report on sustainable development and why now?

The macroeconomic indicators for North African countries over the past few years show that the major parameters for economic development in the region are all pointing in the right direction. Since 2000, thanks to judicious policies, the business environment has become more favourable for private initiative and foreign investment, and average growth in the region has been close to 5 per cent.

The challenge for North African countries now is to ensure that the gains achieved are stable and sustainable, by maintaining or even improving on their encouraging economic performance and ensuring that it produces even more tangible social benefits for all their citizens.

Thus, they should continue and even scale up efforts to diversify their economies, in order to limit their vulnerability to climate variability and other exogenous factors such as fluctuations in the price of oil and other raw materials. Moreover, by adopting coordinated and integrated social policies representing the interests and involving all segments of society, countries in the region would be able to share the benefits of growth more equitably and to combat poverty and exclusion much more effectively. Lastly, the focus of decision-making should no longer be on managing short-term problems, but on meeting long-term development needs, in keeping with environmental considerations.

Since the Earth Summit (Rio 1992), the concept of sustainable development has been associated with environmental issues, a point further confirmed in 2007, when climate change in particular rose to the top of the political agenda in most countries around the world.

In the case of North Africa, we felt that it was appropriate to examine the issue comprehensively, based on the interactions of its three key components: environmental, economic and social concerns. Of course, the region shares common concerns with the rest of the world about adapting to climate change, controlling energy and implementing social policies for poverty eradication. However, North Africa faces some unique challenges, which if addressed, would allow the region to make better use of its largely untapped growth opportunities.

Regional integration among North African countries remains inadequate for a region that has a market of nearly 200 million people. All studies show that intraregional trade has still not reached its potential and that its intensification would boost exports and growth.

The contribution of the private sector is still not where it should be, particularly with regard to job creation, which is still dependent on educational and training policies that are not fully aligned with market expectations. Furthermore, North Africa's development should be supported by research and innovation policies and better knowledge management, in order to meet the requirements of the information society, whose boundaries are being redrawn on a daily basis.

This publication explores various options that will better capture the challenges and components of development in North Africa, identify the role of each of the different actors (decision-makers, private sector operators, civil society, researchers, etc.), guarantee the sustainability of such development, and illustrate the efforts of the Economic Commission for Africa Office for North Africa in facilitating and monitoring this process.

Karima Bounemra Ben Soltane  
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## Summary

Gathered in April 2007 under the auspices of the United Nations Economic Commission for Africa (ECA) for their annual conference, African Ministers of Finance, Planning and Economic Development called on their respective governments to integrate measures for adapting to and mitigating the effects of climate change into their national development strategies. This call reflects the urgency of the problems presented by a sustainable environment in general and climate change in particular for the development of the continent, as captured in the theme for this year's conference: *"To accelerate growth and development in Africa to achieve the Millennium Goals: new challenges and ways forward"*.

In setting out their Millennium Development Goals, the Member States of the United Nations agreed that environmental sustainability involves using natural resources wisely and protecting the complex ecosystems on which our survival depends.

ECA considers climate change to be a priority issue and the agenda of the April 2008 Conference of African Ministers of Finance, Planning and Economic Development, which coincides with the 50<sup>th</sup> anniversary of ECA, shows that all of the Commission's actions to promote economic growth on the continent must continue to be centred on sustainable development.

With the imminence of some major milestones, particularly the follow-up to the Bali Climate Change Conference of December 2007 and the translation of its statements of principles into effective and measurable commitments, African countries should make more coordinated efforts to ensure that the continent's specificities are better reflected on international agendas.

North Africa is now fully engaged in this process. Several countries have explicitly mainstreamed these orientations into their national sustainable development plans and are coordinating their efforts within regional and international institutions for the follow-up to the Johannesburg Summit.

This publication presents the issues that are relevant for sustainable development in North Africa and provided a platform for discussions during the Meeting of the Group of Experts on Sustainable Development in North Africa organized by the ECA Office for North Africa (ECA-NA) from 18 to 21 November 2007 in Tunis. The publication benefited from the conference presentations and discussions as well as the contributions of regional experts and representatives of the Intergovernmental Panel on Climate Change (IPCC), several United Nations agencies and regional and international research organizations.

The publication shows that North Africa shares common concerns with the rest of the continent and the world that confirm the multidimensional nature of sustainable development through its economic, social and environmental components. These concerns pertain to such issues as adaptation to climate change, energy, poverty eradication and synergies among the different international conventions on environmental protection.

Examples presented in the publication show that, although costly, environmental protection is highly beneficial. The discussions of the November 2007 expert group meeting

in Tunis demonstrate that North Africa must work with the rest of the world to reduce greenhouse gas emissions, without compromising its growth objectives.

However, the challenges specific to North Africa deserve particular attention and must be addressed by highlighting the largely untapped potential of several drivers of sustainable development in the region.

Two indicators can be used to illustrate this point:

1. Economic growth: the economies of the region have grown significantly since the beginning of the millennium, but this is still not sufficient to offset its social deficits, particularly that of unemployment, as the region needs to create between 30 million and 40 million jobs by 2015. Deeper integration would enable countries in the region to grow by up to two points, increase their exports by 30 per cent and create many opportunities for job creation and business start-up.
2. Demographic opportunities: the region has a young population that can contribute even more to the development process, with the appropriate education and research policies, by relying on thousand-year know-how and the skills of all segments of society (especially rural populations, women and migrants).

These indicators give rise to the following three recommendations:

1. To promote regional integration in order to find common answers to the challenges of the region and to achieve a critical mass for the conduct of effective research.
2. To ensure that adaptation to climate change is no longer a reaction to crises, but a true socioeconomic reality based on the know-how of local populations.
3. To implement coordinated and integrated national development policies representing the interests and involving all segments of society.

Through the different United Nations agencies, the international community provides an appropriate forum for supporting these initiatives. Regional integration is an essential pillar of the actions of ECA, which will be celebrating its 50<sup>th</sup> anniversary in 2008 under the theme of sustainable development. The relationship between the ECA Office for North Africa and the regional economic communities (mainly the Arab Maghreb Union and the Community of Sahel and Saharan States) helps to facilitate cooperation between the States of the region and to foster this development.

# **Sustainable Development in North Africa Status and Outlook**

## **1. Introduction**

The international community is determined to establish the mechanisms and facilitate the implementation of policies to ensure sustainable development. In this regard, two elements are becoming more and more critical to any approach aimed at guaranteeing sustainable human development: interactions between the economic, social and environmental dimensions of sustainable development, and regional and international cooperation, which will help to reach that goal within a reasonable time.

In its October 2007 report, the United Nations Environment Programme (UNEP) warns that the most serious threats against the planet, particularly climate change, the rate at which species are becoming endangered and the challenge of feeding a growing world population, are among the numerous problems that are still to be solved and that put the future of mankind in danger.<sup>1</sup> Considered by the United Nations as its most complete report on the environment, prepared by nearly 390 experts and revised by more than 1,000 others worldwide, the document states that none of the major issues addressed in Our Common Future is showing signs of a positive evolution. Over the past 20 years, the international community has reduced by 95 per cent the production of chemicals that deplete the ozone layer, signed a treaty for the reduction of greenhouse gas emissions, established an innovative carbon trade and carbon clearing markets, increased protected land areas covering nearly 12 per cent of the Earth, and created important instruments addressing such issues as biodiversity, desertification, trading of hazardous waste and modification of living organisms. However, persistent and chronic problems remain to be solved, and new ones are also appearing, ranging from the rapid increase in "dead zones" in the oceans, to the resurgence of old and new diseases partly linked to environmental degradation.

The ministerial declaration following the ECOSOC meeting of July 2007<sup>2</sup> highlights the importance of fair globalization and the need to translate growth into reduction of poverty. The signatories of the declaration also resolve to make the goals of full and productive employment and decent work for all a central objective of relevant national and international policies. They urge all countries to adopt strategies for reducing urban poverty and call on the United Nations and other relevant organizations to support developing countries in this regard. They affirm their commitment to place priority on actions designed to eliminate hunger and malnutrition in all countries and agree to undertake measures to increase access to food.

Gathered in April 2007 under the auspices of the United Nations Economic Commission for Africa (ECA) for their annual conference, African Ministers of Finance, Planning and Economic Development called on their respective governments to integrate

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<sup>1</sup> Global Environment Outlook 4 (GEO-4): Environment for Development, United Nations Environment Programme, October 2007.

<sup>2</sup> United Nations Economic and Social Council, <http://daccess-ods.un.org/TMP/7032257.html>

measures for adapting to and mitigating the effects of climate change into their national development strategies. The call reflects the urgency of the problems presented by a sustainable environment in general and climate change in particular for the development of the continent, as captured in the theme for this year's conference: *"To accelerate growth and development in Africa to achieve the Millennium Development Goals (MDGs): New challenges and ways forward"*.

The Johannesburg World Summit on Sustainable Development (2002) had already proposed an action plan called the JPOI (Johannesburg Plan of Implementation) aimed at accelerating the achievement of Agenda 21.<sup>3</sup> The JPOI focuses on poverty reduction and protection of natural resources by improving consumption and production patterns, and on the particular attention that must be paid to vulnerable populations and women in this process. It calls on the international community to take all the necessary measures to achieve these objectives through an approach that takes into account the interactions between the social, economic and environmental components of sustainable development and that is based on regional and international collaboration.

North Africa is now clearly embarked on this process. Several countries have explicitly integrated these orientations into their national sustainable development plans and are coordinating their efforts in regional and international institutions for the follow-up to Johannesburg, mainly through:<sup>4</sup>

(a) A forum held in 2003 for the preparation of the 12<sup>th</sup> session of the United Nations Commission on Sustainable Development

(b) The preparation of reports and workshops on the options available to Member States to:

- Face water challenges and environmental policy reform in order to prepare the 13<sup>th</sup> session of the United Nations Commission on Sustainable Development held in 2005<sup>5</sup>; and
- Prepare the 14<sup>th</sup> and 15<sup>th</sup> sessions of the United Nations Commission on Sustainable Development with respect to energy policies, air pollution and industrial development.

With the imminence of some major milestones, particularly the follow-up to the Bali Climate Change Conference of December 2007 and the translation of its statements of principles into effective and measurable commitments, African countries should make more coordinated efforts to ensure that the continent's specificities are better reflected on international agenda. In setting their Millennium Development Goals, the Member States of the United Nations agreed that environmental sustainability means using natural resources wisely and protecting the complex ecosystems on which our survival depends.<sup>6</sup>

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<sup>3</sup> United Nations for Sustainable Development Division, [www.un.org/esa/sustdev/agenda21.htm](http://www.un.org/esa/sustdev/agenda21.htm)

<sup>4</sup> United Nations Economic and Social Commission for Western Asia, <http://www.escwa.org.lb/information/meetings.asp>.

<sup>5</sup> Office for North Africa, United Nations Economic Commission for Africa, subregional report on the development of water resources in North Africa, 2005.

<sup>6</sup> United Nations, "Millennium Development Goals", <http://www.un.org/french/millenniumgoals/>

ECA is actively involved in the follow-up to Bali. It considers climate change to be a priority issue on the African agenda.<sup>7</sup> The April 2008 Conference of African Ministers of Finance, Planning and Economic Development, which coincides with the 50<sup>th</sup> anniversary of ECA, shows that all of the Commission's actions to promote economic growth on the continent must continue to be centred on sustainable development.<sup>8</sup>

Generally speaking, the enhancement of sustainable development is a crucial component of the repositioning exercise initiated by ECA in 2006. Indeed, the Commission now focuses its activities more on meeting the specific needs of the continent and addressing the global challenges it faces, and on promoting regional integration. Four concepts are inherent to this approach:

1. The concept of needs, particularly the essential needs of the most vulnerable populations.
2. The limitations imposed on stakeholders by the state of resources, techniques and social organization of the sustainable development process in meeting the current and future needs of populations.
3. The strong interdependency of the economic, social and environmental components of sustainable development.
4. The acknowledgment that sustainable development cannot be achieved without taking into account the place of each country in its regional and international environment, and that cooperation between countries and regional integration are pre-requisites for the success of any national development strategy.

The four concepts are the common threads running through this publication, which presents the issues that are relevant to the dynamics of sustainable development in North Africa. The publication is based on the ECA report that was used for the discussions during the expert group meeting on sustainable development in North Africa and that was enhanced by the presentations and discussions held throughout the meeting.

## **2. Some approaches to sustainable development**

### **2.1. Definition**

The most commonly accepted definition of sustainable development is the one proposed in 1987 in the Brundtland Report<sup>9</sup> of the World Commission on Environment and Development:

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<sup>7</sup> Speech by Mr. Abdoulie Janneh, United Nations Under-Secretary-General and Executive Secretary of ECA, **Workshop of the Climate Change Adaptation in Africa**, ECA, 16 to 20 April 2007.

<sup>8</sup> Meeting between Mr. Abdoulie Janneh and Mr. Joseph Stiglitz, Nobel-winning economist, 19 September 2007 ([www.uneca.org](http://www.uneca.org)).

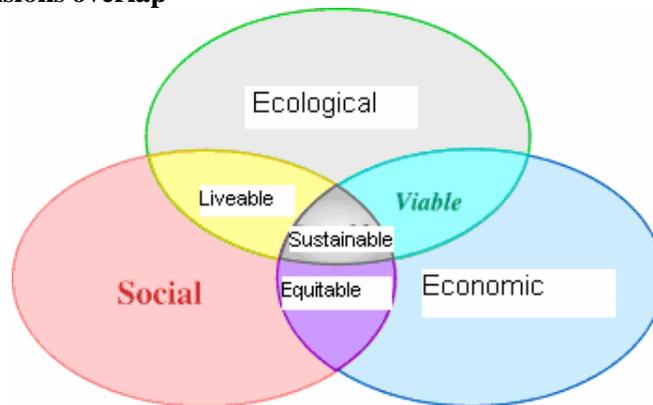
<sup>9</sup> Named after Mrs. Gro Harlem Brundtland, Norwegian Minister of Environment, Chairperson of the World Commission on Environment and Development, the report entitled "Our Common Future", was submitted to the General Assembly of the United Nations in 1987.

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Two ideas are inherent to this concept: the idea of "needs", particularly the essential needs of the most underprivileged, to whom first priority should be given, and the idea of the limitations imposed by the state of our technical resources and our social organization on the ability of the environment to meet current and future needs.

Thus, the concept of sustainable development suggests that, in space, all inhabitants of the Earth have the same right of access to its resources and that, in time, present generations have the right to use those resources, but they also have the duty to ensure that the resources are sustainable for future generations. The goal is thus to design tenable approaches that reconcile the economic, social and environmental aspects of human activities.

**Figure 1: Sustainable development occurs where the economic, ecological and social dimensions overlap**



Although simple in its definition, sustainable development is difficult to implement. The debate on sustainable development has been on the agenda due to the persistence of large pockets of poverty around the world despite promising rates of economic growth and higher incomes in several regions; and to the increasing degradation of the ecological balance of the planet arising from growing pressures on natural resources.

## 2.2 Climate change weakens economic growth

Climate change corresponds to a sustainable modification of the statistical parameters of the global climate of the Earth or of regional climates. This change may be due to processes intrinsic to the Earth, to external forces (for example, changes in solar intensity due to variations in the earth orbit) or, more recently, to human activities. The issue of climate change is often linked to sustainable development because of the threat it poses to the well-being of people and to their ability to carry out several economic activities. The most striking examples are the increasingly frequent weather disturbances, floods and droughts that disrupt the daily lives of people living in precarious housing conditions and harm agricultural production, the main economic activity of several underprivileged countries and regions.

The international community has implemented mechanisms to monitor the problem and to suggest appropriate solutions. The World Meteorological Organization (WMO) and UNEP

created the Intergovernmental Panel on Climate Change (IPCC)<sup>10</sup> in 1988. The United Nations Framework Convention on Climate Change was proposed for signature at the United Nations Conference on Environment and Development (UNCED), also called "Earth Summit", in Rio de Janeiro, Brazil, on 4 June 1992. It came into force on 21 March 1994.

The impact of climate change and global warming on the planet is analysed in detail in the report written by economist Nicholas Stern for the Government of the United Kingdom in 2006,<sup>11</sup> and that was presented at the ECA Conference of Ministers in April 2007.

### **2.3 Climate change enhances migratory flows**

It is more and more admitted that climate change affects migratory flows inside a country and between countries, as argued in the Stern Report. The report also concludes that failure to take urgent and significant action to tackle climate change would probably trigger a recession that would wipe 20 per cent off the world GDP, whereas 1 per cent of GDP invested now would be enough to mitigate the effects of climate change.

Environmental degradation has a huge impact on migration: partially aggravated by climate change and natural disasters such as desertification and the expansion of arid areas, this degradation forces affected populations to migrate to other regions that may offer them appropriate conditions for their survival. According to United Nations estimates, the number of "environmental migrants" will reach 50 million by 2010 and, according to IPCC estimates, it will reach 200 million by 2050.

Migrations in turn have an impact on the environment. Displaced populations and refugee camps may damage the environment through deforestation, land degradation, water table extraction and water pollution. For example, it is commonly admitted today that refugee camps in Darfur have caused the deforestation of a 10-kilometre area around these camps. The progressive inflow of "environmental migrants" into urban areas with low absorption capacity may also lead to the uncontrolled acceleration of urbanization and cause more harm to the environment.

Migrations caused by environmental factors may, in the absence of appropriate management, seriously hinder development efforts. They may also increase poverty, due to the pressure put on urban infrastructure and services and the increasing risks of social tension and their negative impact on health, education and social indicators. This impact is noticeable particularly in the rural areas, especially on the most underprivileged and vulnerable: women, children and refugees. It is obvious that such an impact may seriously reduce the chances of affected countries to achieve the Millennium Development Goals concerning the eradication of extreme poverty and ensuring environmental sustainability.

The mechanical effect of environmental degradation on migrations and vice-versa shows why it is necessary to integrate climate change and migratory policies into sustainable development strategies, not only to respond to emergencies caused by mass forced migrations, but also to prevent them and mitigate their negative consequences on the environment.

<sup>10</sup> Intergovernmental Panel on Climate Change, <http://www.ipcc.ch>

<sup>11</sup> United Kingdom Treasury, "Stern Review on the economics of climate change", [http://www.hm-treasury.gov.uk/independent\\_reviews/stern\\_review\\_economics\\_climate\\_change/sternreview\\_index.cfm](http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm)

## 2.4 The poverty trap

Africa is particularly affected by the persistence of pockets of poverty or even extreme poverty. Among the 50 poorest countries in the world, according to the UNDP human development index (IDH), 33 are located in sub-Saharan Africa. Their populations suffer from malnutrition, poverty, illiteracy and disastrous sanitary conditions.

The economist Jeffrey Sachs studied this situation, particularly between 2002 and 2006, when he was the Director of the Millennium Project of the United Nations.<sup>12</sup> He recommends the massive injection of international financial aid to development projects as the only way out of the poverty trap in which several regions and countries of the continent are caught. This approach was confirmed at the United Nations Conference on Development Financing in Monterrey, Mexico in 2002 and the year 2008 was proposed as the next step for the assessment of the process during the conference scheduled for Doha, Qatar.

However, a recent ECA survey shows that progress made in Africa following the Monterrey consensus at the end of 2006 is very limited.<sup>13</sup> The volume of aid to the poorest countries is lower than it should be. Hence, the question could rightfully be asked whether the flow of financial aid to the most needy is the only way out of the poverty trap or whether the emphasis should not be put on initiatives that promote income-generating activities. Instead of trying – often in vain – to combat poverty, it would be more effective to change the approach and promote programmes that foster wealth creation, employment and social well-being.

## 2.5 Approaches to sustainable human development: circular economy or functional economy?

Debates over sustainable development often pit proponents of economic growth at all cost as the only way for mankind to continue to thrive against proponents of controlled growth for judicious management of the limited natural resources of the Earth. As early as 1972, the Rome Club published a report on "the limits of growth", in which computer-based simulations were used to project the growth of the human population and the exploitation of natural resources over the 2100 horizon. According to the report, the pursuit of economic growth would lead to a sharp decrease in populations in the 21<sup>st</sup> century, due to pollution, degradation of cropland and depletion of energy resources.

Some believe that "the best way to avoid pollution is to return to the Palaeolithic Age"<sup>14</sup>, whereas others argue that there are "strategies for non-disastrous growth". The leader of the latter group, Dominique Bourg, philosopher and professor at Lausanne University, acknowledges that the current growth patterns are not tenable anymore, mainly due to limited energy resources, global warming and growing weakening of biodiversity. While the debate on sustainable development is generally focused on environmental protection, Bourg insists on the social dimension, noting that at the end of the 18th century, the income differential between the world's main regions was 1 to 2, while today it is 1 to 74.

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<sup>12</sup> United Nations, "The Millennium Development Goals", <http://www.un.org/french/millenniumgoals/>

<sup>13</sup> United Nations Economic Commission for Africa, "The Monterrey Consensus and Development in Africa: Progress, Challenges and Way Forward", 2007.

<sup>14</sup> Jacques Attali quoted by *Le Monde* newspaper, "Croissance: Attali contre Attali", 23/10/07.

In this context, two strategies are suggested: a circular economy based on the quasi-cyclical operation of ecosystems, and a functional economy where the sale of a good is replaced by the sale of its usage function.

The best-known example of circular economy is that of eco-industrial parks, in which companies cooperate with each other on the use of some equipment and where waste produced by one company may serve as resource for another. Currently, there are nearly 50 eco-parks in the world, the first of which was built in the early 1960s in Denmark. The Government of China recently proposed a draft bill on the circular economy that would apply across the country; and four projects are under way in France. The drawback of this system is that it involves some level of industrial concentration, which is not always easy to achieve.

Dominique Bourg thinks that, even though they are useful, the savings generated in circular economies do not exceed 30 per cent compared to the traditional production method.<sup>15</sup> He thus recommends a second strategy based on a functional economy, whereby the sale of a good is replaced by the sale of its usage function. As long as turnover is linked to the sale of a good, there is no incentive for the entrepreneur to reduce his physical production. However, if he sells the function, he would be more inclined to maintain support as long as possible by regularly incorporating new technologies into his operations. This approach has been used in a few cases, as in the pneumatics sector, where companies turn themselves into service providers for truckers by not just selling tires, but also offering tire maintenance services, which are crucial for fuel consumption. Today, 50 per cent of the largest European truck fleets use this service. A French company calculated that regrooving and retreading a used tire several times increases its life cycle two and a half times and reduces waste by 36 per cent. In electronics, a copier company implemented a system of exclusive rental of its copiers with a process of recovery, upgrading and reuse of the different components. Recycled elements alone represent 90 per cent of the weight of the rented machine.

For Dominique Bourg, there is considerable room for action, with 7 per cent of the resources used to produce finished goods being found in the goods and 80 per cent of these same products allowing for only one usage. All sectors are concerned: automobile, electronics, IT, mobile telephony and household appliances. For Bourg, *the functional economy may serve as a powerful springboard for the production of stronger support products with a high innovative content. It would also provide a cure for the addiction to gadget-centred methods of consumption.*

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<sup>15</sup> *Le Monde*, 21/10/07.

### **3. Indicators and components of sustainable development in North Africa**

#### **3.1. Untapped growth opportunities**

##### **3.1.1. Economic growth still not translating convincingly into social gains**

According to many authors, the relationship between economic growth and sustainable development is ambiguous.<sup>16</sup> Economic growth is the main indicator of wealth creation and build-up. Its contribution to sustainable development can be measured by its impact not only on employment and income, but also on the environment.

In North Africa, the rate of economic growth has been increasing significantly since the beginning of the millennium. Generally favourable climatic conditions for agriculture, the rise in oil prices for exporting countries in the region and even more dynamic economic policies have led to a net increase in economic growth (6.2 per cent in 2006 versus 5.1 per cent in 2005), and this trend is expected to continue in 2007.<sup>17</sup>

However, this performance has not yet translated into clear social gains and job creation. Despite significant progress in some countries, the statistics of the International Labour Organization show that unemployment rates are still high, most of them greater than 10 per cent and affecting mostly women and young people.

Some more recent data show that even though employment has increased since 2000, labour productivity has remained low and sometimes even decreased, despite high rates of economic growth. In Morocco, production per worker is increasing slightly, but it appears to have stagnated in Tunisia and would continue to decrease by about 1 per cent annually in Algeria. This probably shows that job creation has increased, but that this has occurred in low-productivity sectors that do not contribute to total production. Jobs are not being created in more dynamic and competitive sectors such as the manufacturing industry and services with high added value.<sup>18</sup>

The people most affected by unemployment are first-time job seekers, especially those with a secondary school diploma. The region must create 30 million to 40 million jobs by 2015.<sup>19</sup> The unemployment rate among people under the age of 30 is at 50 per cent in Algeria. In Morocco, 200,000 jobs are created each year, while 300,000 young people are entering the job market. Tunisia is obliged to find jobs for its labour force, 50 per cent of which is made up of people under the age of 25.

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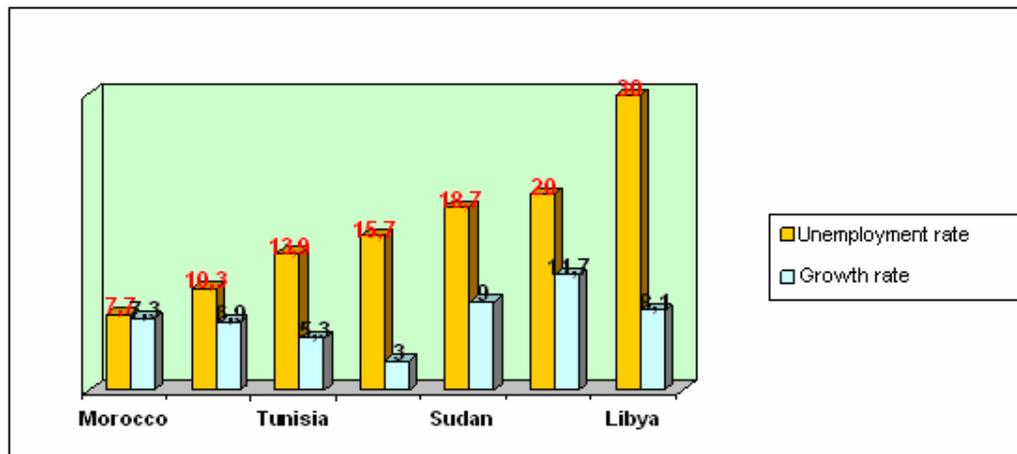
<sup>16</sup> Much has been written on this issue, including the overview presented by Olivier Boiral in *La revue en sciences de l'environnement sur le WEB*, Vol 5, No 2, September 2004.

<sup>17</sup> Economic and Social Report, Office for North Africa, United Nations Economic Commission for Africa, 2007.

<sup>18</sup> Paul Dyer, "Labor Supply, Unemployment and the Challenge of Job Creation in the Maghreb", Maghreb Round Table, 2005.

<sup>19</sup> Hassan Abouyoub, Forum pour le développement en Afrique du Nord, le commerce pour une croissance créatrice d'emploi, 19 February 2007.

**Figure 2: Unemployment and economic growth rates in North Africa**



Source: ILO and database of the ECA Office for North Africa, 2006 figures.

Exacerbated by ever-changing education and training systems and thus by low economic productivity rates, this situation leads to poverty rates that make it impossible for several socio-economic groups to benefit from development, such that the economy does not have sufficient purchasing power to drive its growth.<sup>20</sup>

Besides, even when unemployment and poverty problems are solved, the issue of appropriate management remains, in terms of sustainable development, natural resources and consequences of growth on the environment. The design of economic policies able to meet the challenges of employment and poverty while managing natural resources adequately is a major challenge for any government. The theoretical framework for designing such policies exists.<sup>21</sup> It is its implementation that remains difficult. The sharing of the benefits of growth among generations and among socio-economic groups and geographical regions is rarely presented as it should be, from the design stage of the policies and in a concerted way, to all stakeholders in policy implementation.

### **3.1.2. While costly, environmental protection has its benefits**

In North Africa, several indicators show the interaction between growth and natural resources and environmental management, mainly through the themes of trade and environment.<sup>22</sup> This subject is important because of the growing liberalization of world trade and the abolition of quotas that affect development prospects and sometimes even the long-

<sup>20</sup> The issues concerning the MDGs and the sharing of the benefits of growth among generations are examined later in this document.

<sup>21</sup> Nolberto Munier, "Economic Growth and Sustainable Development: Could Multi-criteria Analysis be Used to Solve this Dichotomy?", Environment, Development and Sustainability (2006).

<sup>22</sup> United Nations Economic Commission for Africa, "Trade and Environment: Selected Issues of Concern for Africa", 2006.

United Nations Economic and Social Commission for Western Asia, "'Study on trade, environment and competitiveness of SME in textile and clothing industries in North Africa", 2004.

term survival of several sectors. The textile/clothing sector illustrates this phenomenon. It is central to this debate due to its importance in the economies of several North African countries, in terms of added value, exports and jobs.

**Table 1: Size of the textile/clothing sector and weight (in brackets) in the industry of three North African countries in 2000**

	<b>Number of companies</b>	<b>Number of jobs</b>	<b>Value of exports (US dollars)</b>
<b>Egypt</b>	2 000 (20 per cent)	343 000 (30 per cent)	1 billion (44 per cent)
<b>Morocco</b>	1 841 (24 per cent)	210 000 (40 per cent)	2.6 billion (37 per cent)
<b>Tunisia</b>	2 180 (40 per cent)	250 000 (46 per cent)	3 billion (48 per cent)

Source: United Nations Economic and Social Commission for Western Asia, "Study on trade, environment and competitiveness of SME in textile and clothing industries in North Africa", 2004.

With regard to sustainable development, this situation is all the more critical as the textile industry is a major contributor to water pollution and few efforts have been made to develop methods for low-cost water treatment.

**Table 2: Extent of water pollution in North Africa**

	<b>Annual cost (millions of US dollars)</b>	<b>Share in total pollution sources**</b>	<b>Percentage of GNP</b>
<b>Algeria (1999)*</b>	367	22 per cent	0.8 per cent
<b>Egypt (2001)*</b>	860	20 per cent	1.0 per cent
<b>Morocco (2000)*</b>	410	33 per cent	1.2 per cent
<b>Tunisia (1999)*</b>	128	29 per cent	0.6 per cent

Source: United Nations Economic and Social Commission for Western Asia, "Study on commerce, environment and competitiveness of SME in textile and clothing industries in North Africa", 2004.

New ways are being explored to further the development of the textile sector while controlling its impacts on the environment and maintaining its leading position in the economy of the region. In this context, concerns regarding environmental protection have become as important as the concepts of price and production level.

Non-governmental organizations and other institutions that specialize in eco-labelling are trying to put in place reliable labels that are recognized not only by the consumer as a sign of environmental friendliness, but also by companies seeking to capture market niches with these labels.<sup>23</sup>

In a context of off-shoring and geographical fragmentation of production processes, eco-labelling is a difficult task, particularly for the textile sector, which has a long and complex production cycle. For this sector, the criteria concerning eco-labelling depend largely on the impacts on employment of children, health (use of azoic carcinogenic dye,

<sup>23</sup> For instance, the Business for Social Responsibility NGO organized a meeting in 2001 for several clothing/garment companies that led to the compilation of a global list of banned substances and/or substances subject to specific rules in countries importing products from this industry. Business for Social Responsibility intends to update the list periodically.

allergenic pigments, fire retardants and heavy metals) and the environmental quality of the production (wastewater treatment, air pollution, use of toxic substances in decolouration and bleaching, etc.).

European eco-labels were initiated in Germany in 1979. Since then, several countries have followed suit. In 1992, the European Union established a single ecological label. Now, the system in each European country includes both a national label and the common European label.

Thanks to eco-labels, a consumer can determine whether a product:

1. Has not been manufactured using a process and/or raw materials that are harmful for the environment; and
2. Does not contain substances that are harmful for the consumer and/or the environment when or after it is consumed.

Companies seeking to obtain eco-labels want to highlight the transparency and ecological quality of their production process. Ecological labelling is thus an important source of information enabling producers to include ecological considerations as selling points to increase their market share and their competitiveness. This applies especially in Europe and North America, where consumers are more and more aware of environmental issues and do not want to consume items whose production and/or consumption is harmful for the environment.

With a proportion of ISO 14000-certified companies<sup>24</sup> three times higher than that of Tunisia and Morocco, Turkey is the second-largest European supplier of textile/clothing products, whereas Tunisia and Morocco rank fifth and eighth respectively. Turkey's performance is all the more significant as the country's labour costs are nearly 25 per cent higher than those of Tunisia and Morocco.

Although it is not possible to establish a direct causal link between export performances and ISO 14000 certifications, it is interesting to note that the percentage of ISO 14000-certified companies is six times higher in Turkey than in Morocco and Tunisia. This is a clear demonstration of the positive influence that the environmental protection industry could have on the production of a sector and thus on economic growth.

There are opportunities for companies that adopt a dynamic attitude and integrate environmental considerations into their general strategy, although the cost of environmental protection is sometimes perceived as a source of problems and loss of international competitiveness. Antony and Kashat<sup>25</sup> estimate the total cost of ISO 14000 certification at between US\$15,000 and US\$100,000, depending on the size of the company and the scope of environmental protection procedures already available within the company. The consulting firm BSI Management Systems gives a similar estimate, with an average of US\$100,000 and a range of between US\$50,000 and US\$75,000 for small and medium-size enterprises.

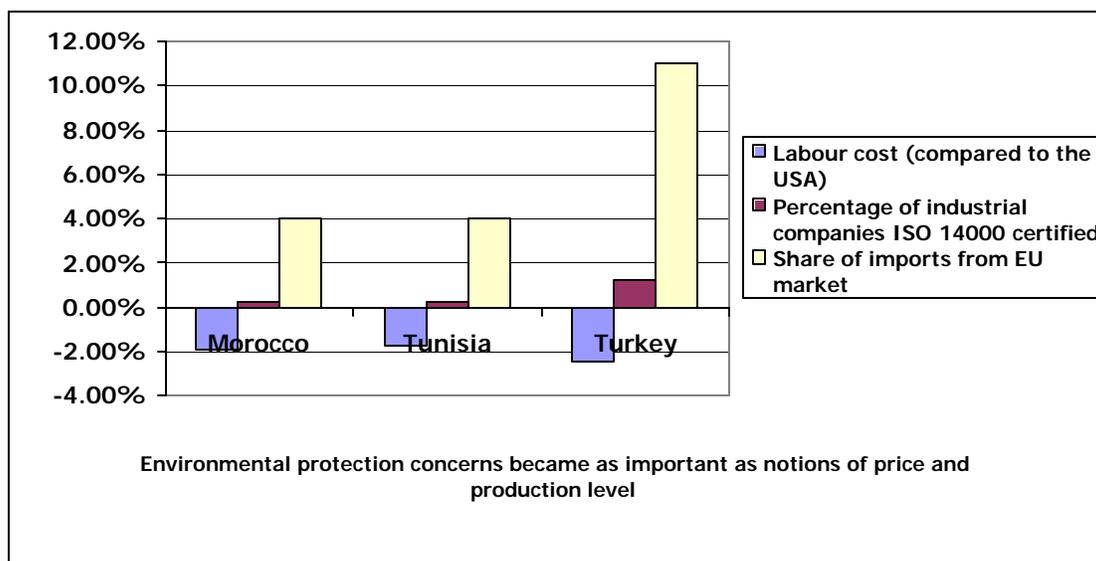
<sup>24</sup> The ISO 14000 series of standards represents all the standards on environmental management.

<sup>25</sup> Antony, T.R. and Kashat, A.J., "ISO 14000 Environmental Management Systems and Auditing Standards", published on the Web at <http://www.akt.com/publications/iso14001.html>, 2003.

A more systematic application of an environmental tax system based on the “polluter pays” principle would help support this situation by encouraging environmental protection in several areas (garbage management, wastewater treatment, water pollution, atmospheric emissions, etc.).

The following table shows that companies in the region are beginning to integrate environmental concerns into their strategies. ISO 14000 certifications are increasing rapidly in the region.

**Figure 3: Comparison between labour costs, ISO 14000 certifications and shares in European market for Morocco, Tunisia and Turkey**



Sources: International Organization for Standardization, <http://www.iso.ch/iso/fr/iso9000-14000/iso14000/iso14000index.html>, 2003.

European Union, Textiles and Clothing home page, <http://europa.eu.int/comm/enterprise/textile/index.htm>, 2003.

**Table 3: ISO 14000 certifications of industrial companies in some North African countries between 1997 and 2002**

Country	Number of companies certified in 1997	Number of companies certified in 2002	Percentage of companies certified compared to the total number of industrial companies
<b>Egypt</b>	7	101	1.0 per cent
<b>Morocco</b>	0	11	0.2 per cent
<b>Tunisia</b>	0	13	0.2 per cent

Source: International Organization for Standardization, <http://www.iso.ch/iso/fr/iso9000-14000/iso14000/iso14000index.html>, 2003.

### 3.1.3 Regional integration as a driving force for growth and job creation<sup>26</sup>

North Africa, compared to seven other regions, is still the least integrated regional bloc. Intraregional exports represent only 2.7 per cent of all exports, compared with rates ranging between 10 per cent and 30 per cent for COMESA, MERCOSUR, ECOWAS, ASEAN and SADC, 56 per cent for NAFTA and 68 per cent for the 25 countries of the European Union. These figures do not take into account the sizeable flows of informal trade among North African countries. Besides, countries of the region are still not very open to international trade when compared to other countries.

The average of most favoured nation customs duties applied in the industry is 21 per cent for the region, compared with 10.8 per cent for Asia and 9.5 per cent for countries in Latin America. Although this average has been declining since the end of the 1990s, the decrease has not been uniform for all the countries.

Indeed, Morocco reduced its average tariff by 57 per cent and its maximum tariff by 65 per cent between 1993 and 2003. By contrast, Algeria, Tunisia and Egypt decreased their average tariffs by a rate of between 20 and 30 per cent.

Can the expansion of foreign trade help countries in the region to reach new heights in economic growth and speed up the rate of job creation?

Despite the short-term costs of adjusting to the liberalization of foreign trade in some countries that have successfully integrated into regional and global markets, the growth generated by exports has ultimately contributed considerably to job creation.

#### **Box 1: Regional integration, common solutions for better results**

[Regional integration] this is where we can find common solutions for better performance. A study that we carried out on the commercial aspects of integration shows that there are untapped opportunities that could boost exports of countries in the region by 33 per cent and increase trade among them tenfold to 30 per cent of total trade. Two studies on the non-Maghreb cost - one conducted by ECA and the other by the World Bank - both conclude that enhanced integration can make our countries gain up to two points of growth... there is every indication that this potential could be fulfilled for growth in the region to be sustainable and fair and to benefit all facets of society, without compromising the ecological balance or the interests of future generations. This is why ECA has decided to pay particular and more sustained attention to this issue, not only in the reformulation of its priorities, but also in the enhanced cooperation and support that its regional offices provide to the regional economic communities.

*Mrs. Karima Bounemra Ben Soltane,  
Director, ECA Office for North Africa*

*Opening speech at the Meeting of Experts on Sustainable Development in North Africa, Tunis, 18 November 2007.*

<sup>26</sup> Analyses reproduced from the Introductory Note of the North African Development Forum: Trade for Growth and Job Creation, February 2007.

A review of the interaction between more open international trade and employment in the manufacturing sector in developing countries shows a positive association in the medium term.

This causal link is not easy to establish. Although there is no example of a country that has been able to increase its economic growth in a sustainable manner and combat unemployment by closing down its border to international trade, uncontrolled liberalization is not enough to guarantee social and economic expansion of nations and may even have negative consequences for some socio-professional groups, particularly in the short term, due to the price adjustments and changes in industrial structure that it would entail.

The success of regional integration is dependent on both political and economic factors. The weight of political factors is non-negligible, but it is important to note that worries about the negative adjustment in the short term of the macroeconomic variables concerning employment and the State budget (through tax revenue) sometimes hinder regional integration and trade liberalization initiatives. Besides, as exports have for too long been concentrated in products with low added value and slow growth, the region's foreign trade is only slightly interconnected with the global economy.

The expectation now is to go beyond just stating that the potential exists. Urgent measures are needed to make integration a more tangible reality. Countries in the region have taken actions accordingly. They declared 2006 the "Year of Trade in North Africa", in order to highlight the huge potential held by North Africa to foster trade and investment in the region and with the rest of the world. Indeed, they all agreed to ask the ECA Office for North Africa to support this initiative and to contribute to the implementation of economic policies conducive to regional integration, to allow North African countries to overcome the challenges of economic growth and the well-being of their people.

However, there are still three questions that North Africa needs to answer to find the formula that will help achieve a regional integration that stimulates growth within the context of sustainable development: with whom should North Africa be integrated; to what extent should it discriminate against the rest of the world; and how far should it go with its integration? Today, many countries of the region are signing association agreements with the European Union. Does this mean that the process must continue in order to culminate in a wide Euro-Mediterranean space? In such case, the issue will no longer be to determine the extent to which North Africa discriminates against the rest of the world, but rather to determine whether the "North Africa" concept should not progressively merge into the wider concept of the Euro-Mediterranean space through bilateral relationships between each country of the region and the European Union.

A happy medium would be for the region to build on its strong historical, geographical and economic ties with Europe, but to do so as a coherent regional bloc that has the means to tip the balance of power in its favour in the negotiations for the establishment of the Euro-Mediterranean space.

Nevertheless, regardless of the path chosen, the fact remains that the strengthening of sustainable development in North Africa is still closely linked to, at the very least, stronger cooperation through the treatment of common issues and the exchange of experiences, and at best, to the integration of the economies of the countries in the region.

This is why participants at a roundtable on the evolution of economic structures of member States reiterated the need to diversify the economies of the region and recommended that the seven countries should direct their economic policies more towards the services sector. This would be achieved mainly by focusing their development on the knowledge economy and the use of information technologies, along with the establishment of regional research networks and the strengthening of the institutional capacities of the Arab Maghreb Union and of all other regional economic communities relevant to the region.<sup>27</sup>

The most compelling figure presented by the different studies and events addressing the negative effects of weak regional integration on development in North Africa is that the non-Maghreb shortfall leads to a 2 per cent loss of economic growth each year.

### **3.2 Adapting to climate change, managing water and biodiversity and combating desertification**

Economic activity in North Africa is highly affected by water stress, one of most severe cases in the world and one that is expected to get worse.

Temperatures in the region are expected to increase by 1°C between 2000 and 2020, while rainfall would decrease by 510 per cent. By 2050, temperatures could rise by 3°C while rainfall could decrease by 10-30 per cent.<sup>28</sup>

In this context, the management of water resources is becoming more and more urgent. Progress has been made, but there is still much to be done, particularly on demand management and optimization, mobilization of all resources, whether "conventional" (especially deep water) or alternative (recycling of wastewater, desalination, regional management of cross-border aquifers).<sup>29</sup>

The environmental situation of the region is complicated not just by increased carbon dioxide emissions due to more sustained economic activity and transportation equipment and facilities that are still being modernized, but also by persistent problems concerning waste and wastewater treatment.

#### **Box 2: AMU countries have the institutional framework necessary for the concerted implementation of sustainable development**

Experts estimate that the quantity of water available per capita in the Maghreb countries will decrease from 700m<sup>3</sup> in 2000 to 500m<sup>3</sup> in 2025... In 1992, during the fifth session of the AMU presidency council (Nouakchott, 11 September 1992), the Heads of State adopted the "Maghreb Charter on Environment and Sustainable Development", in which the member States make a commitment towards the preservation of natural resources, soil conservation and desertification control (article 1).

*Mr. Habib Ben Yahya*

*Secretary-General, Arab Maghreb Union*

*Speech delivered at the Meeting of Experts on Sustainable Development in North Africa, Tunis, 18 November 2007.*

<sup>27</sup> United Nations – Economic Commission for Africa, Office for North Africa: Evolution of Economic Structures in North Africa (ECA -AN/Rabat/CIE/XXI/4) – 2006.

<sup>28</sup> Nathalie Rousset, Le commerce international comme stratégie d'adaptation à la rareté des ressources hydriques?, Utilité et application du concept d'eau virtuelle en Afrique du Nord, October 2007.

<sup>29</sup> Office for North Africa, United Nations Economic Commission for Africa, "Water and environment in North Africa: policies and strategies", 2006.

The scarcity and inappropriate management of water resources is aggravated by desertification due to climate change and stronger economic and demographic pressures on ecosystems. This results in the gradual depletion of land surface areas and productivity and the degradation of several infrastructures (including the sanding up of open-cast irrigation canals).

The countries of the region, individually and sometimes collectively, as shown in table 6 for the Maghreb countries, have put in place mechanisms to combat desertification. However, the risks on biological diversity remain serious in North Africa, even though the region has diversified landscapes and environments.<sup>30</sup> The aridification of bioclimates is weakening the natural balance of ecosystems. Thus, the natural climate vegetation cover has been able to resist climate aridity only by adapting and reducing its covering capacity. The cultivation of land and the exploitation of natural resources for more than three millenniums have increased the sensitivity of lands and weakened their resources because of erosion in particular and desertification in general. The situation is worsening with the intensification of agriculture and the practice of deforestation and overgrazing.

The World Conservation Union argues that although most of the soil in North Africa has been hit hard by drought and aridity and by more and more aggressive farming and grazing practices, the soil has retained a good portion of its original edaphic, hydrological and biological resources.

Even though the Mediterranean faces critical environmental problems, its marine and coastal resources have retained a significant portion of their biological richness. The flora includes several plant species, many of which are precious genetic resources, some of them even representing global speciations. Plants having a current and potential economic value include native species, cultivable species, fodder plants, ligneous species, oleaginous or fibre plants, aromatic plants and medicinal plants.

**Box 3: In arid areas of North Africa, biodiversity plays a major role for the well-being of mankind**

In arid areas of North Africa, biodiversity plays a major role for the well-being of mankind. Generally, Africa is replete with treasures of biodiversity, which provide means of subsistence across the continent, as well as food, water, shelter and protection. These natural resources constitute 26 per cent of the total wealth of a low-income country and account for much of the hope for sustainable development in this region. But they must be used reasonably, because economic growth that jeopardizes the natural resources on which it is based is nothing but long-term economic and environmental destruction.

*Mr. Ahmed Joghlaif, Executive Secretary Convention on Biological Diversity, Keynote address given at the Meeting on Sustainable Development in North Africa, Tunis, 18 November 2007.*

<sup>30</sup> World Conservation Union, "State of Biodiversity in North Africa", 2006.

The diverse wildlife in the region includes more than one hundred species of mammals, a few hundred species of birds and more than five hundred species of reptiles and fishes.

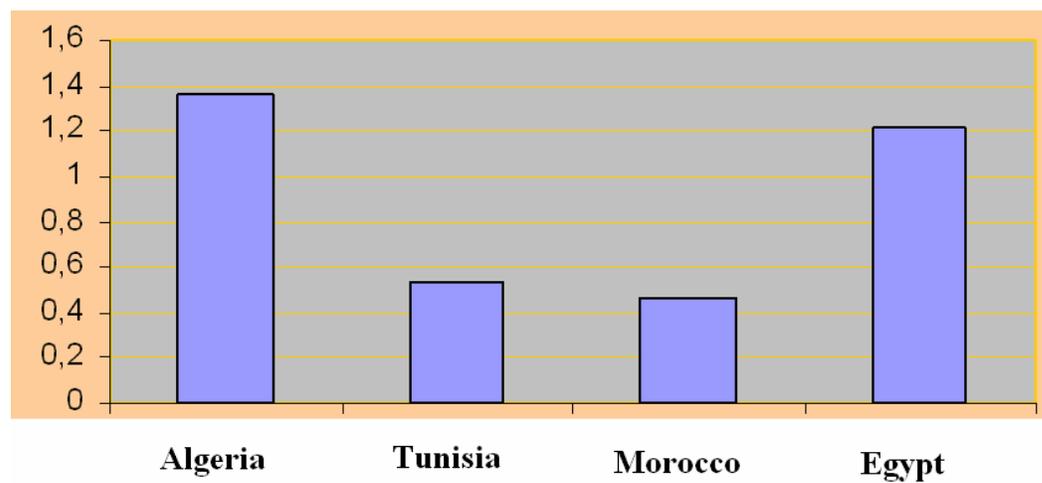
However, all great mammals are considered as endangered species, except the boar. Hyenas, stags and gazelles are considered as rare and endangered species.

**Box 4: Recommendations for the protection of the ecological balance based on synergy among the different international conventions**

The preservation of the region's ecological balance must be based on four recommendations built around a better definition of the links between the different international conventions governing these issues, especially the three conventions on climate change, desertification and biological diversity.<sup>31</sup>

1. Simplification of high-tech research to make it more accessible and better understood by both national authorities responsible for crises management and prevention and all relevant populations;
2. Development of regional knowledge bases around the crucial issue of the depletion of natural resources, to better manage available information;
3. Identification of the means to monitor interactions between desertification and climate;
4. Strengthening of regional cooperation, because many of the relevant natural resources are shared by several countries.

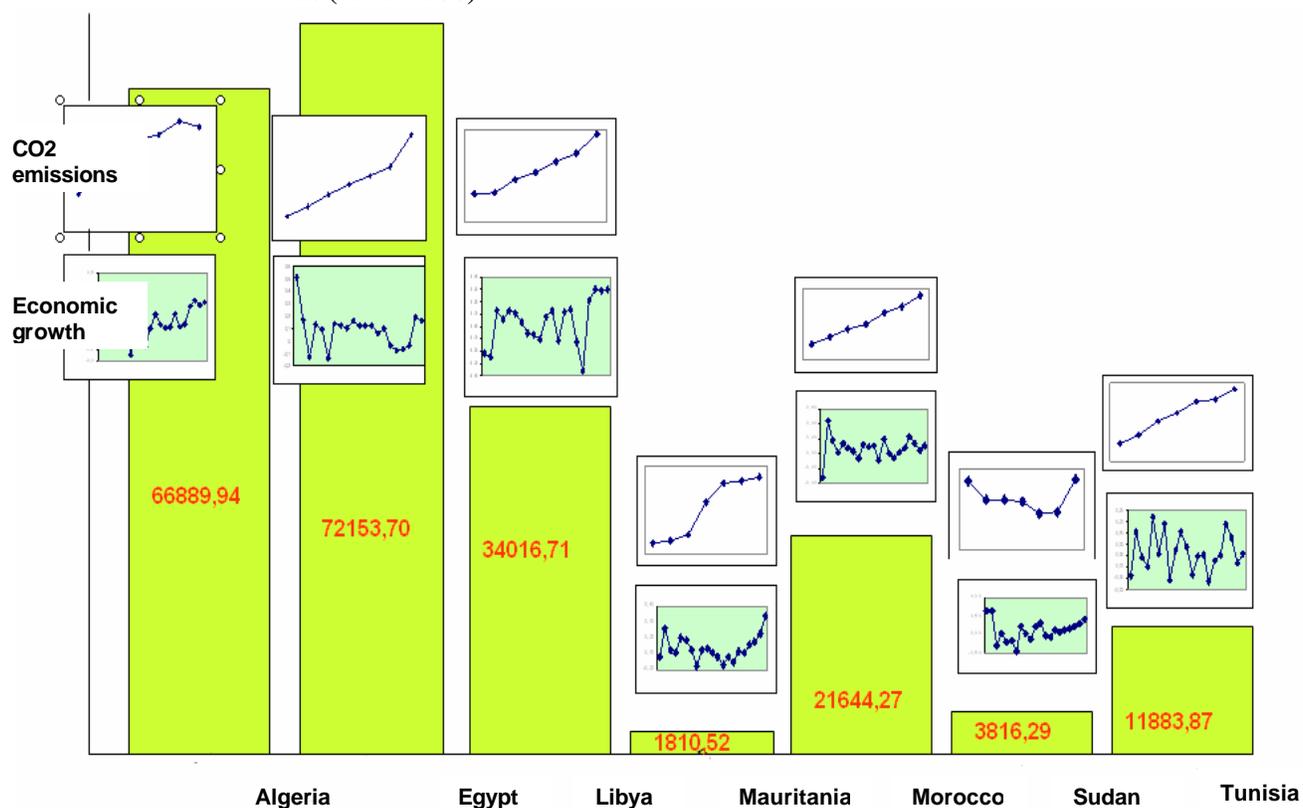
**Figure 4: Desertification cost as a percentage of GDP**



Source: Sahara and Sahel Observatory

<sup>31</sup> Sahara and Sahel Observatory, "Adaptation to Climate Change and Desertification Control", 2007.

**Figure 5: Evolution and average CO2 emissions and economic growth in North Africa (1970-2066)**



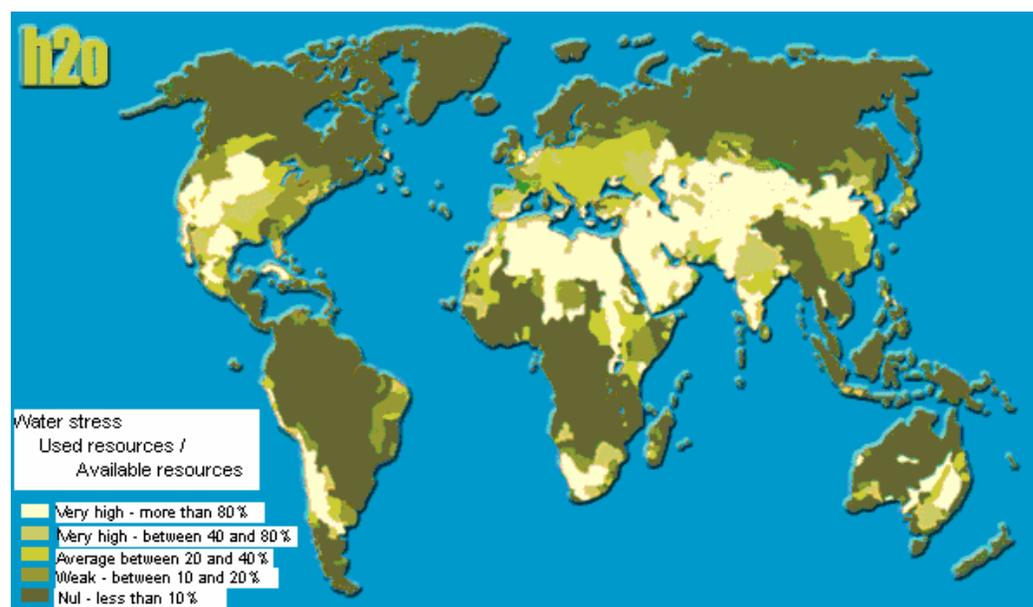
Note: CO2 emissions in kilotons.

Source: Database of the ECA Office for North Africa and the Africa Development Bank website (afdb.org)

**Table 4: Forecasts of water potential per capita in the region**

	Mauritania	Morocco	Algeria	Tunisia	Libya	Egypt	Sudan	Total
Renewable water resources (Mm3)	7400	29000	15150	4560	600	63000	30000	145010
Potential/inhabitant (m3/year)	2741	967	473	456	107	926	896	825
Population 2003 (1000)	2600	2700	32000	10000	5600	68000	33500	181800
Population growth (%)	2.2	1.6	1.6	1.1	2.0	1.8	2.3	1,69
Population 2025	4287	42624	45072	12603	8516	100065	55333	268500
Water potential 2025 (m3/year)	1726	680	316	362	70	629	542	557

**Figure 6: Water stress world map**



Source: populationdata.net

**Table 5: Maghreb mechanisms for combating desertification**

MECHANISM	CHARACTERISTICS
Website on environmental protection and desertification control in Maghreb countries: <a href="http://scide.oss.org.tn/scide-uma/">http://scide.oss.org.tn/scide-uma/</a>	Includes information and a cartographic data bank on environmental protection and desertification control in Maghreb countries
AMU System for Circulation of Information on Desertification and Environment (SCIDE AMU)	System developed under Agenda 21 with three main goals: <ul style="list-style-type: none"> <li>▪ To be a tool for dialogue and circulation of information among Maghreb countries.</li> <li>▪ To serve as a discussion forum for all partners: national focal points of the CCD, national partners, actors of thematic groups, cooperation partners.</li> <li>▪ To improve the flow of information by implementing metadata, documentary databases (map inventory, statistical and spatial databases, results, studies and projects) accessible from SCIDE-AMU websites.</li> </ul>

Cartographic server	<p>Server of metadata and geographical data concerning both data sets and their resources.</p> <p>This tool can be used:</p> <p>To capture these data sets and their main features and to display an outline of the data sets (result page).</p> <p>To view the model resource of each set of data, if it is present in the geocatalogue (viewing page).</p> <p>To view complete metadata of a set of data and to download the resources of the sets of data, if they are available in the geocatalogue and if they are not protected by copyright.</p>
Maghreb Charter on the Environment	<p>Considering the similarity of the environmental problems existing in AMU countries such as <u>desertification</u>, depletion of water resources, forests, marine pastures, industrial, urban and agricultural pollution and the decrease in the standard of living, etc..., a Maghreb Charter on the Environment was adopted, outlining regional policies and defining general orientations in the relevant sectors, such that these goals are reflected in executive programmes that will be established according to AMU procedures.</p>

### 3.3 Agriculture and rural development: multidimensional interactions with the Millennium Development Goals

Agriculture has a multidimensional relationship with sustainable development and the achievement of the Millennium Development Goals (MDGs). It represents more than 10 per cent of the GDP of most countries in the region (except for Algeria, between 9 per cent and 10 per cent and Libya, 7 per cent). The sector absorbs between 80 per cent and 90 per cent of water resources, employs at least 25 per cent of the work force and rural inhabitants represent nearly 50 per cent of the total population. However, agricultural production remains focused on products with low added value, particularly considering the amount of water they require.

Moreover, a major portion of the pockets of poverty in the region is explained by the precariousness of the rural environment and the consequent exodus towards urban areas. This phenomenon is exacerbated by many factors:

- Absence or scarcity of economic activities;
- Delays on infrastructure development in all areas (education, health, transport, electrification, etc.); and
- Agricultural policies often conditioned by goals of subsidizing the price of foodstuffs, which benefit mostly urban consumers and which lower the prices earned by farmers for products such as grain and oil seeds.

Without voluntary measures, this situation is expected to worsen, due to the growing depletion of water resources (see following section) and the risk of losing long-standing agricultural know-how specific to the region.

The debate on agricultural development may focus on three issues:

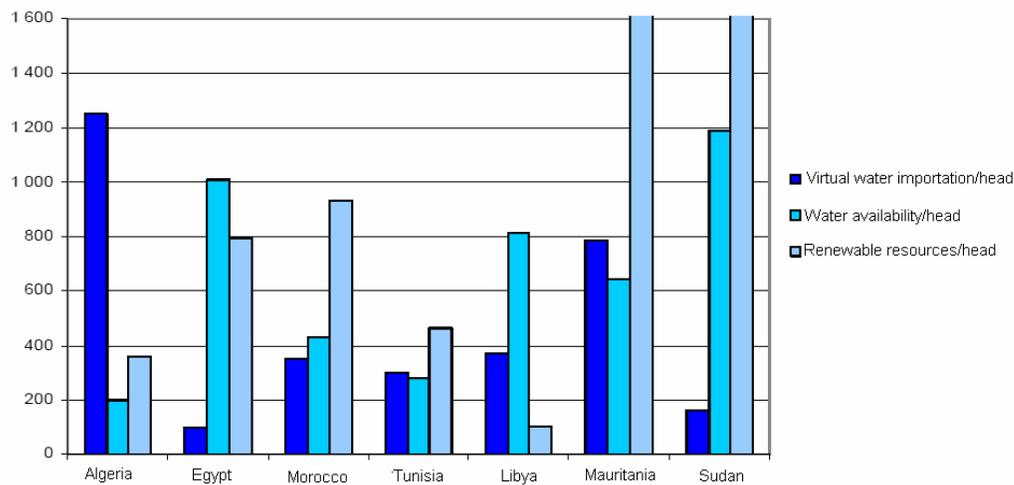
1. Food security, which would dictate to each country the need to produce staple commodities, whatever the price, particularly in terms of pressures on water resources, in order to achieve self-sufficiency and guarantee independence from exporting countries. The notion of food security could be narrowed down further to refer more to the possibility for populations to obtain staple commodities (in terms of purchasing power and distances to be covered) without these products being necessarily produced locally.
2. The net balance in terms of water content (concept of virtual water) of imported and exported agricultural products, weighted by the monetary value of these products.
3. The development of economic (not only agricultural) activities in rural areas.

Based on the concept of virtual water as defined above, North Africa is a net importer of water. The question is whether the trend should be continued, at which cost and how. This debate is all the more urgent because the available information shows that by 2020, the demand for cereal will increase substantially with demographic growth. This is true particularly in Algeria, which anticipates an increase in demand of more than 60 per cent, but also in Egypt and in Morocco, where the needs will increase by 45 per cent and 40 per cent respectively.<sup>32</sup> This perspective is becoming all the more worrying as world cereal prices have been on an upswing since 2006, a trend that is expected to continue due to repeated droughts in exporting countries and to the pressure of growing demand for both food and biofuels. Indeed, many of the experts gathered in Tunis in November 2007 argue that it is not appropriate for North Africa to engage in the production of biofuels to the detriment of cereals that meet the consumption needs of local populations.

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<sup>32</sup> Yang, H., Zehnder A., 2002, Water Scarcity and Food Import: A Case Study for Southern Mediterranean Countries, *World Development*, 30(8), pp. 1413-1430.

**Figure 7: Volumes of virtual water imported in the form of wheat per capita in 2005, compared to national water resources and to renewable resources per capita (in m3/year)**



Source: Nathalie Rousset, "Commerce d'eau virtuelle, gestion des ressources hydriques et sécurité alimentaire, quelles perspectives en Afrique du Nord?", November 2007.

However, some argue against the continued production of cereals – highly water-intensive products – in order to encourage activities that are less dependent on water resources and to reduce the vulnerability of the region's economies to climate variations. Moreover, cereal prices on international markets are often lower than domestic costs of production. It may then be rational to shift production from cereal crops to high added-value crops and to increase cereal imports. As a consequence, it would be in the interest of several countries to import wheat and corn and to specialize more in exporting fruits and vegetables. In the case of Egypt, the promotion of cotton export to the detriment of rice would also be beneficial for employment and water utilization.

Some experts criticize this approach and instead recommend measures that would limit the damage on cereal output while maintaining local production through increased use of irrigation and enhanced research for the development of crops and seeds adapted to North African environments.

Although the question of "what to produce" remains open, the end of 2007 may be considered as the period when a consensus emerged on the rehabilitation of agriculture. In its last report on sustainable development, ECA reiterates the recommendation for an integrated approach to invest in productivity and efficiency at all stages of the agricultural production chain that recognizes the complexity of ecosystem dynamics and their interface with social, economic and political factors.<sup>33</sup>

In addition, the meeting of the Development Committee (joint ministerial committee of the boards of governors of the World Bank and the International Monetary Fund), reiterated the conclusions of the World Development Report and the recommendations often made by ECA and FAO on the need to initiate a *green revolution* to boost African

<sup>33</sup> Fifth report of the African Committee on Sustainable Development, United Nations Economic Commission for Africa, 2007.

agriculture. The report recommends that the agricultural sector should be at the heart of development efforts, in order to achieve the goal of halving by 2015 the proportion of people living in extreme poverty and suffering from hunger. For the poorest people, an increase in the agricultural GDP is nearly four times more effective in reducing poverty than GDP growth in other sectors. The report gives the example of Morocco, a changing country, where agriculture contributes only 7 per cent on average to GDP growth, whereas low rural income compared to urban income is a major source of political tension. The report recommends re-energizing the rural and agricultural sectors in these kinds of countries in order to mitigate the disparities between rural and urban incomes and to reduce poverty, without falling into the trap of subsidies and protectionism that would hinder growth and increase taxes on poor consumers.<sup>34</sup>

These recommendations coincide with those of Arab agricultural experts.<sup>35</sup> They aim to build the capacity of rural populations to live in harmony with their environment so that adapting to climate change is no longer a reaction to crises, but a true socio-economic reality based on the know-how of local populations. The recommendations revolve around:

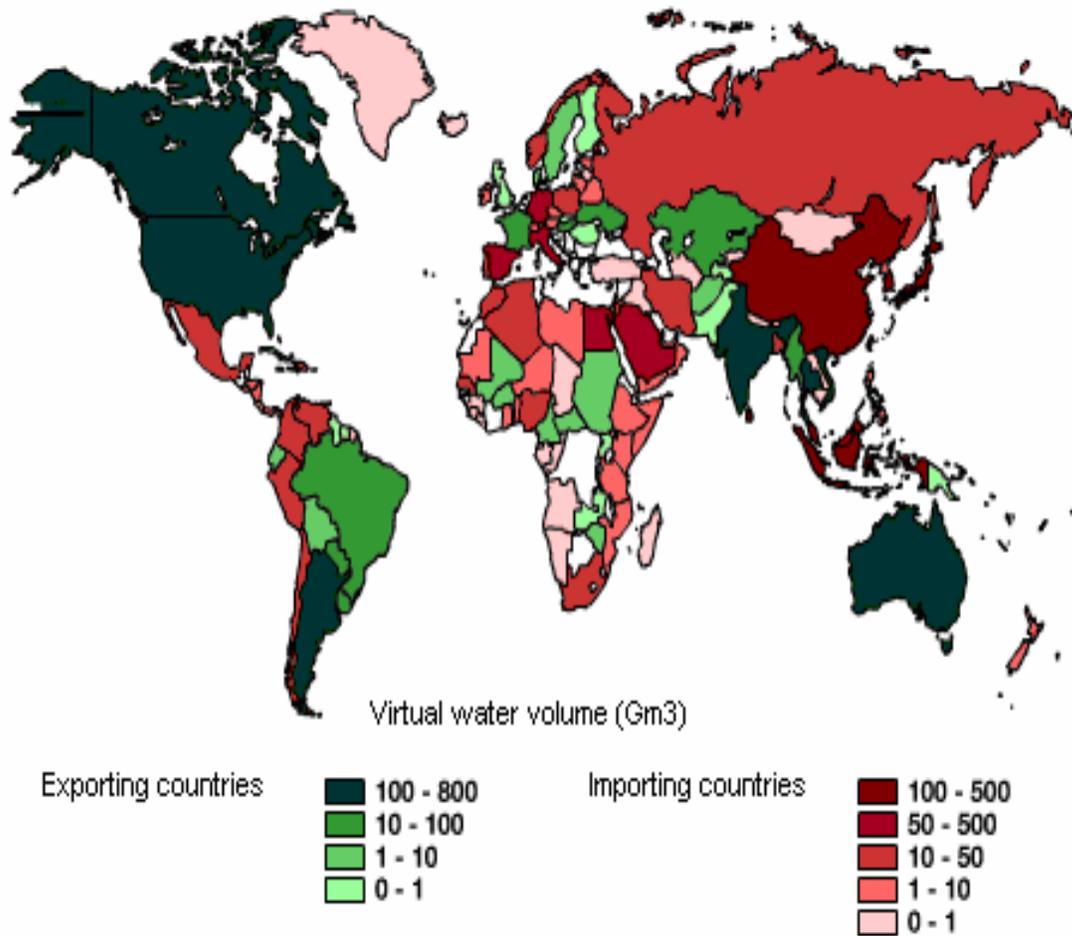
- Better management of water resources with the widespread use of modern micro-irrigation techniques and the definition of water price policies in line with specific hydrological conditions and the sectoral choices made by each country for its economic development.
- Development of all rural infrastructures for training, transport, sanitation, electrification, drinking water supply and widespread access to information technologies.
- The implementation of voluntary policies to solve the problems of land status and parcelling.

However, as in many developing countries, the implementation of these recommendations and the impact of agricultural development policies continue to be hindered by competition from highly subsidized agricultural products from the European Union and the United States. There are ongoing negotiations within WTO to eliminate or at least reduce these subsidies, which are considered an obstacle to free trade and remain a major point of disagreement of the Doha Round.

<sup>34</sup> World Bank, "World Development Report 2008: Agriculture for Development", 2007.

<sup>35</sup> Workshop on agricultural best practices in the Arab world, Arab Organization for Agricultural Development, Algiers, October 2007.

**Figure 8: Flow of virtual water in the world**



Source: A.Y. Hoekstra and P.Q. Hung. Virtual water trade - A quantification of virtual water flows between nations in relation to international crop trade.

**Table 6: Main exports-imports in North Africa**

	EXPORTS (2006)			IMPORTS (2006)		
	Product	Quantity (Mt)	Value (Thousands of US dollars)	Product	Quantity (Mt)	Value (Thousands of US dollars)
ALGERIA	Molasses	23115	1706	Wheat	5034447	1026463
	Dates	8133	14563	Cow milk	250269	742308
	<b>TOTAL (X)</b>	<b>77763</b>	<b>53378</b>	<b>TOTAL (M)</b>	<b>10007709</b>	<b>3519664</b>
EGYPT	Manufactured rice	806929	223967	Wheat	4366841	727651
	Cotton fibres	183727	483023	Corn	2429278	364819
	<b>TOTAL (X)</b>	<b>2656200</b>	<b>1116711</b>	<b>TOTAL (M)</b>	<b>9732702</b>	<b>2552804</b>
LIBYA	Wool	2102	1375	Wheat & by-products	1369223	472426
	Ovine skins	1022	4677	Corn & by-products	515267	180659
	<b>TOTAL (X)</b>	<b>7848</b>	<b>9280</b>	<b>TOTAL (M)</b>	<b>2681015</b>	<b>1004904</b>
MOROCCO	Citrus fruits	379002	220321	Wheat	2646105	557521
	Tomatoes	107365	60030	Corn	1223013	201700
	<b>TOTAL (X)</b>	<b>903517</b>	<b>747757</b>	<b>TOTAL (M)</b>	<b>5898888</b>	<b>1705480</b>
MAURITANIA	Fish flour	30200	16000	Sugar	189840	40121
	Animals	356000 heads	17200	Wheat	148509	25349
	<b>TOTAL (X)</b>	<b>NA</b>	<b>35412</b>	<b>TOTAL (M)</b>	<b>588999</b>	<b>298937</b>
SUDAN	Sesame seeds	190000	130000	Wheat	1219154	209055
	Animals (ovines, caprines and camels)	1174113 (heads)	91465	Sorghum	223690	110000
	<b>TOTAL (X)</b>	<b>NA</b>	<b>429274</b>	<b>TOTAL (M)</b>	<b>1808377</b>	<b>579318</b>
TUNISA	Olive oil	211175	568625	Wheat	1043465	193662
	Dates	40432	84382	Corn	723304	120605
	<b>TOTAL (X)</b>	<b>661873</b>	<b>883282</b>	<b>TOTAL (M)</b>	<b>3156018</b>	<b>931843</b>

Source: FAO, <http://www.fao.org/es/ess/toptrade/trade.asp>

### 3.4 Achievement of the Millennium Development Goals

Countries of the region have made some progress toward achieving most of the Millennium Development Goals, as indicated in a recent report by the ECA Office for North Africa.<sup>36</sup> The region has indeed reduced the most extreme forms of poverty and has improved the health and education levels of the great majority of its population. These results are mainly due to the improvement in income levels of the countries and the public investments they have made over the past few decades.

Although low-income countries such as Mauritania and the Sudan are lagging behind for their targets, they are experiencing good economic growth. Thanks to the exploitation of hydrocarbons, these two countries have been able to alleviate their financial burden,

<sup>36</sup> United Nations Economic Commission Office for North Africa "MDG achievement and implementation of NEPAD in North African countries: progress and prospects", 2007.

thus meeting one of the conditions for increasing the public investments required for the implementation of their national MDG-based poverty reduction strategies. Experience has shown that the Goals may be achieved if appropriate financing exists to support judicious policies and ambitious strategies. They will therefore have to increase public spending and ensure that income generated from the exploitation of natural resources is directed towards the MDGs. According to the Ministerial Statement adopted in 2007 by the African Ministers of Finance, Planning and Economic Development, they will have to (i) scale up public sector investments in infrastructure, agriculture, health and education (ii) allocate at least 15 per cent of their budgets to health, and (iii) put in place, by the end of 2008, a mechanism for monitoring, tracking and evaluating progress towards the MDGs.<sup>37</sup>

Despite measures undertaken by the member States, the region as a whole still faces some common challenges, including pockets of extreme poverty, gender inequality, poor management of natural resources such as water, and youth unemployment. These challenges can be ascribed to structural and complex factors that are closely linked to the development and society models of the countries in the region, including unequal distribution of wealth and income (social, spatial and gender-based), governance and human rights, the role of the private sector and integration of knowledge into the development process. All these issues reflect the major development challenges of the region.

#### **4. Drivers of sustainable development in North Africa**

Sustainable development is, by definition, a complex and flexible concept that can include a multitude of components. For the concept to be reflected into actions, some drivers are necessary to strengthen the capacity of development actors. Sometimes, these are prerequisites for the success of any action designed to promote or achieve development.

Public authorities, through the development policies they design and apply, are the main initiators and often the facilitators of the drivers of development presented in this section.

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<sup>37</sup> Extract from the Ministerial Statement of African Ministers of Finance, Planning and Economic Development, April 2007.

#### 4.1. Development policies: human development must be at the heart of growth strategies

Public authorities are key players in sustainable development; their actions are addressed in this section to highlight their role in its definition and implementation. It is more and more obvious that human development must be at the heart of growth strategies through social policies that integrate all aspects of education, health and access to goods and services explicitly and harmoniously. This approach would enhance the effectiveness of the social protection measures adopted up to now, as illustrated by the examples below.

Subsidies for foodstuffs are considered in many countries as the cornerstone of social protection. However, viewed only from the standpoint of purchasing power protection and given the difficulty of channeling subsidy budgets to the poorest, these policies are applied globally to the population without proper targeting.

Since the rich consume more than the poor, they take up a large portion (up to 80 per cent in some countries) of subsidy budgets.

However, since the poor allocate a major part of their budget to foodstuffs, which are made attractive thanks to subsidies, removing the subsidies without providing alternative programmes would harm the poor more than the rich.

The situation is even more complicated because subsidy budgets are limited. Generally, consumers (mostly urban) have more sway with public authorities than do producers (mostly rural). To maintain subsidy budgets at levels that can be sustained by the countries' finances, it is not possible to simultaneously allow farmers to receive more and consumers to pay less. Often, the tendency is then to put downward pressure on prices paid to farmers in order to maintain the purchasing power of consumers. This brings up a second spatial dimension of sustainable development: equity in the distribution of social budgets between social communities and between urban and rural communities. The task of public authorities is even more difficult in this age of soaring cereal prices, whereas subsidy models were often based on the assumption that world prices would be lower than local prices.

#### Box 5: The implementation of development policies is painstaking

...we must admit that, while it may seem easy in theory, reconciliation of the environment and development is often tedious to achieve. Allaying these different public policy concerns requires the commitment of the different actors involved in sustainable development (governments, civil society, private sector, local communities), in order to create the synergies necessary for the achievement of these ambitious goals.

*Mr. Nadhir Hamada, Minister of Environment and Sustainable Development, Speech given at the Meeting of Experts on Sustainable Development in North Africa, Tunis, 18 November 2007.*

**Box 6: For coordinated and integrated policies involving all actors of society**

It is of utmost urgency to implement coordinated and integrated policies representing the interests and involving all actors of society. Too often, public policies still do not meet all the expectations and are not sufficiently based on values shared by the entire population, due to the weakness of existing institutions. But for a few exceptions, the indicators show that Arab countries are lagging behind compared to other subregions. Policies have not been effective to solve the problems and to build and maintain an environment conducive to progress.

A human development policy to promote education, training and the establishment of conditions conducive to income-generating activities seems to be more appropriate. It can be used to achieve the same goals but in a more sustainable manner.<sup>38</sup> Debt and budget deficits generated by subsidies also increase the imbalances between generations, since they transfer to future generations the burden of repaying debts allocated (inefficiently) to meeting the needs of present generations.

Subsidization of fuel prices also poses a problem because it weighs heavily on public budgets. The difference between the actual price of energy and the price paid does not encourage a rational use of the resource. However, choices are difficult to make. Subsidizing some types of energy, especially gas, slows down the deforestation process, thus enabling the poor to use gas rather than wood as a source of energy.

The management of retirement funds is also a subject of concern. Too often, they are managed from a short-term perspective, such that the relevant organizations cannot guarantee the payment of pensions to their members over the long term. The method of management of retirement funds is often at issue. Demographic changes in the countries of the region are not yet sufficiently reflected in the calculation of members' contributions and the investment of retirement fund assets. Indeed, the increase in life expectancy and in the percentage of elderly in the total population will lead to growing pressures on the pensions that retirement funds will have to pay to their members. In Morocco, for example, life expectancy increases by seven months each year. If nothing is done within the next 12 years, the deficit of retirement schemes is expected to represent about the equivalent of the yearly gross national product by 2040.<sup>39</sup>

**4.2 Infrastructures, energy and natural resources management: public-private partnerships unavoidable**

Infrastructures provide significant leverage for the promotion and sustainability of development, especially in terms of trade facilitation and access to resources. Particular attention

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<sup>38</sup> This approach is being adopted in the region, as exemplified by programmes such as "2626" in Tunisia ([www.26-26.org](http://www.26-26.org)) and the Human Development National Initiative undertaken by Morocco ([www.indh.gov.ma](http://www.indh.gov.ma)).

<sup>39</sup> Abdeljalil Chraïbi, Chief Executive Officer of CIMR. Morocco's inter-professional retirement fund, during the seminar of the Alliance Pro Association on the mobilization of savings in Morocco, 25 September 2001.

should be paid to their interactions with the environment (ports and sea pollution, dams and soil degradation, hotel projects and environmental degradation, etc.).

The last report of the ECA Office for North Africa on this subject highlights the regional dimension of infrastructure development.<sup>40</sup> With regard to transportation, countries of the region are urged to establish open trading lanes through integrated road networks, competitive and homogeneous railway services, efficient port infrastructures, as well as secure and efficient air and airport spaces open to competition. As for road infrastructures, (particularly the building of the inter-Maghreb highway), the report insists on the need for countries in the region to design a specific strategy for the structural and functional modernization of the road sector and the establishment of inter-modal transport. In the area of railway transportation, countries are encouraged to adopt a more commercial approach by promoting multimodal logistical chains. The quick completion of the trans-Maghreb rapid links development projects should be supported by a combination of institutional reforms at the national level, cross-border joint partnership actions and capacity-building programmes.

With regard to maritime transportation, the ongoing initiatives to restructure and reform ports should be continued. The main challenge is to secure investments for the construction of container terminals and the replacement of largely obsolete handling equipment in most of the countries. The harmonization of procedures is also very important to align the performance of all North African ports with regional best practices, especially in terms of time allocated to container unloading, lead-time reduction and service quality. Countries could also look for new ways and means of introducing competition through the development of licensing and delegated management systems. They are also urged to take up the challenge of protecting coastlines against maritime pollution risks.

As for air space, the report recommends accelerating the implementation of the Yamoussoukro decision<sup>41</sup>, which regulates commercial air transport activity in a single African space, in order to create favourable conditions for reliable and quality air transportation in Africa, in line with the continent's integration requirements. In this regard, the Arab Maghreb Union has already reached some milestones with its convention on air transport liberalization.

The issue of energy control still has to be addressed by all countries in the region, at a time of growing corporate and personal demand for energy.

It is important to study the interaction of this debate with the development of infrastructures (particularly the development of gas pipelines and electric interconnections) and the management of natural resources (particularly concerning nuclear energy, mainly for phosphate-producing countries, which have a comparative advantage for uranium). The increasing use of renewable energy in North Africa is noteworthy. Morocco and Tunisia expect the share of renewable energies in satisfying total energy demand to double to 10 per cent within five to ten years. Efforts supported by adequate training programmes still have to be made for the local production of equipment necessary for the use of these energies, in order to take advantage of their positive impact on growth and job creation.

<sup>40</sup> United Nations Economic Commission for Africa, North Africa Office, "Infrastructures and Regional Integration: What are the Challenges?" 2007.

<sup>41</sup> African Union, Meeting of African Ministers of Air Transport, Yamoussoukro, 2005.

The preparation of the Maghreb Charter on Energy would federate and rationalize intra-Maghreb efforts and efforts between the Maghreb and the rest of the continent, on one hand, and Europe, on the other. According to some forecasts, the Maghreb should be interconnected by 2009.<sup>42</sup> The Moroccan city of Tangier should have an electrical interconnection with Tunisia, through Algeria, no later than early 2009, allowing the Maghreb to become a real regional market for electricity, instead of just an ad hoc trading bloc.

**Box 7: North Africa must use its resources wisely and without complex**

During the Tunis meeting, experts unanimously rejected the idea that, due to climate change, North Africa should use its natural resources and energy only sparingly for its development. Their position was based on a few factors. First, developed countries are primarily responsible for the climate disturbances affecting the world. Second, there are innovative solutions for development while using natural resources and energy wisely and cost-effectively. ECA suggests an original approach for the sustainable exploitation of North Africa's natural resources for its development based on the establishment of regional mineral clusters and including public authorities, the private sector and research centres, all supported by appropriate infrastructures.<sup>43</sup>

Despite considerable progress, several regions in North Africa still do not have access to modern and efficient energy sources. Yet, energy is also an area where collaborative projects involving private operators and research, science and technology sectors could provide innovative solutions. The *MightyLight* is a good example. It is a mobile lamp powered with solar energy and designed to have a low maintenance cost. It can last 30 years if it is used for four hours a day. It is waterproof and can be recharged with an independent solar panel. Today, the lamp and the panel cost US\$50, an amount considered too high for the poor. The next challenge is to design financing methods enabling the poor to replace the US\$2 they currently pay per month for a hazardous and polluting oil lamp with the amortization of the investment necessary to purchase this lamp and its panel.

While countries of the region are focusing more on the development of infrastructures as a means of consolidating the liberalization of foreign trade and of guaranteeing fluid logistical chains to facilitate trade, it is crucial that they pursue the projects in progress and initiate new ones within a regional cooperation framework, to ensure that these projects are long-lasting and that they are in line with the development goals of North Africa.

Infrastructures can boost and sustain intraregional trade. It is important to build on existing initiatives (gas pipelines, electric interconnections, airlines) to facilitate the establishment of the open sky agreements, the Maghrebian highway, the railway links and the fixed link between Morocco and Europe.

<sup>42</sup> TAP Agency, 1/11/07.

<sup>43</sup> United Nations Economic Commission for Africa, "Mainstreaming Mineral Wealth in Growth and Poverty Reduction Strategies", Antonio Pedro, Policy Paper No. 1, 2004.

Up to now, much focus has been placed on direct foreign investments for the financing of growth needs. While these efforts must be pursued, it should be noted that public-private partnerships (PPPs) also represent a major source of financing, with the government calling on private partners to finance a facility or an activity that provides a public service. The private partner receives a payment in return, for example, in the form of a license. The financial burden of some projects is forcing many countries to rely more and more on public-private partnerships.

### **4.3 Education, innovation, creativity, research and development**

Effective vocational training and higher education supported by research centres geared to meeting the needs of the region's economies are necessary ingredients for the success of the ambitious economic development policies adopted by several countries in region.

The impact of international competition on research and development spending is being felt more and more. The re-orientation of global markets and factors such as human resources, the quality of local research and innovation systems as well as the presence of corporate clusters or centres of excellence are playing an increasing role in the allocation of research and development spending. It is clear that the region must make itself more attractive for research. The European Union, the United States and Japan attract the greatest majority of international investments in research and development. India and China have adopted specific policies to attract this type of investment. For North Africa, it must be admitted that much remains to be done in this field.

#### **Box 8: Research: collaboration between countries may help in reaching a sufficient critical mass**

I would like to suggest four basic elements for consideration:

1. The role of science, technology and human resources;
2. The reinforcement of cooperation and solidarity in the subregional space, the search for complementarities and the sharing of cross-border strategic resources;
3. The assessment of the considerable efforts needed to put all countries of the space considered on the path to sustainable development; and
4. The overall political coherence at local, national, subregional, regional and international levels.

*Mr. Youba Sokona, Executive Secretary, Sahara and Sahel Observatory, Speech delivered at the Expert Group Meeting on Sustainable Development in North Africa, Tunis, 18 November 2007.*

During the November 2007 meeting, several participants indicated that collaboration among North African countries is necessary for the development of research adapted to the specificities of the region and a scientific and technological sector that meets the needs of sustainable development. Such collaboration will allow all countries to benefit from each other's experiences and to pool their resources, which are still limited for each country considered individually. The needs concern mainly water management, development of adapted crops and farming practices, combating desertification, and energy control. An often-cited example is that of bottlenecks concerning the supply of wind-power production systems, even when the demand exists. Synergies are possible within the region that would allow research centres and private operators to develop and market the requisite wind-power equipment.

Several countries of the region have adopted ambitious policies to upgrade their industries that are beginning to show results in terms of growth. For example, in 2004, Tunisia set a goal of increasing its investment in research and development to 1.25 per cent of GDP by 2009. The number of patent applications submitted by publicly funded Tunisian researchers rose from zero in 1990 to 20 in 2005.<sup>44</sup> However, neither the education and training systems nor research policies are yet sufficiently effective in supporting and sustaining the development of North Africa. First, investments in education and research remain low.<sup>45</sup> Second, the alignment between training and employment is not always satisfactory, such that in many cases, and despite high unemployment rates, employers cannot find the workers they need.

The policies to be pursued to improve the operating environment for industry revolve around three main points:

- Enhancing the attractiveness of the countries of the region for investment ;
- Using knowledge and innovation for growth;
- Defining policies that enable companies to create more jobs.

The scientific community could play an important role in this endeavour. Section 3 of this document shows the economic potential of an environmental protection industry supported by innovative initiatives and a research and development policy. According to the work programme of ECA-NA, the theme for 2009 should be research and development.

#### **4.4 Crises management**

In addition to concerns about public health and epidemics such as the bird flu, North Africa is particularly prone to earthquakes, locust invasions, frequent droughts and floods and several man-made crises that are threatening the ecological balance and safety of several countries. Yet, poor management of crises has, often for long periods of time, slowed down or impeded the implementation of development programmes that cost a great deal in terms of time and money, thus increasing the vulnerability of countries that are still in a fragile phase of development.

The second World Conference on Disaster Reduction (2005, Kobé-Hyogo, Japan) resulted in the adoption of a Framework for Action 2005-2015, calling on governments, regional and international organizations, civil society, including volunteers, the private sector and the scientific community to *build the resilience of nations and communities to disasters in order to promote sustainable development*. Several countries of the region have embarked on this process by establishing crises management committees to deal with emergencies, plagues and natural disasters.

<sup>44</sup> Invest in Tunisia: [www.investir-en-Tunisia.net](http://www.investir-en-Tunisia.net)

<sup>45</sup> UNESCO Institute for Statistics, "Global Education Digest: Comparing Education Statistics Across the World", 2007.

#### **4.5 Knowledge economy, knowledge management and sharing: necessary for the effective design, monitoring and assessment of development projects**

All facets of society must be able to react to the growing internationalization of the economy resulting from the improvement of transportation links, the sharp decrease in communication costs, the reduction of trade and investment barriers as well as fiercer competition. The knowledge economy and its underlying high technologies provide all sectors with better manufacturing processes and more rapid and effective marketing methods. Yet, it must be noted that trade in North Africa remains generally concentrated in sectors using medium or low technology and requiring low qualification levels. The growth differential of productivity between the region and other economies can be partly explained by industrial composition whereby information technologies sectors account for a limited share of industrial production, at a time when more and more countries are asserting their will to build this knowledge society.

In a global economy that is increasingly based on knowledge, innovative uses of information and communications technologies (ICTs) facilitate national and regional initiatives and contribute significantly to socio-economic development, as shown by the African Information Society Initiative.<sup>46</sup> ICTs generate services with high added value and thus contribute to economic growth and job creation. With appropriate knowledge management, countries of the region have the means to establish rapidly and at low cost regional networks and thematic clusters to promote knowledge creation, build capacities and boost trade.

The knowledge economy is therefore not a driver like the others; it is a cross-cutting issue and a necessity for North Africa. It facilitates the modernization of all sectors of the economy. It accelerates the exchange of information, a prerequisite for the successful liberalization of any economy. Similarly, ICTs represent a sector with high potential that can attract investments and create viable jobs, particularly for young people.

Several initiatives can be used to facilitate this process. For ECA, better knowledge management and appropriate organization of information would guarantee the success of sustainable development programmes that have very high stakes. Such initiatives help to build upon current achievements, improve the exchange of experiences (mainly among countries) and facilitate the monitoring and assessment of projects. A knowledge management platform is being launched in that regard.<sup>47</sup> In partnership with several United Nations agencies, the OECD is setting up working groups for each region in the world in order to continue the project and to design better tools for measuring the progress of societies.<sup>48</sup> The World Summit on the Information Society (WSIS), the second phase of which was held in Tunis in November 2005, reiterated the importance for the countries of the region to accelerate their entry into this new economy in order to meet their development challenges more efficiently.

<sup>46</sup> <http://www.uneca.org/aisi/>

<sup>47</sup> <http://www.knowledge.uneca.org>.

<sup>48</sup> OECD, "Measuring the Progress of Societies, World Forum on Statistics, Knowledge and Policy", <http://www.oecd.org/dataoecd/24/28/39324366.html>

## 5. Actors of sustainable development in North Africa

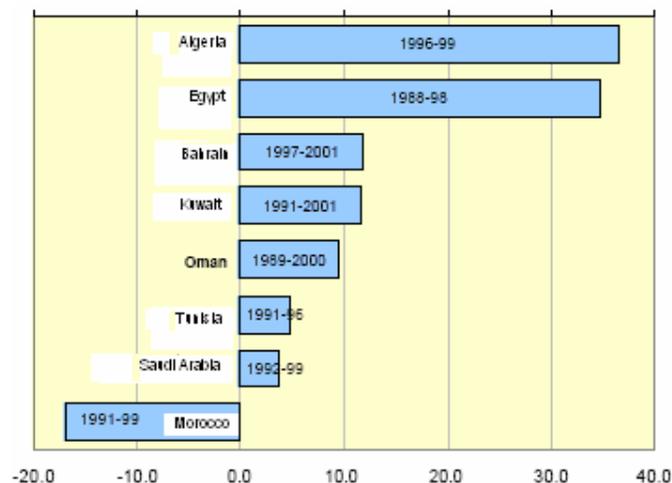
For development to be sustainable, it must be beneficial to all. Its success depends on the involvement of society as a whole so that all citizens can contribute, according to their skills and know-how, and in return receive dividends allocated equitably.

### 5.1. Private initiative promotes the involvement of society as a whole

Several indicators can be used to measure the contribution of the private sector to sustainable development. The sector is an essential source of wealth creation. When it can count on well-trained human resources and an environment that fosters initiative and innovation, it can create jobs and increase incomes and help reduce unemployment and poverty. The interactions between the environment and private sector activities are illustrated in the second section. Private operators can harm the environment, as has often been the case. However, they have shown that they can adapt to environmental protection regulations and to the expectations of customers who are becoming more and more attentive to compliance with environmental standards in the production and marketing of the products they consume. Moreover, environmental considerations create new opportunities for the private sector, which is called upon to provide all sectors of the economy with more and more non-polluting production processes using renewable energies.

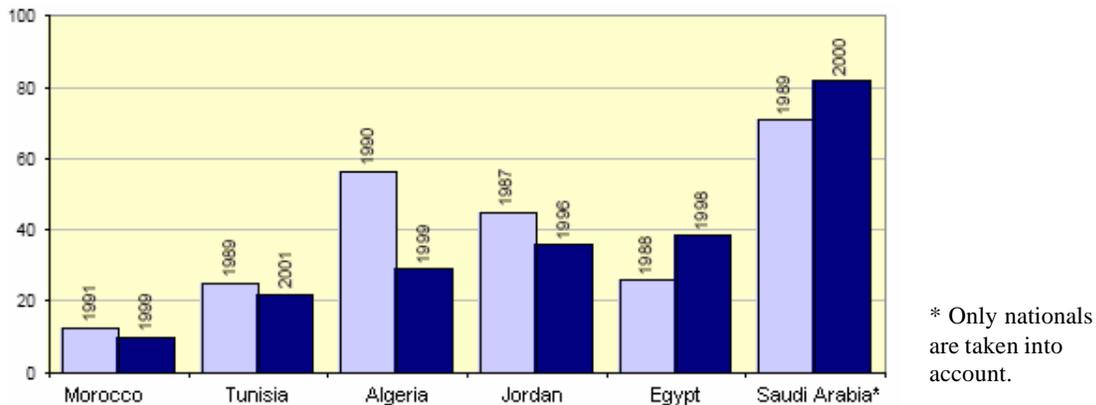
As for job creation, an important topic for which data for North Africa are available, the contribution of the private sector is still insufficient. The public sector remains the main employer in the region.

**Figure 9: Contribution of the public sector to total employment growth (per cent)**



Source: Algeria, ILO 2003b; for Egypt, LFSS 1988 and ELMS 1998; Morocco, MLSS 1991 and LSMS 1999; Tunisia, World Bank 2003; Bahrain, Kuwait, Oman and Saudi Arabia, Girgis, Hadad-Zervose, and Coulibaly 2003.

**Figure 10: Share of public sector employment in total employment (per cent)**



Source: For Morocco, MLSS 1991 and 1999; for Tunisia, Said 2001 and World Bank 2003; for Saudi Arabia, Girgis, Hadad-Zervose, and Coulibaly 2003; for Jordan, DOS 1991 and ILO 1996; for Algeria, ONS 1990.

The fragility of the private sector reflected by its low contribution to development is exacerbated by fears created by the growing liberalization of trade and capital flows. Governments and the private sector need to address several challenges. Sectoral interventions are necessary when a sector is having problems or when it holds untapped growth potential, particularly for small and medium-size enterprises. It is important for policies of member States and the programmes implemented by international institutions to take into account eight factors specific to the process of economic liberalization:

1. Fears of employment instability created by liberalization and industrial restructuring.
2. Fears of uncontrolled rural exodus created by liberalization and modernization of agriculture.
3. Fears of lower tax revenues as a result of liberalization and lowering of tariffs.
4. The ability of certain sectors to modernize and meet the requirements of quality imposed by globalization.
5. The particular case of vulnerable groups such as SMEs, farmers, young people and women.
6. The issue of non-tariff barriers and intellectual property rights.
7. The relationship between trade and the environment and the role of public authorities in the establishment and reinforcement of mechanisms for compliance with technical, environmental and ethical standards and for certification of companies in these areas.

8. The still-untapped growth potential offered by regional integration among North African countries.<sup>49</sup>

Policies to promote the private sector cannot succeed and the potential of the private sector cannot be fulfilled without the participation of all segments of society. Young people and women represent nearly 50 per cent of the region's population. The dynamism and creativity of both these groups offer considerable opportunities for innovation and progress in the region, but this potential is still not sufficiently tapped because of persistent unemployment. Various statistics show that young people represent 37 per cent of all the unemployed in Morocco, compared with 66 per cent in Algeria and 68 per cent in Tunisia. The unemployment profile also varies according to gender. In the MENA region as a whole, female unemployment rates are nearly 50 per cent higher than those of men. In the Maghreb, the contrast is not that obvious. While female unemployment in Morocco is 36 per cent higher than that of men, in Tunisia the difference in favour of men is only 5 per cent. In Algeria, unemployment rates for men are higher than those of women, but this is mainly because of the high proportion of women working in the public sector, which has long accounted for nearly 85 per cent of the whole female work force.

As a consequence, and in order to guarantee that all the potential assets of the region are used for sustainable socio-economic development, several groups deserve particular attention, considering the specificities of the region and its unique demographic opportunities.<sup>50</sup>

Generally, women should be more encouraged to become entrepreneurs, particularly those in the region who often have unique knowledge and know-how. Their traditional products and services represent extraordinary economic potential which, if well tapped, could help reduce poverty, provide stability for rural populations, create jobs, diversify the supply of agro-food and agro-forestry products, develop the cultural heritage, improve the use of local resources and protect the environment.<sup>51</sup>

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<sup>49</sup> This point is discussed in more detail in the section on regional integration.

<sup>50</sup> United Nations Economic and Social Commission for Western Asia and Arab League, "The Millennium Development Goals in the Arab Region 2007: A Youth Lens", 2007.

<sup>51</sup> Office for North Africa, United Nations Economic Commission for Africa, "The Economic Participation of Women in North Africa", 2005.

<p>Young people account for a significant portion of the region’s population. Their relationship with development starts with the implementation of appropriate training policies and continues with the creation of an environment conducive to skills development, without which the contribution of youth to socio-economic development would be either non-existent or diluted in the informal sector. Today, the proportion of young people looking for a job is dramatically high. It is thus crucial for decision-makers to pay attention to this group when designing more inventive employment policies.</p> <p>Rural populations have know-how that can serve as the foundation for innovative agro-industrial policies to give back to local populations their ability to adapt and to accelerate the integration of agricultural activities into the modern sphere of the industrial and service sectors.</p>	<p style="text-align: center;"><b>Box 9: SMEs, actors of sustainable development</b></p> <p>In developing countries, more than 90 per cent of the companies operating outside the agricultural sector are SMEs. With their energy and the flexibility they derive from their size, SMEs contribute significantly to sustainable development thanks to their ability to innovate and the jobs and added value they create. However, they are fragile. Support and follow-up programmes are needed to ensure the long-term survival of these enterprises.</p> <p>Most North African countries have special structures in place for the promotion of SMEs.</p> <p>The World Business Council for Sustainable Development (<a href="http://wbcsd.org">wbcsd.org</a>) offers a platform for the sharing of experiences, knowledge management and the promotion of best practices involving the private sector, governments and non-governmental organizations.</p>
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In this context, the promotion of the cultural heritage is essential. It allows the different actors of sustainable development to rely on economic practices and social behaviours that are often aligned with the climate-related and geographical problems of the region. When the cultural heritage is promoted carefully, it creates economic activities that develop in harmony with burgeoning sectors (tourism, film industry, etc.).

**5.2 Migrants and development**

The phenomenon of migration is relevant to the issue of sustainable development in many respects. In several countries, and in most of the cases, the main motivation for migration is to seek employment. Its relationship with climate change is important since desertification and droughts force many groups to migrate either inside their own country or abroad.

In North Africa, the contribution of immigrant workers to the development of their countries of origin is considerable and it is expected to keep growing. The ECA Office for North Africa has initiated a discussion process entitled “International Migration and Development” to consolidate the positive aspects of North African migration, involving all stakeholders (governments, private sector, universities, members of parliament, financial systems, civil society organizations such as migrant groups, as well as international, regional and subregional development assistance organizations), to identify the actions necessary for

mainstreaming migration into the development process.<sup>52</sup> This is particularly true for three aspects of this issue:

1. The contribution of remittances made by migrants to the financing of development;
2. The different forms of participation of skilled expatriates to the development of their countries of origin;
3. The negative effects of climate change on the displacement of the poorest of the poor.<sup>53</sup>

Remittances made by migrants to their countries of origin are high in volume but are far too often used exclusively for consumption and investments with low added value. Indeed, Moroccans living abroad remitted 5 billion euros to their home country in 2007, an increase of 15 per cent compared to 2006.<sup>54</sup> Several initiatives may boost the productive use of these flows. Employers' associations in countries of origin are entering into partnerships with migrants' associations.<sup>55</sup>

The methods of collecting and analysing information on these flows remain insufficient. This is why it is essential to refine them even more and to carry out the necessary research for a deeper understanding of the profiles, expectations and channels used by those who make these remittances. Considering the high cost of remittance transactions, it is also necessary to negotiate reduced fees with remittance agencies and free remittances with banks, and improve the efficiency of remittances as well as their transparency, especially the exchange rates applied by these agencies, through the use of ICTs. It will also be necessary to adopt incentive measures for taxation and finance, develop local bank networks in the countries of origin, and involve micro-finance institutions in securing remittances. Moreover, it is important to find ways of fostering the investment of remittances in promising sectors for the sustainable development of the countries of origin through actions that urge migrants to contribute to the local development of their region and encourage destination countries to provide the necessary support for the training and coaching of migrant associations working for the development of the countries of origin.

Skilled expatriates may also play an even more important role in the development of their countries, provided that there is a favourable climate for the development of skills in these countries and that contacts are maintained with the expatriates. Thus, the "physical" return of the migrant is not absolutely indispensable. Several countries are working towards the development of expatriate research networks to mobilize all skills around various development issues and to establish links with networks in their countries of origin.

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<sup>52</sup> The Office organized an expert group meeting on this issue in March 2007 that produced a publication on "International Migration and Development in North Africa". The recommendations of the meeting and the publication are available at [www.uneca-na.org](http://www.uneca-na.org).

<sup>53</sup> This point is addressed in more detail in the section on climate change.

<sup>54</sup> Hassan II Foundation for Moroccans Living Abroad: [www.alwatan.ma](http://www.alwatan.ma)

<sup>55</sup> Hassan II Foundation for Moroccans Living Abroad and CGEM, the Moroccan General Enterprises Confederation, signed a partnership agreement in September 2007 to coordinate their actions and exchange information on investments by Moroccans Living Abroad.

### 5.3 Regional institutions and the international community

Cooperation and regional integration may be essential components for the success of environmental and sustainable development policies in North Africa.<sup>56</sup> Several actions to be undertaken in this regard are implicit for all the challenges identified in this report. The main actions concern:

- Establishment of a regional climate observation network and the construction of meteorological models specific to the region.<sup>57</sup>
- Support for the implementation of networks and communities of practice specialized in the main areas of interest to the region, particularly water.<sup>58</sup>
- Definition of a comprehensive and sustainable partnership for energy between African regional economic communities and Europe as well as the follow-up to the European Union-Africa Summit.<sup>59</sup> Along with this action, it is important to take into account the preparation of the Maghreb Charter on Energy for the establishment of a unified Maghrebian strategy for energy control and alternative energies. This charter is also expected to consider other regional and international charters on the subject and to be based on the experiences of AMU countries and the situation of the international energy market as the first step towards Maghreb-wide coordination.<sup>60</sup>
- Sharing and exchange of national experiences in different areas and particularly in the area of environmental governance.
- Development of South-South cooperation programmes among groups of North African countries and countries in sub-Saharan Africa, to build upon the North African experience in sustainable development, particularly in irrigation and environmental management of projects.

Through the different United Nations agencies, the international community offers an appropriate context for supporting these initiatives. Regional integration is an essential pillar of the actions of the United Nations Economic Commission for Africa, which is celebrating its 50<sup>th</sup> anniversary in 2008 under the theme of sustainable development.

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<sup>56</sup> Arab Maghreb Union and UNEP, Maghreb Report on the Assessment of AMU Efforts in Sustainable Development, September 2001.

<sup>57</sup> Ali Agoumi, "Vulnérabilité des pays du Maghreb face aux changements climatiques", Sustainable Development International Institute, 2003.

<sup>58</sup> United Nations Economic Commission for Africa, Office for North Africa, "Water and Environment in North Africa: policies and strategies", publication in progress, and the World Bank, "Making the Most of Scarcity: Accountability for Better Water Management Results in the Middle East and North Africa", 2006.

<sup>59</sup> Environment Ministers Summit of G8+5, Potsdam, 15-17 March 2007.

<sup>60</sup> Meeting of Maghreb experts in charge of energy planning and control, Arab Maghreb Union, Rabat, 5-6 March 2007. During the meeting, an agreement was made to organize a seminar on "the reality and the perspectives of cooperation in the field of energy in the Union countries", in order to examine the means that can be used to address the challenges concerning the rationalization of energy consumption, the promotion of renewable energy use and the development of petroleum industries in AMU countries.

The relationship between the ECA Office for North Africa and the regional economic communities (mainly the Arab Maghreb Union and the Community of Sahel and Saharan States), facilitates cooperation between the States in the region, in order to accelerate their development.

**Box 10: Promising outlook for collaboration  
between the Secretariat of the  
Convention on Biodiversity and  
the ECA Office for North Africa**

The need for regional and international cooperation is clearly illustrated by the management of global public goods (GPG).

The concept of sustainable development stemmed partly from the awareness of the existence of problems of a global nature that can only be resolved through the coordination of public policies and behaviours of private actors. The GPG approach seems complementary to that of sustainable development, because it can help in determining specific operational goals in the economic, environmental and social fields as well as the economic instruments to be developed.

The GPG concept is derived from that of public good developed by public economy theory.

During the ceremony marking the 20<sup>th</sup> anniversary of her report called “Our Common Future”, Mrs. Gro Brundtland, ex-Prime Minister of Norway, said she would like 2007 to be remembered as the year in which action was taken to face the challenges of climate change. This call has been heard.....I am delighted with the signing last month of the memorandum of understanding between the Secretariat of the Convention on Biological Diversity and four United Nations regional economic commissions, including the Economic Commission for Africa, aimed at mainstreaming the three goals of the Convention into regional development processes. It is a great pleasure and a special privilege to attend your meeting and to count on the cooperation of the Office for North Africa to work together for the advent of a new world advocated by Ibn Khaldoun and one that aims to protect life on earth for the benefit of current and future generations.

*Mr. Ahmed Joghlaif, Executive Secretary,  
Convention on Biological Diversity  
Keynote speech delivered at the Expert  
Group Meeting on Sustainable  
Development in North Africa, Tunis, 18  
November 2007.*

Public goods are products, services or resources that benefit one and all and that are typically non-rival (one person's consumption does not preclude another from consuming the good) and non-excludable (nobody can be excluded from the consumption of this good).

For example, the quality of air in a city or radio waves are public goods, even if the consumption of radio waves implies the purchase of a radio set which can be considered as an element of exclusion for the most underprivileged.

With the awareness of the existence of trans-boundary problems that are made all the more glaring by globalization, the concept of public goods was stretched to cover that of GPG. UNDP defines a GPG as a good that provides benefits that meet the criteria of non-exclusion and non-rivalry, extend to more than one group of countries and do not create discrimination between current or future populations or generations. Taking into account the inter-generational dimension of GPG is consistent with the definition of sustainable development. When this good concerns a certain number of countries that are geographically close to one another, the good is called a regional public good (RPG).

The production of global or regional public goods (GPG or RPG) entails the establishment of instruments complying with all international agreements and commitments and their resulting organizations. These agreements and commitments produce a set of rules that must be followed by all the States concerned. A case in point is the environment, with its different protocols and conventions that prescribe mechanisms to be put in place for their implementation, such as the trading of emission licenses.

However, beyond the instruments that are required for the production of GPGs or RPGs, one of the main challenges is how to coordinate the different actors and instruments that contribute to their production. The key is to determine how to incorporate the treatment of these goods into the architecture of international or regional organizations. The main interest of the sustainable development concept is that it coherently reflects all the various defined goals, even though the implementation of these goals may have adverse effects in the absence of coordination. This need of coordination is even more acute when antagonisms appear among different nations, making stronger cooperation at the regional and international level a prerequisite for the protection/production of GPGs/RPGs.

The logical framework of GPG analysis is the main thread running through the work of ECA on climate change.<sup>61</sup> It provided the backdrop for the discussions between North African experts on sustainable development at the Tunis meeting in November 2007 on North Africa's place on regional and international agendas.

Following these discussions, which were enhanced by the presence of representatives of the Intergovernmental Panel on Climate Change (IPCC), several agencies of the United Nations as well as regional and international research organizations, it was acknowledged that North Africa must work in concert with the rest of the world to reduce greenhouse gas emissions, without compromising its growth objectives.

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<sup>61</sup> United Nations Economic Commission for Africa, "Work of UNECA on Climate Change", 2007.

<p>In their last report, the IPCC experts highlighted the need for the international community to agree on very ambitious goals for the reduction of greenhouse gas emissions over the medium and long terms. They noted that global greenhouse gas emissions must be reduced by at least 50 per cent by 2050 compared to their 1990 levels, in an attempt to keep the increase in temperature below 2°C compared to the pre-industrial era.</p> <p>This Conference was the outcome of several discussions on the relevance, level of ambition and participation as well as the negotiation process for a future global climate framework.</p>	<p><b>Box 11: Follow-up to Bali: taking into account the specificities of North Africa</b></p> <p>In this context, five major issues need to be addressed as a follow-up to the Bali Conference.</p> <ol style="list-style-type: none"> <li>1. Focusing on the multilateral framework offered by the Framework Convention on Climate Change and ultimately the Kyoto Protocol.</li> <li>2. Meeting the very different demands and expectations of the relevant countries on the level of commitment, including financial commitment, of developed countries over the medium and long terms and the commitments of developing countries, including the main emerging countries (China, India, Brazil, Mexico, South Korea, South Africa) and other regional sub-groups such as North Africa.</li> <li>3. Implementing appropriate mechanisms for monitoring the effects of climate change.</li> <li>4. Gathering the resources and using them rationally through research programmes based on the know-how and needs of all components of local populations that help shape development policies.</li> <li>5. Institutionalizing the exchange of experiences on clean development mechanisms among North African countries and between the region and the rest of Africa.</li> </ol>
<p>The goal of the Conference was to reach an international agreement by 2009 that could be signed by countries before the first commitment period of the Kyoto Protocol ends in 2012, and to avoid a legal vacuum at that time and a waning of the political will to combat climate change. The Conference outcomes fell below expectations. The State Parties still have to agree on the principles, particularly that of common but differentiated responsibilities, and on the issues that will be at the heart of the negotiation and that will represent both the ambition and the purpose of the future global climate framework. Moreover, negotiations are still ongoing on reduction, adaptation, technological expansion and cooperation efforts and the financing of future actions.</p>	

## **Box 12: Opportunities offered by ClimDev Africa**

ClimDev Africa (climate for development in Africa) is an ambitious programme that WMO designed with the assistance of ECA and the African Union. Its aim is to help African countries achieve the MDGs by improving climate monitoring, climate services and the management of climate-related risks (especially those related to extreme climate conditions). The goal is to change the course of Africa's climate policy. Designed to last 10 years, this is a continent-wide programme that is supported by the relevant national authorities. Its partners include the African Development Bank, the United Nations World Food Programme and the International Institute of Research on Climate and Society.

Through the reinforcement of the early warning capacities of African countries and their ability to adapt to extreme meteorological and climate conditions, it will be possible to make investments dedicated to development more profitable, promote food security and poverty eradication, and thus contribute to the achievement of sustainable development in these countries.

In its fourth assessment report, the Intergovernmental Panel on Climate Change (IPCC) indicates that climate change will likely or very likely lead to an increase in the frequency and the exacerbation of dangerous natural phenomena such as heat waves, heavy rainfall and droughts in various regions of the world, which will take a heavy economic and human toll.

Climate information is vitally important in dealing with the consequences of climate variability and climate change on agriculture (poor harvests, diseases, etc.), water resources and health, and in countering the threat of natural disasters. Yet, in Africa, the networks capable of providing this information are not very effective and are deteriorating.

Designed mainly to meet the needs of users in the sectors of agriculture, health and water resources, ClimDev Africa is expected to facilitate the incorporation of climate-related information into development practices across the continent, and thus contribute to the achievement of the Millennium Development Goals.

The total cost of this 10-year programme is estimated to be approximately US\$250 million. The available funds will be used to improve four areas: climate observations, climate services, climate risk management and national policies on climate information.

The programme has been approved by the Heads of State of member countries of the African Union and by the Conference of African Ministers of Finance, Planning and Economic Development.

The first phase of the programme is to demonstrate the utility of information concerning climate risks and how it can be used to protect persons and goods and to preserve the means of subsistence.

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**Annex I: GDP structure in North Africa, 2006**

	<u><i>ALGERIA</i></u>		<u><i>EGYPT</i></u>		<u><i>LIBYA</i></u>		<u><i>MAURITANIA</i></u>		<u><i>MOROCCO</i></u>		<u><i>SUDAN</i></u>		<u><i>TUNISIA</i></u>	
<b>GDP</b> (Millions of US dollars)	71375.81		136662.14		46195.98		1355.16		45093.25		17876.25		25598.95	
<b>Sector share of GDP</b>	<b>Amount</b> (Millions of US dollars)	<b>Rate</b> (Per cent)												
<b>Agriculture share of GDP</b>	6657.2	<b>9.32</b>	21953.18	<b>16.06</b>	3233.88	<b>7</b>	261.03	<b>19.26</b>	8563.25	<b>19</b>	5968.97	<b>33.39</b>	2899.03	<b>11.32</b>
<b>Industry share of GDP</b>	38171.74	<b>53.47</b>	50944.26	<b>37.27</b>	23622.76	<b>51.13</b>	445.56	<b>32.87</b>	12135.73	<b>26.91</b>	4746.26	<b>26.55</b>	6757.82	<b>26.39</b>
<b>Services share of GDP</b>	26546.87	<b>37.19</b>	63764.7	<b>46.65</b>	19339.34	<b>41.86</b>	648.57	<b>47.85</b>	24394.27	<b>54.09</b>	7161.03	<b>40.05</b>	15942.09	<b>62.27</b>

Source: "Selected Statistics on African Countries" 2007, Volume XXVI, ADB.

## Annex II: Summary table of MDG achievement by country

Goals	Algeria	Egypt	Libya	Morocco	Mauritania	Sudan	Tunisia
<b>1. Extreme poverty</b>							
Reduce extreme poverty by half (international definition)	Low poverty	Low poverty	Low poverty	Low poverty	High poverty	High poverty	Low poverty
Reduce poverty by half (international definition)	Moderate poverty	Moderate poverty	Low poverty	Moderate poverty			Low poverty
Reduce the proportion of people suffering from hunger by half	Low malnutrition	Low malnutrition	Low malnutrition	Low malnutrition	High malnutrition	High malnutrition	Low malnutrition
<b>2. Education</b>							
Universal access to primary school	High enrolment	High enrolment	High enrolment	High enrolment	Moderate enrolment	Low enrolment	High enrolment
<b>3. Gender equality</b>							
Parity in primary education	Parity	Parity	Parity	Parity	Parity	Close to parity	Parity
Parity in secondary education	Parity	Close to parity	Close to parity	Close to parity	Close to parity	Close to parity	Parity
Parity in higher education	Parity	Close to parity	Parity	Close to parity	Far from parity	Close to parity	Parity
Proportion of female employees in the non-agricultural sector	Very low participation	Low participation	Moderate participation	Low participation	Moderate participation	Very low participation	Low participation
Proportion of seats held by women in national parliament	Very low representation	Very low representation	Very low representation	Low representation	Medium representation	Medium representation	Medium representation
<b>4. Child mortality</b>							
Child mortality rate (children under 1 )	Moderate mortality	Moderate mortality	Low mortality	High mortality	Very high mortality	Very high mortality	Moderate mortality
Reduce mortality among children under 5	Moderate mortality	Moderate mortality	Moderate mortality	High mortality	Very high mortality	Very high mortality	Moderate mortality
Proportion of one-year-old children vaccinated against measles	High coverage	High coverage	High coverage	High coverage	Moderate coverage	Moderate coverage	High coverage
<b>5. Maternal health</b>							
Reduce maternal mortality rates by three quarters	High mortality	High mortality	Moderate mortality	Very high mortality	Very high mortality	Very high mortality	Low mortality
Deliveries carried out by qualified personnel	High access	Moderate access	High access	Moderate access	Low access	Low access	High access

Goals	Algeria	Egypt	Libya	Morocco	Mauritania	Sudan	Tunisia
<b>6. HIV/AIDS and other diseases</b>							
Stop the propagation of HIV/AIDS and begin to reverse the current trend	Low prevalence	Low prevalence	Low prevalence				
Stop the propagation of malaria and begin to reverse the current trend	Low prevalence and impact	High prevalence and impact	High prevalence and impact	Low prevalence and impact			
Stop the propagation of tuberculosis and begin to reverse the current trend	Low impact	Low impact	Low impact	Medium impact	Very high mortality	Very high mortality	Low impact
<b>7. Sustainable environment</b>							
Proportion of forest areas	Very low coverage	Low coverage	Very low coverage				
Sustainable access to safe drinking water supply	High coverage	High coverage	Very high coverage	High coverage	Moderate coverage	Moderate coverage	High coverage
Urban population using improved sanitary amenities	Very high coverage	High coverage	Very high coverage	High coverage	Low coverage	Low coverage	Very high coverage
<b>8. Global partnership</b>							
Youth unemployment	Very high unemployment	Very high unemployment	Very high unemployment	Very high unemployment	Very high unemployment	Very high unemployment	Very high unemployment
Internet users	Low access	Very low access	Very low access	Low access	Very low access	Very low access	Low access

Sources: ECA/SRO-N

### Annex III. Institutional framework of sustainable development implementation in North Africa

	Algeria	Egypt	Libya	Morocco	Mauritania	Sudan	Tunisia
Institutional supervision of Environment and SD + other institutions	Ministry of Territorial Administration and Environment (Mate)  Economic and Social National Council	Ministry of State for Environmental Affairs (MSEA, 1997) Egyptian Environmental Affairs Agency (EEAA, 1982) ( <a href="http://www.eeaa.gov.eg">www.eeaa.gov.eg</a> )	General Environment Authority (EGA)  General Water Authority (GWA)	Ministry of Territorial Planning, Water and Environment ONEM (Morocco Environment National Observatory) <a href="http://www.matee.gov.ma/onem/index.asp">http://www.matee.gov.ma/onem/index.asp</a> Renewable Energies Development Centre (CDER)	Delegate Ministry to PM in charge of environment	Ministry of Environment and Physical Development, Ministry of Irrigation and Water Resources National Council for Aquatic Resources Administration for Combating Desertification	Ministry of Environment and Sustainable Development  ANEP
Specific coordination mechanisms/or ganisations	Planning and SD National Council	Sustainable Development Committee		National Environment Council	CNED CITEP	Higher Council for Environment and Natural Resources (HCENR, 1991)  Multi-Stakeholder National Coordination Committee (MSNCC)	Many: national and international
SD strategy, Environmental action plan + other related strategies	Environmental national strategy  PNAEDD- National action plan for environment and sustainable development SDRD (rural sustainable development strategy, 2005-2015)	No SDNS PNAE – last version in 2002 <a href="http://www.eeaa.gov.eg/English/reports/neap/Neap_Eng-last.pdf">http://www.eeaa.gov.eg/English/reports/neap/Neap_Eng-last.pdf</a>		SNPEDD (1995, 2006 ?) + PANE + SNAT + AT charter + national water strategy + PDAIRE (integrated water development master plan) + Human Development National Initiative (INDH)	SNDD (2006) PANE (2006)	NIP-PoPs (action plan for the elimination of persistent organic pollutants, elaborated between 04 and 06)  National Plan for Environment Management (NPEM)	National Agenda 21

SD indicators	Territorial SD indicators Environmental indicators (ONS)	YES – last publication August 2007-10-23 <a href="http://www.eea.gov.eu/English/reports/Newsletters/IndicatorsBulletinAug07.pdf">http://www.eea.gov.eu/English/reports/Newsletters/IndicatorsBulletinAug07.pdf</a>		National Index Report	NO	NO	Index National Report (2003)
Follow-up and assessment mechanisms	National Waste Agency (AND) National Centre for Clean Production Technologies (CNPTP)	Annual follow-up reports on environmental policies by the MSEA and the EEAA (last, 2001) Report on the state of environment (2004) <a href="http://www.eea.gov.eu/English/info/report_soe2005.asp">http://www.eea.gov.eu/English/info/report_soe2005.asp</a> Environmental profile		Report on the state of environment (REEM, last 2001) Environmental profile	NO	Environmental assessment (March 07, UNEP)  Annual follow-up reports & assessment of the different commitments	
Information systems	National Migrations Observatory (ONM) – Control networks – National Environment Laboratory	Integrated and efficient environmental information systems (air pollution, coastal waters, solid waste)		SIDER (Information System on Regional Environment) IS on environmentally sustainable industrial development	NO	NO	International Centre of Environment Technologies of Tunis (CITET) National Environment Observatory National Office of Decontamination (ONA) Coast Protection and Planning Agency
Environment integration	EIA Guide	EIA Guide		EIA Guide	Diagnostic study on mechanisms (in progress)	Coordination within HCENR	EIA Guide
Communication / Action plan on CC		NSEC- National Strategy of Environment Communication (2005) <a href="http://www.eea.gov.eu/English/reports/NSEC-en.pdf">http://www.eea.gov.eu/English/reports/NSEC-en.pdf</a>			PANE communication strategy		
Plan for	NAP-DC (2003)	Report on DC (UNCCD)			NAP-CD		NAP-CD

combating desertification							National Strategy of forest and pasture reforestation
Report on biodiversity	National strategy for biodiversity conservation BDC implementation report				National monograph National Strategy		Report on biodiversity
Agenda 21 / PDL / decentralization	Local agenda 21s			Local agenda 21s	Regional poverty reduction programmes (PRLPs)		11 PEM (municipal environmental plans) 32 local agenda 21s 2 UDS (urban development strategies)
IEC		IEC strategy – Identification of target groups (women and children) – In 2004, 1,473 training workshops on environment – Awareness brochures and posters (12,000 in 2003 and 7,000 in 2004)		Training programmes dedicated to environmental issues	ENAP communication strategy (2004)		
Regulations	Framework laws: environment territorial planning 9 laws + implementation decree Environmental tax system				Framework law: environment + 2 implementation decrees (EIA and FNE)	EPA (Environment Protection Act, 2001) Environmental protection and SD are included in the Constitution (1998)	
Capacity-building					ANCR Strategy +	NO	

Best practices	Tax provisions on polluting activities	Programme for combating industrial pollution Environmental protection fund					
Regional or international technical co-operation		Africa Environment Information Network  Euro-Mediterranean Programme for Environment  Euro- Mediterranean Technical Assistance Programme for Environment (solid waste)  Clearing House Biodiversity Mechanism					GEF- Maghreb project SMAP Other Mediterranean networks
Financing collection		Environmental protection Fund (EPF)					

**Annex IV. Summary table of environmental and sustainable development indicators**

Algeria (CCA. 2005)		Egypt	Libya	Morocco	Mauritania	Sudan	Tunisia
<b>Biodiversity</b>							
- Surface area of Protected Areas	25 per cent (500.000 km <sup>2</sup> )	7.5 per cent (1995) 15 per cent (2010 forecasts, already achieved in 07)	0.10			6.4 per cent	
Mild areas	0.5 per cent					20 per cent	
Forests (as percentage of territory)	2 per cent			7 per cent			11 per cent
Alfa steppes	1 per cent						
Annual reafforestation rate (per cent) – 2000	29.41	2	4.67	9.6	????	30	13.9 (11.75 in 2002)
CO2 emission per capita	3.92 TE <sub>CO2</sub> 5.92 (2000) 4.00 (98)	4.2 (2000) 4.00 (98)	21.83 (2000) 7.00 (98)	2.51 (2000) 1.00 (98)	1.24 (2002) 1.1 (98)	0.33 (2000) 0.00 (98)	3.86 (2000) 2.00 (98)
CFCs that deplete the ozone layer	24.5 million tons						
Sustainable access to drinking water	62 per cent (1988) 75 per cent (1995) 82 per cent (2000)					70 per cent (2004)	
Water use per person/ year (m <sup>3</sup> ) – year 2000	201	1013	919	438	?????	1187	286
Water use (2002)	3.3 billion m <sup>3</sup> Household (39 per cent) Irrigation (55 per cent) Industry (6 per cent)						2.8 billion m <sup>3</sup> (2001) Household (11 per cent) Irrigation (84 per cent) Industry (5 )

Proportion of population having access to a better decontamination system	98,4 per cent (2002) urban 85 per cent (rural)					64 per cent (2004)	32 per cent (1974) 97 per cent (2002)
Qty of household solid waste (t/year)	7,000,000 (2004)	15,000,000 (2000)		4,515,000 (1992) 6,500,000 (2000)		1,101,205 (2005)	
Qty of biomedical waste (t / year)				NC (1992) 11,910 (2000)			
Qty of industrial waste (manufactures)	325,000 (2004)			800,000 (1992) 974,074 (2000)			
Environmental degradation cost (percentage of GDP)	3.67	4.8	Not determined (ND)	3.7	Not calculated (NC)	Not determined (ND)	2.1
Public expenditure in environment (percentage of GDP)	0.84						1.12

**Annex V. List of Participants, Expert Group Meeting on Sustainable Development in North Africa:  
Experiences and Lessons**

**Gammarth, Tunisia  
18-21 November 2007**

**EXPERTS**

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