Food Security in North Africa

Situation analysis and reactions from the States over the instability of agricultural markets
Food security in North Africa

Situation analysis and reactions from the States over the instability of agricultural markets
Food security in North Africa:
Situation analysis and reactions from the States over
the instability of agricultural markets

Published by the North Africa Office of the United Nations Economic Commission for Africa (ECA-NA)
Avenue Attine - sector 3 - A5
P.O. Box 2062 Rabat Ryad
Hay Ryad, Rabat
Morocco

Website: www.uneca.org/sro-na

This publication was presented at the Twenty-seventh meeting of the Intergovernmental Committee of
Experts (ICE), held in Rabat, Morocco, from 6 to 9 March 2012, following a recommendation made by the
previous meeting of the ICE 2011.

Under the supervision of Mrs Karima Bounemra Ben Sultan, Director of ECA-NA Office, this publication
was prepared by Mrs Marieme Bekaye, Sustainable Development Economist.

© ECA-NA, 2012
Rabat, Morocco

All rights reserved
First printing 2012

Material in this publication may be freely quoted or reprinted. Acknowledgement is requested, together
with a copy of the publication.
CONTENTS

Foreword .............................................................................................................................................................. 1

Introduction ............................................................................................................................................................ 5

Objective of the report ........................................................................................................................................ 5

Methodological approach ................................................................................................................................ 5

I. International context: A trend of ongoing tension over food prices ......................................................... 7

II. Food security in North Africa ....................................................................................................................... 11

II.1 Overview of the agricultural sector and main constraints ...................................................................... 11

II.2 Structurally loss-making cereal production and a growing dependency on food imports ...................... 16

II.3 Critical prospects to be taken into account .............................................................................................. 18

III. Economic and social effects of rising prices of basic products ............................................................... 21

VI. Overview of the main policy measures ..................................................................................................... 25

IV.1 Subsidies to consumers .............................................................................................................................. 26

IV.2 Examples of support measures for producers ......................................................................................... 29

V. Conclusion: summary and key messages .................................................................................................... 39

V.1 Summary .................................................................................................................................................... 39

V.2 Key messages and avenues for reflection ............................................................................................... 41

Bibliography ....................................................................................................................................................... 45
### ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGA</td>
<td>income-generating activity</td>
</tr>
<tr>
<td>WB</td>
<td>World Bank</td>
</tr>
<tr>
<td>CIHEAM</td>
<td>Centre international de hautes études agronomiques méditerranéennes (International Centre for Higher Mediterranean Agronomic Studies)</td>
</tr>
<tr>
<td>CMAP</td>
<td>Centre Mauritanien d'analyse des politiques (Mauritanian Policy Analysis Centre)</td>
</tr>
<tr>
<td>FAO</td>
<td>United Nations Food and Agriculture Organization</td>
</tr>
<tr>
<td>IPEMED</td>
<td>Institut de Prospective Economique du Monde Méditerranéen</td>
</tr>
<tr>
<td>MAED</td>
<td>Ministère des Affaires Economiques et du Developpement (Ministry of Economic Affairs and Development)</td>
</tr>
<tr>
<td>AOAD</td>
<td>Arab Organization for Agricultural Development</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>USDA</td>
<td>United States Department of Agriculture</td>
</tr>
</tbody>
</table>
Agriculture is one of the fundamental pillars of the North African economies and has an important social dimension (food, employment, income). Its role in the regional development and the fight against poverty, especially in rural areas, is fundamental.

However, the region faces a structural cereal deficit and is highly dependent of the international markets for its supply. It stands for 16-17 % of world wheat imports (strategic grain for the region). Notably the imports of only three countries (Algeria, Egypt and Morocco) stand for 13 to 15% of world imports.

Between 1990 and 2010, the volume of agricultural imports has tripled in four North African countries (Algeria, Egypt, Morocco and Tunisia), significantly affecting public budgets. In 2010, the share of agricultural products accounted for 18 % of total imports in Algeria, 23% in Egypt, 14% in Morocco and 11% in Tunisia. In 2011, these trends continued. Algeria has for example spent $2.8 billion dollars to buy his wheat, an increase of 125% compared to 2010.

While significant efforts are underway to improve the production and the competitiveness of the agricultural sector in all countries, the national cereal production remains insufficient to meet the growing needs of the population. Sector productivity is limited by many constraints and imports of agricultural products continue to play a key role in food security.

The global food market was severely disrupted during the period 2007-2011 due to imbalances between supply and demand. Among the factors involved are the changes in the climate system, causing frequent extreme events (droughts and floods) observed in some grain exporting countries. According to several recent studies, the impacts of climate change could accelerate in the coming decades with an overall negative effect on agricultural production.

The uncertainty on the global markets for agricultural products is a constant threat to the supply of domestic markets and the food security of the region. North Africa is particularly vulnerable to fluctuations in the world grain market. This dependence is expected to grow over the coming years (mainly due to population growth and lack of productivity) and all countries remain, to varying degrees, net importers of cereals 2030 (FAO).
Rising food prices have had significant economic impacts (higher food import bills, food price inflation, heavy subsidies, and tax losses) as well as social impacts (poverty, malnutrition) in all countries. Deficits in the agricultural trade balance widened. Countries that are already facing budget constraints have difficulty allocating the necessary investments in increasing agricultural production and productivity in an environment where resources of arable land and water are limited for most countries region. This also affects the level of social spending on education and health.

Regional trade between countries remains very underdeveloped whereas enhanced cooperation would enable them to secure their supplies and benefit from complementarities of their agriculture and industries. Whilst the policy statements on strengthening cooperation and regional integration are clear, concrete measures are slow to materialize. A free trade agreement for the establishment of a free area for agricultural products between the countries of the AMU was signed in June 2010 in Tripoli (Libya). Discussions are underway for its operationalization.

In this context, the North African countries should focus on a comprehensive and multifaceted approach to food security that is part a perspective of inclusive socio-economic development. Such an approach will integrate the objectives of agricultural development, the fight against poverty and in particular job creation in rural areas, taking into account environmental externalities (sustainable management of water resources and soil), adaptation to climate change and disaster risk management.

The report on food security in North Africa: «An analysis of the situation and reactions of States facing the instability of agricultural markets» aims to provide a better understanding of the impact of rising commodities prices and the policy measures implemented by countries to address these in short-term and also in the longer term. It represents a first step in a process aiming to ensure regular monitoring of the agricultural and food security policies implemented in the countries of the region.

The lessons learned from this analysis provide strategic guidance to Member States in their efforts developing an integrated food security policy that contributes to the objectives of the fight against poverty and sustainable management of the environment and natural resources. The focus is the following:

- The investment programs supported to improve productivity, especially in subsistence agriculture.
• Capacity building for small farmers and agricultural organizations in agricultural development, risk management, adoption of improved technologies and access to markets.

• The design of well-structured social protection systems with measures targeting the poor and vulnerable groups.

• Agricultural trade policies that support national food security goals and promote a stable food supply.

• The establishment of favorable conditions for private investment in agriculture and agro –industry.

• The development of agricultural research and technological innovation to increase productivity and conservation of natural resources.

• The risk management instruments to strengthen resilience to shocks and natural disasters.

• The establishment of comprehensive, shared and integrated information systems, taking into account the human and ecological dimensions.

Finally, in a context of economic and trade globalization, regional integration could provide answers to some of the food security challenges, taking advantage of complementarities and regional opportunities. It would facilitate investment, the development of agricultural trade, the pooling of resources and expertise. Regional integration also strengthen the role and capacity of countries during international negotiations. Such an approach involves in particular to proceed to the harmonization of agricultural policy instruments, commercial and regulatory tools to strengthen infrastructure for transport and to initiate and implement regional initiatives in some areas.

Karima Bounemra Ben Soltane
Director, SRO-NA
INTRODUCTION

Objective of the report

The 2011 meeting of the Intergovernmental Committee of Experts (ICE) had recommended that the North Africa Office of the United Nations Economic Commission for Africa (ECA) carry out a monitoring study of the policies, reforms and major programs implemented by countries to cope with price volatility and strengthen food security.

To this end, the North Africa Office of the ECA prepared a report on food security in North Africa: “Policy analysis and key messages”. This report aims for a better understanding of the effect of rising prices of basic products and policy measures implemented by countries to deal with this in the short term but also over the longer term, as part of an integrated food security policy to contribute to the objective of the fight against poverty and the sustainable management of the environment and natural resources.

The lessons learnt from this analysis should provide policy guidelines through key messages to Member States allowing them to limit their vulnerability in the face of the international market and boost their production and agricultural productivity.

Methodological approach

This report was written on the basis of data collected from Member States through a questionnaire sent in August 2011 to the institutions concerned by food security in the Member States. Only four out of seven countries answered the questionnaire. These were Algeria, Morocco, Mauritania and Tunisia.

The analysis of the questionnaires gave limited results given that the data required was not provided in full by some countries. This situation also made comparisons between countries difficult.

Further research work was therefore necessary to partly complete the missing statistical data, and obtain information on current policies. This work was hampered by the divergence of figures depending on the source (national, FAO, USDA). The analysis therefore gave priority to national data sources and used the sources of the specialized international institutions (FAO, WB) to fill in missing information and give an order of magnitude or a trend that might support the analysis.
It should be noted that this report is the first stage of a process aimed at the periodic monitoring of agricultural and food security policies put in place by countries in the region. The methodological approach to be adopted (key indicators, data sources, access to relevant documents) should be discussed with the Member States, so as to overcome the problem of access to data and reliable information.
I. INTERNATIONAL CONTEXT A TREND OF ONGOING TENSION OVER FOOD PRICES

Since the 2007/2008 food crisis, and after a slight slowdown in 2009, there was a new rise in world foodstuff prices and agricultural raw materials in particular in 2010/2011. This mainly involved cereals (apart from rice), oilseeds and sugar. In December 2010, the FAO price index for food products went over the peak reached in 2008 and reached a new high in February 2011, with an increase in the world price of wheat of nearly 70% as compared to December 2010 and the price of maize by 90% over the same period. Although there was a fall over the remainder of 2011, prices nonetheless generally remained higher than in the previous year. So price volatility now seems to be a permanent feature on international foodstuff markets with an upward background trend.

This situation is a serious threat for the food security of populations. The number of people suffering from hunger rose from 850 million in 2006 (before prices soared) to over a billion in 2009, a sixth of world population (FAO). In 2010, this figure fell to 925 million people, 98% of whom come from developing countries, in particular in Sub-Saharan Africa, where 30% of the population suffer from hunger. The World Bank estimates that 44 million people fell below the poverty line in the first half of 2010 on account of the increase in food prices.

Many factors contributed directly or indirectly to the instability of the world food product market including: the downturn in production and world stocks which are still at a historic low, in the face of a regular increase in world food
demand1, insufficient investment in the sector in spite of a recent upward trend2, the effects of climate change (leading to poor harvests in 2010 in several cereal exporting countries like Russia, Canada, Australia, Argentina), growing demand for biofuels (Over 10% of the world maize harvest is use for biofuel production), higher oil prices and the ongoing effects of the economic and financial crisis. In addition to these determining factors there are government measures taken by the most important exporting-consumer countries to restrict their cereal exports and protect their domestic market. Further, although views are not unanimous on this, speculative practises on agricultural markets are cited by some as a contributory element adding to market volatility. On this point, the special UN rapporteur on the right to food stated in a briefing note (September 2010): “a significant part of the rise in prices is explained by the appearance of a speculation bubble”.

Market prospects remain uncertain and unpredictable. Various studies carried out since 2008 by the OECD, the FAO and the World Bank have reached the conclusion that there is a trend for prices to increase over the next ten years which reflects persisting tension between supply and demand. Over the last ten years there has been a distinct slowdown of yield growth and a drastic fall in public funding of agriculture. The World Bank’s development report on agriculture (2008) states that state development aid for agriculture fell by 20% during the 1980s to 4% at the start of the 2000s and 3% in 2007.

According to the World Bank, the strong fluctuations (around their average rate) of international cereal prices doubled between 2005 and 2010 as against 1990 and 2005 and the recent rises (2010/2011) affected a wider range of agricultural commodities than in 2008. The joint OECD- FAO report on prospects for agriculture (2011) estimates that average wheat and secondary cereal prices over the next ten years (2011-2020) could be 20% higher, in real terms (corrected for inflation), than the average for the previous decade. It stresses that world agricultural production should show slower growth settling at 1.7% per year on average as against 2.6% over the previous decade. This slowdown should affect most crops in particular oilseeds and secondary cereals which face high production costs and a slowdown in growth in productivity. There is agreement amongst experts that by 2050 world food demand should surge, by an order of 70% to 100%, under the combined effect of demographic growth and greater demand for animal protein, arising from the increase in earnings in emerging and developing countries. Production of biofuels will further strengthen this growing demand. This situation where available production might not satisfy a growing demand should keep international prices under pressure.

1 The increase in world population will require a 70% rise in food production by 2050- Source: FAO- How to Feed the World in 2050- 2009.
2 Over the period 2003-2008, bilateral agricultural aid increased at an annual rate of 13% in real terms. OECD - Measuring Aid to Agriculture.
The many uncertainties related to climate conditions, the macroeconomic and financial environment, energy prices, investment decisions and political options, make forecasting trends in international markets and agricultural prices difficult. A new FAO study in particular gives further support to existing analyses on the major impact of climate change on water available for agriculture and crop productivity over the coming decades.

In this context, the international community is redoubling its efforts to boost agriculture and make food security a new priority, after two decades of underinvestment. In 2008, aid to agriculture had accounted for 7 billion dollars, 6% of total ODA. Many initiatives were launched after the 2008 food crisis. There was in particular the Aquila initiative on food security (July 2009), the declaration of the 2009 World Food Summit, the reform of the Committee on World Food Security (CFS) implemented in 2009 and 2010, the World Bank’s Global Program for Agriculture and Food Security (set up in 2010), the Comprehensive Framework for Action developed by the High-level Task Force on the Global Food Security Crisis, the Consultative Group on International Agricultural Research (CGIAR), the resolution of the African Union to strengthen investment in agriculture as provided in the Comprehensive African Agricultural Development Programme (CAADP) adopted at the African Union Summit (Maputo, 2003), the Food Security Initiative of the Arab Organization for Agricultural Development (AOAD) and the Maghrebi agriculture 2030 strategy of the AMU.

All these initiatives stress the introduction of a common worldwide approach encouraging strategic coordination and coherent efforts at world, regional and national level and increased investment in agriculture and food security. For now boosting ODA while effective remains slow and difficult to quantify.

In 2011, and in accordance with the undertakings given by the G20 at the Seoul Summit (2010), the G20 Ministers of Agriculture met (June 2011) and adopted an action plan to combat price instability and promote a sustainable world agriculture. A number of studies, in particular an inter institution report with the title: “Volatility of food prices and agricultural markets: political responses”, coordinated by the OECD and the FAO, fed into the work of this G20 meeting which was in agreement over the need to promote:

---

3 FAO- Climate change, water and food security- June 2011.
4 The Aquila Initiative announced the collective mobilization of over 20 billion dollars over a period of three years to support production and world food security.
5 The annual session of African Ministers of Finance, Planning and Economic Development held under the aegis of the AU and the ECA (Malawi- March 2010) adopted Resolution L-11 entitled “Achieving food security in Africa within five years”
6 The FAO and the OECD coordinated the preparation of a joint report with the World Bank, UNCTAD, IFAD, the IMF, WFP, and WTO with the aim of putting policy options to the G20.
• The increase in world agricultural production and the fulfilment of the financial commitments made under the Aquila initiative;

• The putting in place as of 2012 of an information system on agricultural markets (AMIS), at the FAO and which would allow the sharing of information on markets (production, consumption, stock levels of agricultural raw materials) and fast reaction in the event of a crisis;

• the creation of a “rapid reaction forum” allowing better coordination of market policies;

• the devising of a pilot project for setting up emergency humanitarian food reserves in developing countries;

The measures proposed were found to be encouraging but shortcomings were noted over issues related to the creation of emergency humanitarian food reserves, biofuels and the financial regulation of agricultural markets.

In the words of the ex-Director General of the FAP, “...Coherent policies are required so as to reduce volatility and limit negative fallout. The main solution to the problem will be to increase investment in agriculture and promote rural development in developing countries,...”. (Diouf J., 2011).

More recently in January 2012, the international Summit of Ministers of Agriculture on “Ensuring food security via sustainable growth: exploitation by agriculture of limited resources” recalled that agriculture is a “decisive” key sector of the “green economy” for combating poverty. Ministers asked for the role of agriculture to be taken into account in the resolutions of the Rio+20 conference and undertook to renew their efforts to eliminate hunger and malnutrition. They stressed that it was vital to enable small farmers to invest and to “have safe access to land and water”. The importance of the role of women in the agricultural sector was also highlighted. Lastly, stress was laid on climate protection and the rational use of limited resources, and the FAO was asked to devise methods for reducing loss and waste of food.
II. FOOD SECURITY IN NORTH AFRICA

In a world context with many uncertainties over trends in climate change, the economic and financial crisis, the volatility of agricultural and energy prices, the ability of countries to ensure food security is even more than in the past a priority strategic issue for the region. Already in 2008, the “hunger riots” were an illustration of people’s anger over soaring food prices. In 2011 practically the entire region was affected by a succession of political crises and social protest movements, in particular in the face of sustained high food prices, low household buying power and increased youth unemployment. The armed conflict in Libya led to large-scale population movements, both inside and outside the country, with serious consequences for the food security of the sub-region.

The 2008 food crisis revealed the vulnerability and limits of agricultural policies prioritizing the modern sector over small farmers.

Highly dependent on imports of basic food products, in particular cereals, countries are faced with a dizzying rise in their food import bill which is increasingly deepening the imbalance of the agricultural and agrofood trade balance. It has been possible to partially stabilize consumer prices only through large levies on state budgets.

Improvement of agricultural production and food accessibility (trade policies, increases in earnings) are central issues of public policy in the countries of North Africa. The lessening of climate risk on already rare productive resources (water and land) should be at the heart of food security policies.

Further, new integrated approaches and appropriate policy instruments should be devised to deal with the challenges of agricultural productivity, securing market supply, combating poverty and adaptation to climate change.

II.1 Overview of the agricultural sector and main constraints

Agriculture is one of the fundamental pillars of the economies of North Africa and has a considerable social dimension. Alongside its contribution to GDP and external trade, the sector occupies on average 30% of the total active population and is the main source of earnings and employment for 75 to 80% of the rural population. It also plays an important role in land development and food security of the population.

However, despite important investments made to develop irrigation, agriculture has remained essentially rain dependent and uncompetitive. The portion of irrigated land in relation to land farmed varies between 7 and 18%, except
in Egypt where nearly 95% of farmed land is irrigated by the Nile (AOAD, 2007) and Libya where 50% of cereal production is from irrigated agriculture. In Mauritania, it is small (10.61% of farmland).

Agricultural models prioritizing the development of extensive agriculture have not taken account of the ecological constraints and have led to a decline in the productive potential of farmed ecosystems, with yields which have remained low and limited. Cereal crops occupy around 70-80% of the Utilized Agricultural Land in the countries and are grown by most farmers (over 60%). Cereal yields are currently around half the average world yield, and this gap continues to grow. In Tunisia, they are on average of the order of 3.5 tonne/hectare for irrigated land and 1 tonne/hectare when rainfed. In Morocco, they are estimated at 2.5 tonne/hectare for irrigated land and 1 tonne/hectare when rainfed (favourable Bour zones). In Mauritania, these yields are of the order of 4.6 tonne/hectare for irrigated land and 0.8 tonne/hectare when rainfed. Egypt alone has yields of 7-8 tonne/hectare comparable to those recorded in “developed” countries. This lack of productivity is explained to a great extent by insufficient investment in particular in agricultural research, which is on average no higher than 0.6% of agricultural GDP (excerpt in Libya where it is 1.6% of agricultural GDP and Morocco, 0.9%). In a general way, innovation, training and support schemes remain very poor.

The liberalization of the sector under the structural adjustment programmes, even if only partly implemented (there is still strong state regulation for strategic areas like wheat, rice and milk which continue to be subsidized and have various support mechanisms: domestic price controls, customs duties...), has not achieved the expected results. So the reduction of state financial resources allocated to the sector, the accelerated privatization of intervention bodies and the opening up to external markets has taken place at the expense of small family farms over 60% of which are under 5 hectares. At 80% they dominate agricultural production but their productivity has remained low in the absence of appropriate guidance and support. They coexist with large, more competitive, modern operations better organized and integrated in consumer markets. These large operations are in a particularly privileged situation for access to (often more fertile) land, water, credit, means of production and State aid. Moreover, they have greatly benefited from the price support policy and the special tax scheme for agriculture.

The land scheme with its complexity and many forms of tenure, high fragmentation and limited access to land title was until now unsuited to the demands of modernization and profitability. It has long been an obstacle to private investment and limited access to credit, with attempted reforms having only a limited success. As of now, following the new reforms of the sector entailed by
the 2008 crisis, a legal framework has been introduced in a number of countries to support the development of individual entrepreneur type farms. So it is that Algeria has passed a law giving entitlement to a concession (40 years) to those holding private national capital, hitherto excluded from access to agricultural land. Tunisia had already shown the way for this experiment by giving a (40 year) concession to private companies for private State domain land, so authorizing the formation of large modern agricultural undertakings. In Morocco, one of the foundations of the public–private partnership defined by the Green Plan, is priority access to property for private investors under the public–private partnership scheme.

Nor have the many risks facing the agricultural sector (climatic, phytosanitary, environmental and operational) favoured private investment and they have led to heavy debts for small farmers. The agricultural insurance sector is also underdeveloped in the countries of the region. Algeria has set up drought insurance focused on strategic crops like cereals. Morocco has launched a strategic study on “risk management and setting up of an agricultural insurance system in 2011 under the Green Morocco Plan (PMV - Plan Maroc Vert) which reached the conclusion that agricultural risk currently accounted for 26% of overall production and was 50% concentrated in cereals and 30% in fruit and vegetables. So risk management is seen as a key lever which could secure over 12 billion Dirhams.

Agro-industry remains insufficiently developed in the light of the potential benefits for growth and employment. In Morocco, it makes a 5% contribution to GDP and offers 60,000 jobs.

Regional trade between the countries is poorly developed despite various discussions between the Maghreb countries on the importance of cooperation and development of trade.

**Place of agriculture in GDP**

The performance of the agricultural sector has a direct influence on national economic growth but to a varying extent according to the country, depending on its agriculture and level of economic diversification. Closely linked to rainfall, the sector’s contribution to overall GDP has shown no significant growth over the period 2005-2011. It comes on average to 13% in Morocco, 11% in Tunisia, 7% in Algeria and 3.5% in Mauritania (National sources). Average figures would be 30% in Sudan, 13% in Egypt and 2% in Libya over the period 2006-2008 (source World Data Bank 2011).
**Table 1: trends in agricultural GDP (% overall GDP, market price)**

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>(P)2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morocco</td>
<td>13.2</td>
<td>15.2</td>
<td>12.5</td>
<td>13.1</td>
<td>14</td>
<td>13</td>
<td>-</td>
</tr>
<tr>
<td>Mauritania</td>
<td>4.3</td>
<td>2.8</td>
<td>3.2</td>
<td>3.8</td>
<td>4.2</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Algeria</td>
<td>7.7</td>
<td>7.5</td>
<td>7.6</td>
<td>6.6</td>
<td>9.3</td>
<td>8.4</td>
<td>7.8</td>
</tr>
<tr>
<td>Tunisia</td>
<td>11.8</td>
<td>12</td>
<td>11.4</td>
<td>10.6</td>
<td>11.1</td>
<td>10.1</td>
<td>10.6</td>
</tr>
</tbody>
</table>

**Sector contribution to employment in some countries**

The agriculture sector is the main source of jobs for the countryside. It accounts for 43% of jobs in rural and semi-rural areas in Tunisia and 80% of rural jobs in Morocco. These jobs however are blighted by the seasonal nature of agriculture.

The countries of the region have over recent decades seen an ever faster rural and agricultural exodus, without the countryside population falling in absolute value (as the rate of natural growth is higher than the rural exodus). The rate of urbanization is now above 55% in most countries (Algeria, Morocco, Mauritania and Tunisia).

An analysis of the country data available on employment in agriculture shows a general downward trend for Morocco and Algeria. The sector is claimed to employ around 16% of the active population in Tunisia (2006, national statistics), 28% in Egypt and 6% in Libya.

Rising agricultural product prices do not seem to have encouraged the entry of new investors and the consequent creation of sustainable jobs.
**Table 2: Agricultural employment (% of the total active population)**

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morocco</td>
<td>42.7</td>
<td>41.4</td>
<td>39.8</td>
<td>38.4</td>
<td>38.1</td>
<td>-</td>
</tr>
<tr>
<td>Mauritania</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10.50</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Algeria</td>
<td>14.5</td>
<td>15.9</td>
<td>11.7</td>
<td>12.1</td>
<td>11.8</td>
<td>10.5</td>
</tr>
<tr>
<td>Tunisia</td>
<td>-</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Contribution to food exports**

Exports of food products have fallen in Morocco and Tunisia over the last two years (2009-2010) on account of the economic crisis. Agricultural production contributes on average nearly 30% to exports in Tunisia and 20% in Morocco. In Algeria, agriculture accounts for only a negligible proportion of exports.

**Table 3: Share of food exports (% of national agricultural production)**

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morocco</td>
<td>19.5</td>
<td>17.5</td>
<td>23.2</td>
<td>21.6</td>
<td>19.0</td>
<td>19.3</td>
</tr>
<tr>
<td>Mauritania</td>
<td>0.8</td>
<td>0.8</td>
<td>0.9</td>
<td>1.1</td>
<td>0.9</td>
<td>2.3</td>
</tr>
<tr>
<td>Algeria</td>
<td>29.3</td>
<td>34.1</td>
<td>33.1</td>
<td>36.7</td>
<td>28.4</td>
<td>22.5</td>
</tr>
<tr>
<td>Tunisia</td>
<td>29.3</td>
<td>34.1</td>
<td>33.1</td>
<td>36.7</td>
<td>28.4</td>
<td>22.5</td>
</tr>
</tbody>
</table>

**Table 4: Earnings from food exports (in % GDP, market price)**

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morocco</td>
<td>3.7</td>
<td>3.7</td>
<td>3.9</td>
<td>3.8</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Mauritania</td>
<td>0.07</td>
<td>0.06</td>
<td>0.07</td>
<td>0.07</td>
<td>0.08</td>
<td>0.19</td>
</tr>
<tr>
<td>Algeria</td>
<td>3.5</td>
<td>4.1</td>
<td>3.8</td>
<td>3.9</td>
<td>3.1</td>
<td>3.0</td>
</tr>
<tr>
<td>Tunisia</td>
<td>3.5</td>
<td>4.1</td>
<td>3.8</td>
<td>3.9</td>
<td>3.1</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Data on GDP, employment and agricultural exports show the relative dependency of Morocco and Tunisia with regard to agriculture. In Algeria, even if economic activity remains dominated by the hydrocarbon sector (48% of GDP in 2009), agriculture has a 7% share in wealth creation, annually on average over the period 2005-2011.
II.2 Structurally loss-making cereal production and a growing dependency on food imports

Cereals are the staple of the diet in all the countries of North Africa. They are therefore seen as strategic for population food security. Among cereals, wheat (soft wheat and durum wheat) has an important place in the diet of the countries of North Africa and often accounts for over 50% of the calorie intake from food. In terms of the production output, cereals are the main agricultural products and occupy over 50% of farmland.

There is a structural cereal shortage in the region and its supply of basic food products is very strongly based on international markets. There is a concentration in the region of 16 to 17% of world wheat imports, 13 to 15% of which involve just three countries (Algeria, Egypt and Morocco with 6-7% of world imports for Egypt, the world’s leading wheat importer) and 10 to 12% of maize imports. According to the FAO, this dependency should grow over the coming years (mainly on account of demographic growth and low productivity) and all countries are said to still be to a greater or lesser extent net importers of cereals until 2030. World economic forecast models are that consumption of cereals and meat in Arab countries will continue to exceed production, leading to growing dependency on food imports (FAO, 2008). This situation further underlines the limits of the policies in operation over the last two decades to control and lessen countries’ food dependency.

Cereal production is influenced by the combination of climatic variations, limited arable land and water resources, low growth in cereal yields and high production costs. Being essentially rainfed, cereal production is subject to annual variations which can be very great according to climatic conditions, as is illustrated by the figures below.

Table 5: Trends in net cereal production by country (in thousands of tonnes)

<table>
<thead>
<tr>
<th>Country</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>(P)2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria (wheat + barley)</td>
<td>3,525</td>
<td>4,012</td>
<td>4,100</td>
<td>1,900</td>
<td>6,120</td>
<td>4,550</td>
<td>4,245</td>
</tr>
<tr>
<td>Morocco (wheat, barley and maize)</td>
<td>4,270</td>
<td>9,227</td>
<td>2,496</td>
<td>5,322</td>
<td>10,154</td>
<td>7,463</td>
<td>8,400</td>
</tr>
<tr>
<td>Mauritania (rice, sorgho, maize)</td>
<td>146,665</td>
<td>104,475</td>
<td>127,145</td>
<td>154,785</td>
<td>148,159</td>
<td>175,443</td>
<td>120,000</td>
</tr>
<tr>
<td>Tunisia (Wheat, barley, Triticale)</td>
<td>2,097</td>
<td>1,610.3</td>
<td>1,988.4</td>
<td>1,188</td>
<td>2,533.6</td>
<td>1,079.6</td>
<td>2,000</td>
</tr>
<tr>
<td>Egypt (Wheat + maize + rice)</td>
<td>22,411</td>
<td>22,503</td>
<td>21,565</td>
<td>22,835</td>
<td>23,897</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The overall trend over the period analyzed (2005-2011) shows production levels which have not changed significantly. Only Egypt, thanks to widespread irrigation and intensification (7-8 tonne/hectare yield), has a far more regular year on year production. Mauritania is struggling to exploit its farmland potential (with less than 50% made annually productive) for lack of adequate infrastructure. Sudan has considerable rainfall (around 1,000 billion m3 per year) but its agricultural potential is also underexploited with 85 million hectares of arable land only 20% of which are said to be cultivated annually (around 20 million hectares). Libya only has 5% farmland.

The favourable climatic conditions of 2008 made a large contribution to the cereal production from the 2008/2009 agricultural year in most countries. So in Algeria, the record 2009 production made possible a substantial reduction of the import bill which fell from 3.5 billion USD in 2008 to 1.5 billion USD in 2009.

On the other hand, the serious 2009 drought had a hard impact on 2009/2010 production in Tunisia and Morocco with a respective fall of 24% for Morocco and 46% for Tunisia. Forecasts for cereal harvests in the region for 2011 are good in most of the countries. The forecasts of the FAO for the 2010/2011 agricultural year are banking on an overall wheat production in the sub-region making a recovery of around 14 per cent as against the low 2010 crop.

The serious lack of rainfall in Mauritania in 2011 led to a serious lowering of agricultural production in 2011/2012 which is forecast to fall to 29,000 tonnes in 2012 as against around 120,000 tonnes in 2011 (Source: MAED, 2011).

Coverage of cereal needs by national production can vary considerably from year to year. In an average year, it comes to 30 for Mauritania, 40% for Tunisia, 60% for Morocco and Egypt, 30-35% for Algeria and comes to less than 10% for Libya (World Data Bank, 2011). The exceptional 2009 production allowed coverage of cereal needs of 91% in Morocco, 56% in Tunisia and 26.5% in Mauritania.
In all countries, national cereal production is still insufficient to meet the needs of the population which are calculated to be on average between 200 and 210 kg/year/inhabitant (Algeria, Morocco, Egypt), knowing that the world average is around 152 kg/year/inhabitant.

II.3 Critical prospects to be taken into account

The current challenge of food production will be made harder by a number of factors including world agricultural prices remaining high, a strong increase in demand, reduction and degradation of natural resources and the impacts of climate change.

Increased food demand

The population of the Mediterranean Arab countries doubled between 1980 and 2010, rising from around one hundred million to two hundred million inhabitants. This highly urbanized population is moving toward modes of consumption close to western standards. It remains however largely rural in terms of numbers (30% to 40%, 50%, or even more, in the case of Egypt).

There is said to be a constant increase in cereal and particularly wheat consumption in the countries of the region. It rose by 24% between 2004 and 2010, as against 9% recorded at world level (CIHEAM, 2010). This rise in demand is essentially driven by the extent of urbanization (the urban population is estimated at around 60% of the total population), demographic growth and changes in household consumption.

Adapting to climate change, an imperative

Projections of world climate change models show a growing probability of drought and flooding throughout the world (IPPC, 2007). In 2008, ever more frequent extreme climate events (droughts, flooding) occurring in the main cereal exporting regions contributed greatly to the instability of the market by increasing the volatility of cereal yields and by causing a fall in world cereal production.

North Africa, with its difficult agro-climatic conditions is a predominantly arid and semi-arid zone, subject to periods of recurrent drought and wide variations in rainfall according to area and year. It is one of the zones most vulnerable to climate change (IPCC, 2007. Global circulation models (GCMs) indicate a probable warming of the region of the order of 2°C to 4°C over the 21st century, with in particular warming of over 1°C between 2000 and 2020. Extreme climate events (droughts, heatwaves, flooding) will become more frequent with

the acceleration of climate cycles and a general lessening of average rainfall is to be expected. The effects of climate change are already being felt, with important socioeconomic consequences (lowered production, fall in agricultural earnings, ecological migrations).

This situation also aggravates the state of degradation of already limited and weakened natural resources by strong anthropic pressure and non sustainable modes of management which have favoured their overexploitation. These degradations, alongside the lowering of productive capacities, contribute to climate change by reducing the ability of soils and biomass to store and sequester carbon.

There is a considerable threat from climate change to rainfed agriculture which is predominant in most of the countries (apart from Egypt and Libya where there is a predominance of farms that are highly dependent on irrigation systems). Climate change models indicate that annual average rainfall could fall by 10% in the next 50 years (World Bank, 2008). In this scenario, Algeria and Morocco would see a 40% fall in their production of dry crops (World Bank & FAO, 2009). Risks of the Nile delta being submerged, following rising sea levels is a threat for around a third of the agricultural production of the country.

Agricultural irrigation currently uses around 85% of all surface and underground water collected in Arab countries and demand for non agricultural water is growing rapidly. Although progress has been made, use of desalination and waste water recycling for irrigation is not yet economically viable for most agricultural activities. Use of treated waste water for irrigation of food crops is also not always easy as it often arouses public resistance, although there are changes here (World Bank, 2007).

Desertification already affects around 85% of land which is also under threat from erosion, salinization and non sustainable cultural practises, which are the source of loss of fertility and topsoil. Most countries - apart from Mauritania which has large resources and Sudan which is classified as one of the vulnerable countries - already suffer from a shortage of water resources (less than 1,000 m3/ person/year, UNEP 2008). This shortage will worsen, in particular on account of climate change and become a major constraint on growth of agricultural productivity.

Current performance has been achieved at the price of intensive exploitation of natural resources but the value of products offered on the markets does not incorporate externalities and does not reflect the value of the natural resources used. The sustainability of natural resources, their preservation or the way
they are used remains a major issue. Adaptation to climate change could be an opportunity to boost development of agricultural technologies (which was previously very slow on account of weak state support for agricultural research, falling ever since 1990) which could improve agricultural productivity and promote rational management of natural resources.

The resilience of agricultural systems and growth in productivity inevitably demand efforts in research on varieties and technology, innovation and training. This will also require putting in place suitable policies and instruments for risk management.
III. ECONOMIC AND SOCIAL EFFECTS OF RISING PRICES OF BASIC PRODUCTS

The high dependency of the countries on international markets for their basic food product supply leaves them very vulnerable in the face of any rise in prices.

**Impact of food imports on budget costs**

The following table shows a rise in expenditure on food imports in all the countries, in relation to the periods of rising international prices and shortfalls in national production (associated with poor rainfall). This rise is driven by large purchases of cereals and in particular wheat imports which everywhere are the main budget item among food imports. In 2009, the cost of imports fell because of the large fall in food prices, in particular of cereals and because of record levels of national production, except for Mauritania where production fell during that year.

**Table 6:** Changes in the cost of food imports (in % GDP, market price)

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>(E)2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>3.5</td>
<td>3.2</td>
<td>3.7</td>
<td>4.5</td>
<td>4.2</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>Morocco</td>
<td>3.0</td>
<td>2.7</td>
<td>4.3</td>
<td>4.6</td>
<td>3.3</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Mauritania</td>
<td>6.46</td>
<td>8.88</td>
<td>11.32</td>
<td>12.26</td>
<td>12.09</td>
<td>8.57</td>
<td></td>
</tr>
<tr>
<td>Tunisia</td>
<td>3.9</td>
<td>4.1</td>
<td>5.1</td>
<td>6.0</td>
<td>4.2</td>
<td>4.9</td>
<td>4.2</td>
</tr>
</tbody>
</table>

In Algeria, the Office Algérien d’Importation de céréales (OAIC - Algerian Cereal Import Office) which imports practically 90% of the wheat consumed in the country imported in 2008 3.25 billion dollars worth of cereals, twice as much as in 2007. Between 2009 and 2010, there was a large fall in imports (1.25 billion dollars in 2009 and 800 million dollars in 2010) because of the good 2009/2010 crop and stock recovery (under the regulation policy) but the food bill remains high. Imports started to rise again in 2011 with a food bill of over 10 billion dollars at the end of 2011. Wheat imports alone increased in volume by 42.1%, and in value by 133% over the first eleven months of 2011, to reach a record amount of 2.6 billion USD.

In Morocco, food products remain the third biggest contributor to the import of goods and services with growth of 31% in 2011.

All countries show serious shortfalls in the agricultural trade balance clearly showing their dependency on agricultural imports. In some countries these imbalances are sometimes mitigated by rises in earnings from exports of other raw materials (hydrocarbons in Algeria, phosphate in Morocco).

---

8 Online data from the Algerian Customs’ National Centre of Data Processing and Statistics (CNIS); January 2012
earnings from oil have made it possible to bear with no great macro-economic hardship a growing deficit in the agricultural trade balance.

By way of comparison, in 2008, Morocco, Egypt and Algeria imported 20 million tonnes of cereals, the equivalent of the EU and North America combined. Egypt and Algeria are the biggest importers of cereals (Egypt imported as much as the EU in 2008) (IPEMED note, 2012).

**Table 7:** Changes in the agricultural trade balance (millions of USD, current market prices)

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>(E)2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>-53.3</td>
<td>17.5</td>
<td>-505.5</td>
<td>-87.1</td>
<td>-262.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morocco</td>
<td>-125.5</td>
<td>0.6</td>
<td>-570.3</td>
<td>-944.8</td>
<td>-439.3</td>
<td>-873.3</td>
<td>-632.9</td>
</tr>
</tbody>
</table>

To finance this extra expenditure, non oil-exporting countries are forced to cut other essential expenditure or to borrow more, which has negative long-term effects on their economies.

**Impact of food prices on inflation**

Volatility of international prices is absorbed by domestic markets according to how far the prices are passed on. Food price inflation rose in all the countries but to a varying extent. Egypt was the country most affected with an inflation rate reaching 19% (February 2010 – February 2011).

**Table 8:** Changes in food price inflation (% compared with the previous year)

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>0.74</td>
<td>4.3</td>
<td>6.5</td>
<td>7.4</td>
<td>8.2</td>
<td>4.2</td>
<td>4.3</td>
</tr>
<tr>
<td>Morocco</td>
<td>0.3</td>
<td>3.9</td>
<td>4.5</td>
<td>7.1</td>
<td>1.0</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>Mauritania</td>
<td>13.8</td>
<td>5.4</td>
<td>9.7</td>
<td>9.6</td>
<td>2.6</td>
<td>6.9</td>
<td>6.4</td>
</tr>
<tr>
<td>Tunisia</td>
<td>0.1</td>
<td>5.0</td>
<td>3.0</td>
<td>6.1</td>
<td>4.4</td>
<td>6.8</td>
<td></td>
</tr>
</tbody>
</table>
Rising world cereal prices and wheat prices in particular have a strong effect on domestic prices in Mauritania

(2007/2008 and 2010/2011) on account of the country’s high dependency on the international market. In 2011, the food situation in the country showed no shortages but a persistent surge in prices. The inflation rate was calculated at 6% between June 2010 and June 2011. Prices of imported foodstuffs saw an overall upward movement (between 20 and 40%) over this period. The most important increases involved wheat (+50%), wheat flour (+43%), vegetable oil (+41%), sugar (+24%) and powdered milk (+17%). Average prices for imported rice and pasta remained stable in comparison with June 2010. Prices of the main local cereals (sorgho, millet, maize) rose and there was considerable worsening of trade in the agropastoral zone (-57% in one year). Rising fuel (diesel and petrol) and butane gas prices were reflected by a rise in transport costs which was passed on to food product prices especially in the interior of the country where differences were noted from prices in Nouakchott.

Impact on consumers and producers: increased poverty and malnutrition

Poverty and insecurity have risen greatly in rural areas and limit the capacity for investment in agriculture, lead to overexploitation of natural resources and promote the rural exodus. The rural poverty index stands at 59% in Mauritania (poverty profile, 2008), 14% in Morocco (2008) and 7% in Tunisia (2010). The agricultural population accounts for between 40% (Algeria) and 80% (Morocco) of the rural population, but the agricultural sector is unable to provide jobs and adequate and sustainable earnings for the rural population. The 2008 World Bank report on development shows an increase in poverty among the rural population and particularly among small farmers.

Rising basic food prices weigh heavily on household budgets and more particularly affect poor households (living in rural areas and on the edges of towns) and small farmers. The share of household income spent on food is large. It comes to 54% in Mauritania (Poverty profile, 2008) and 41% in Morocco (2001). Most food is acquired by purchase and there is more self-supply in rural areas.

When it is sustainable, the rise in prices pushes low-income households to limit their food consumption or move toward cheaper products with low nutritional value which could make malnutrition more prevalent. Households are also led to cut their education and health spending.

Soaring prices also had a negative impact on the economic situation of producers as they buy food at a premium, and costs of agricultural inputs have become prohibitive. Admittedly, it might be thought that the increase in food product prices could, if it extends over a number of years, allow farmers to
raise their income and could lead to an increase in productivity and national agricultural production. This will however only be possible if the State significantly increases its investments and puts in place the incentives required to allow producers to raise production. In Egypt, for example where farmers could benefit from the increase in the prices of agricultural products because of their high yields, the government has banned exports in favour of local consumers, which is not an incentive for production. There should be balanced management of volatility so that higher prices are not achieved at the expense of the main stakeholders, producers and consumers.

In rural areas, 80% of the active population work in the agricultural sector but a large part of rural income depends on resources outside agriculture. Diversification of economic activities in rural areas, creating sustainable jobs, in particular for women and young people would limit the vulnerability of the population and improve their access to food products.

**Mauritania, in a food insecurity situation**

In 2011, rising food product prices, along with the fall in the price of cattle on account of the loss-making pastoral situation, led to a loss of buying power in rural households, in particular the most vulnerable. The latest vulnerability survey carried out in July 2011 by the Food Security Observatory and the WFP shows that the food intake of 21% of households living in rural areas and outside towns is infrequent and lacks variety. According to Oxfam, 700,000 people could be in a food insecurity situation in 2012, following the serious shortage of rainfall in 2011.
IV. OVERVIEW OF THE MAIN POLICY MEASURES

Despite trade liberalization (introduced under the Structural Adjustment Plan), governments continue to protect some strategic areas (wheat, rice, milk) through measures on price administration, market regulation and production incentives. The measures were particularly strengthened during the food crisis.

Faced with soaring prices, the countries implemented a set of economic and social measures combining temporary emergency action and longer-term strategic interventions. Subsidies and price control measures for basic products were widely used to limit rising prices being passed on to consumers.

The main measures adopted to ensure sufficient and affordable supply on domestic markets involved the reduction or suspension of taxes customs import duties on widely used cereals such as wheat, the introduction of export taxes, tax exemptions and removal of VAT on food product inputs, and building up buffer stocks (Algeria). Export restrictions were also introduced as in Egypt where rice exports were banned (2008).

Support measures for producers were also put in place through strengthened price controls on cereals at production (Guaranteed Minimum Price), subsidies on inputs (fertilizers, seeds) and incentives for investment.

At the social level, some countries gave wage increases to state employees (Egypt, Mauritania in 2008) and used reserve stocks for some basic products including wheat (Morocco, Tunisia, Mauritania, Sudan). Direct aid programmes such as distributions of basic foods or direct cash transfers aimed at ensuring a minimum income for the most vulnerable were put in place in some countries (Egypt, Tunisia, Morocco). In Morocco, these programmes cost 1.75 billion dirhams in 2010. Tunisia put in place a free healthcare scheme for those living below the poverty threshold and a low-cost healthcare scheme for low-income families not covered by social security. Mauritania ran “food for work” programmes.
### Table 9: Existing social welfare programmes in the countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Targeted cash transfers</th>
<th>Food for work</th>
<th>School canteens</th>
<th>Rationing/food coupons</th>
<th>IGA</th>
<th>Youth employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morocco</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mauritania</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Algeria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tunisia</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Egypt</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Libya</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Sudan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### IV.1 Subsidies to consumers

Generalized food subsidy programmes accounted for a large and growing share of state expenditure in most of the countries and could pose a serious budget problem if basic product prices remain high.

In all countries, consumer access to some sensitive basic products is protected by mechanisms for marketing and price administration regulation. The State via the cereal buying authorities (Algeria, Morocco, Tunisia) or agencies (GASC in Egypt, SONIMEX in Mauritania) has a strong presence in the matter of essential food product supply. The products concerned vary according to country. In Morocco, for example, only sugar and a contingent of 1 million tonnes of soft wheat flour get state aid (through the compensation system). In Egypt, bread and flour prices are fixed and affordable to the whole national population, whereas rice, sugar and oil come under a purchasing card system which gives consumers different subsidies according to their income. In Algeria, the food security policy involves bread, flour, semolina, milk and oil for which prices are fixed by regulations.

### Table 10: Total state food subsidies (in % GDP, market price)

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Morocco</td>
<td>0.2</td>
<td>0.4</td>
<td>0.4</td>
<td>1.1</td>
<td>0.6</td>
<td>1.1</td>
<td>-</td>
</tr>
<tr>
<td>Mauritania</td>
<td>-</td>
<td>0.57</td>
<td>0.12</td>
<td>0.59</td>
<td>0.11</td>
<td>0.19</td>
<td>0.86</td>
</tr>
<tr>
<td>Tunisia</td>
<td>0.62</td>
<td>0.76</td>
<td>1.3</td>
<td>1.9</td>
<td>1.4</td>
<td>1.19</td>
<td>1.6</td>
</tr>
</tbody>
</table>

#### Algeria

In 2008, Algerian consumers were not particularly affected by soaring food prices because of strong State intervention made possible by oil income. Two main measures were put in place to ensure cereal price stability:
• A subsidy of the order of 0.5% of GDP (compared with 0.3% in 2007) to the Office Algérien Interprofessionnel des Céréales (OAIC) to ensure wheat flour price stability;

• a compensation fund set up to refund transport costs, to guarantee availability of widely-consumed products in the south of the country at the same price as in the north.

Algeria also anticipated the crises by buying large quantities of wheat on the international market.

**Egypt**

The GASC (General Authority for supply commodities) handles around 75% of total wheat imports which are mainly intended for state mills for processing into subsidized flour for making baladi bread (popular bread). The private sector only accounts for 25% of imports.

So as to ensure access to basic foods to low-income sectors of the population, the government subsidizes some consumer products (bread, sugar, rice and oil). Subsidized flour and popular (Baladi) bread are available for the whole population, with no restriction while oil and sugar are sold to purchasing card holders. But these subsidized items are highly subject to speculation (in particular in periods of general price rises when the unofficial prices of these products are much higher than the official prices) and black market smuggling, so restricting access to food for the poorest fringes of the population. Around 25% of subsidized flour is said to be resold on the parallel market (World Bank, 2009).

There was a substantial increase in the cost of subsidies rising from 1.25% of GDP in 2007 to 1.7% of GDP in 2008. The State adopted preferential terms for wheat imports and banned its rice exports with the aim of protecting consumers from soaring prices (World Bank, 2009). The government also increased state employees’ wages by 30% and widened food aid to cover 70% of the population.

**Morocco**

The Government considerably reduced and on occasion temporarily suspended customs duties on wheat and gave subsidies to importers of soft wheat so as to stabilize the domestic price at a target level and sustain available stocks. It also maintained price controls on wheat from national production, through a flat-rate subsidy (2011). A volume of 44% of soft wheat production is in this way
administered by the State under the “national soft wheat programme”. The government devotes around 0.33% of GDP each year to subsidize mills and offset the low sale price of flour. Along with this measure there is a new spreading of quotas according to the geographical distribution of poverty (rural townships and the poorest).

The overall compensation budget for food products for the 2007-2010 period came to nearly 24.3 billion dirhams. These subsidies rose from 0.4% of GDP in 2007 to 1.1% in 2008 and in 2010. In February 2011, “the Moroccan government doubled food subsidies to an additional 15 billion dirhams (around 1.7 billion USD) to be added to the 21 billion dirhams already in the 2011 budget”\(^9\). It should be noted that this compensation system ignores the income level of consumers and often benefits the rich more than the poor.

**Tunisia**

The country reduced duties on imported wheat and maintains price controls on strategic subsidized basic food products (bread, semolina, sugar, vegetable oil). For 2011, costs to the compensation fund are said to exceed 1 million Dinars.

In spite of the liberalization of a large number of items, producer wheat prices at remain administered and high to provide an incentive for local production (World Bank, 2006). In 2006, prices underwent an upward readjustment. The cereals authority which is the obligatory channel for marketing gives mills a subsidy, allowing a low level of consumer prices for flour, bread and semolina.

**Mauritania**

Mauritania was especially vulnerable to soaring world prices of basic products in view of its high dependency on food imports. Further, since 2008, the country has set up numerous emergency intervention programmes to deal with recurring food crises.

---

A series of emergency programs in Mauritania

Mauritania has invested considerable financial resources over the period 2008-2011 to deal with food product price volatility and support the most vulnerable parts of the population. There have been three successive programmes:

1- The Special Intervention Programme (April-September 2008) involving free distribution of foodstuffs, bread subsidies, rebuilding stocks in rural areas, wage increases for state employees (+10%), a number of tariff reduction measures, support for agricultural production and income-generating activities (IGAs) and fuel subsidies.

2- The global solidarity programme -2011 at a cost estimated at 3.4% of GDP involved:

   Food subsidies (0.8% of GDP) on the main foodstuffs (rice, wheat, sugar and oil) sold in “solidarity shops” across the country (624 shops) with a high concentration in Nouakchott (50% of shops) over a period of 5 months. Prices are 20 to 30% lower than market prices. This scheme was of only very little benefit to the poor (inadequate socio-geographic coverage, lack of credit mechanisms facilitating access by the poor to subsidized products, limited access).

   IGA programmes (non agricultural income-generating activities) in poor areas and a national integration programme for unemployed graduates: 125 unemployed graduates were awarded 1300 hectares of agricultural land.

   Poorly targeted fuel subsidies (1.6% of GDP);

3- The new “Emel 2012” intervention programme with finance of 152 million dollars takes a multi-pronged approach: (i) subsidies on essential food products and cattle feed for vulnerable people in all the country’s communities, (ii) free food distribution to households with no income and vulnerable groups, (iii) feeding and healthcare for children, (iv) extension for an 8 month period of the “solidarity shops 2011” operation to support the buying power of low-income households in rural, urban and peri-urban areas and, (v) aid (supply of cattle feed, healthcare cover, pastoral water, credit for livestock breeding). The 2012 subsidized shops operation is said to be aimed at nearly a million citizens and should allow the creation of 2,000 jobs for unemployed young people. No approach has been adopted to target those who are to benefit from it.

IV.2 Examples of support measures for producers

So as to increase agricultural production and cereal production in particular, a set of support measures were put in place through prices to reward producers (subsidies) and a range of incentives and aid (subsidized loans, cancelling and rescheduling of debts, exemptions, distribution of and/or subsidies on agricultural inputs).
**Algeria:**

The strategic wheat and milk sectors are run by the State and have a guaranteed average price. In 2008, the government considerably uprated wheat production prices to improve farmers’ incomes and encourage them to produce more. VAT exemptions on inputs were granted and interest-free credit (R’fig).

**Tunisia:**

The State grants substantial incentives to cereal producers such as: production price subsidies for soft and durum wheat, sale price subsidies for selected cereal seed, rescheduling of farmers’ debts, a first irrigation free of charge, exemption of rented agricultural land from registration duties and income tax, distribution of inputs.

**Morocco:**

New support measures put in place in 2011 concerned mainly:

✓ An increase in the subsidy for purchasing selected cereal seed;

✓ Setting up, under the agricultural development fund (FDA - Fonds de développement agricole), an incentive system for hydro-agricultural development, providing agricultural equipment for farms and localized irrigation systems, and for valorization of crop production, so as to encourage private investment;

✓ Launching a debt relief and rescheduling operation for small farmers so as to improve their ability to invest. The overall cost of this operation is estimated at 765 million dirhams shared equally by the State and the Crédit Agricole du Maroc.

✓ Setting up a “comprehensive climate insurance” for cereals and legumes under an agreement between the State and the Mutuelle Agricole d’assurances. The amount of the insurance premium receives a state subsidy of up to 90%. This insurance covers an area of 300,000 hectares for 2011/2012, target forecast of 1,000,000 hectares by 2015.

**Mauritania:**

For the 2010/2011 agricultural year, the Government granted rice producers subsidies on agricultural inputs, credit assistance (debt rescheduling, subsidized loans)
Table 11: summary of support measures for producers

<table>
<thead>
<tr>
<th>Support measures for producers</th>
<th>Guaranteed minimum purchase price</th>
<th>Exemptions and subsidies on inputs</th>
<th>Credit facilities</th>
<th>Agricultural equipment</th>
<th>Investments in production and market infrastructure: renovation and development of irrigation systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morocco</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mauritania</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Algeria</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Tunisia</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

IV.3 Long term strategic measures

Since 2008, a number of countries have adopted new agricultural policies and started reforms aimed at increasing agricultural production and productivity, improving land, water resource and agricultural property management. Efforts also involve better assessment of climate risks and natural disasters. Some countries have clearly shown their political will to give the private sector a strong role and have reformed their property policy accordingly (Morocco, Tunisia, Algeria).

In Morocco, the boosting of agricultural investment and development of strategic partnership with the national and/or international private sector have been stressed.

Public expenditure on agriculture has practically doubled in Morocco as of 2009 reaching 4% of the overall budget in 2009 and 2010. In Tunisia there has been a regular fall in public expenditure, from 5.7% of the overall budget in 2005 to 4.5% in 2009 and 2010. In Mauritania, after a period of sharp decline in 2008-2009 (under 3%), this expenditure doubled in 2010 and 2011.

In all the countries, state finance remains well below the commitment made in Maputo to devote 10% of the national budget to agriculture. External finance has not significantly changed over the 2005-2011 period.

The Green Morocco Plan (PMV - Plan Maroc Vert) is banking on Public Private Partnership

The Green Morocco Plan (PMV) adopted in 2008 and implemented by the Agence de développement agricole (Agriculture Development Agency), sets the objectives of strengthening food security, increasing production and agricultural incomes, in particular those of small producers. It is organized around two pillars:
• high performance agriculture, with high added value, adapted to the rules of the market and based on private investment. (Pillar I);

• solidarity-based support (with a strong contribution from the State) for small-scale agriculture in difficult rural areas (mountains, oases, plains and plateaus of the semi-arid zones) to valorize local production, improve and create a lasting agricultural income for 500 to 600,000 farms and combat poverty Pillar II). This priority pillar involves over 80% of farmers.

The PMV stresses the withdrawal of the State from the direct management of agricultural land in the private domain through the launch of an important PPP programme aimed at the enhancement of the main sectors: cereals, legumes, citrus fruit, olive trees and vines. So as to implement this, important measures are in progress:

✓ The restructuring of the cereal sector with a view to reducing land under cereals by 20% and increasing productivity by 50%;

✓ The creation of banking structures suited to small and medium scale agriculture;

✓ The creation of a national agricultural advice bureau (Office national du conseil agricole) currently in progress;

✓ The mobilization of agricultural land belonging to the private State domain and its transfer (under a long-term rental of up to 40 years) to private national or foreign operators in public-private partnerships. The area mobilized in this way since 2004 comes to nearly 100,000 hectares in 2011;

✓ Setting up a comprehensive climate insurance for farmers;

✓ The growth in funding for national agronomy research institutions from 0.7% of agricultural GDP in 2009 to 1% in 2012, aimed in particular at improving yields in the basic agricultural sectors, especially cereals;

✓ Reform of the agricultural incentive system (simplification of procedures, increases in aid and agricultural subsidies for modernization of agricultural practise) through the agricultural development fund (FDA - Fonds de Développement agricole). Total aid granted by the FDA over the period 2008-2010 came to 5.3 billion dirhams generating overall investment of 15.4 billion dirhams. These incentives have in particular made possible the irrigation of 120,000 hectares fitted with drip systems since 2008;

✓ The strengthening of partnerships with commercial banks to increase funding for projects in the PMV.
Other projects are envisaged such as: (i) the reform of agricultural training and research (ii) better integration of the agricultural value chain upstream, for greater wealth creation, and value sharing all along the chain, from the producer to the consumer. This will require in particular better organization of stakeholders.

With regard to the disaster prevention, Morocco set up in 2009 a national fighting fund against the effects of natural disasters. It also initiated the development of a strategy and action plan for the reduction of risks and disasters in compliance with the Hyogo Framework for Action, but this project is faced with the complexities of coordination between the various stakeholders both at and away from the centre.

**Strengthening private agricultural investment in Tunisia**

In 2009, the government launched a study to update agricultural policy in the light of the world context of uncertainty over agricultural and energy price trends and climate change.

Agricultural investment made up 10% of economic investment in 2009, of which 57% is private investment. This private sector performance was made possible through:

✓ the investment code which grants specific advantages to the priority agriculture sector (tax and financial incentives, property loans for young farmers...);

✓ the law on the agricultural concessions scheme passed in 2008.

Tunisia’s agricultural policy is aimed at achieving progress in the fields of water resource management, raising agricultural productivity, organization and development of the sectors, marketing and international competitiveness of agricultural products. It also aims to stimulate investment in the regions. It emphasizes promotion of large crops and in particular cereal growing and organic farming (second place in Africa). In this way the 2009/2016 national promotion strategy for cereal production aims to achieve average annual production of 27 million quintals with 6 million quintals of cereals under irrigation by extending the land area given over to growing cereals under irrigation. In particular it is focused on promoting national production of durum wheat and achieving self-sufficiency.

Agricultural land areas under irrigation with water-saving techniques rose from 322,377 hectares in 2006 to 344,412 hectares in 2009. There was a large increase in organic production. It rose from 9,000 tonnes in 2002 to 170,000 tonnes in 2008 and 230,000 tonnes in 2009.
The agricultural strategy also aims to put in place new finance mechanisms suited to the quality and technology imperatives. It emphasizes the support framework for producers, giving tax and financial incentives such as investment bonuses for the purchase of agricultural equipment, and research, in particular the introduction of new high-yield varieties.

A study is underway for the development of micro agricultural enterprises for vulnerable youth and the formulation of a long-term program for the creation of agricultural jobs.

**In Algeria, an integrated vision incorporating rural development**

The policy of agricultural and rural renewal implemented in 2008 and for which Algeria is due to over the five year 2010-2014 period an annual sum of 3 billion dollars to support agricultural and rural development programmes has two lines of approach:

- The first relates to the agriculture sector which is supported by large state transfers to support the purchase of inputs and agricultural equipment, to subsidize strategic commodities where prices are guaranteed (cereals and pulses, raw milk), create agricultural infrastructures, subsidize agricultural loans and finance the regulation system for widely consumed basic commodities (potatoes in particular). In this context, an agricultural orientation law was passed in 2009. The main provision of this law concerns agricultural land tenure through the introduction of the single concession scheme for the development by the private sector of agricultural land belonging to the private domain of the State (Law 10-03 of 15 August 2010). The orientation law also emphasizes rural financing and agricultural insurance. It led to the setting up of a subsidized one-year loan (RFIG loan) and the Caisse Nationale de Mutualité Agricole (National agricultural mutual fund) which developed a number of insurance products including drought insurance for strategic crops like cereals. The policy of agricultural and rural renewal is based on performance contracts made with the wilayas which make subsidies to farmers (interest free loans, tax exemption) subject to results being achieved. The annual allocation of support from the state for agricultural investment is estimated to be 100 billion dinars.

- The second concern rural development. The government has announced the generalization of integrated rural local development projects (PPDRI - projets de proximité de développement rural intégré) based on 4 lines of action: renewal of housing and the ksours, diversification of activities, protection of natural resources and restoration of the tangible and intangible heritage of rural townships. The major line of action implemented in townships essentially involves the living conditions of the population (housing, basic facilities and infrastructures).
Mauritania is moving toward developing an integrated food security strategy

In Mauritania, the hope that the State had placed in the private sector as a growth strategy element for the sector has not produced the expected results. Over 20 years after the liberalization of the sector, the situation is still one of falling yields, degradation and abandonment of the perimeters, dependency on subsidies, excessive debt among farmers and practically non-existent exports (CMAP, 2010). Dwindling public investment, withdrawal of the State and incentive measures have not benefited small producers but a few private national investors driven by the search for short-term gains and whose capacities were limited.

Over the 2004-2010 period, four large-scale agricultural projects were implemented with 80% outside funding (CMAP, 2010).

To deal with the country’s ongoing food insecurity situation and limit the impact of emergency programmes on public finances, the State with the support of its development partners has undertaken to develop an integrated food security policy and a national social welfare strategy. An agricultural orientation law was also adopted.

✓ The integrated national food security strategy is focused on agricultural development, the fight against poverty and the management of natural resources. It aims to lower the food vulnerability index from 39.4% in 2010 to 23.5% by 2015 and 5% by 2030 and to gradually reach 50% coverage of cereal needs;

✓ the national social welfare strategy will assess the current subsidy mechanisms and propose ways and means to establish a sustainable social welfare system, costing less and better targeted.

Egypt has put its faith in export agriculture

Egyptian agriculture is subject to strong natural constraints, in particular limited water and land resources. Farmland only amounts to 2.6% of the total surface area of the country, while water resources come to no more than 54 billion m3 per year, the equivalent of Egypt’s share of the water of the Nile\(^\text{10}\).

With these limited resources, Egyptian agriculture cannot meet the needs of a large and growing population.

\(^\text{10}\) A gradual revision of sharing agreements for the waters of the Nile is in progress

Food security in North Africa:

Situation analysis and reactions from the States over the instability of agricultural markets
There is a free market policy in the agricultural sector aimed at encouraging the integration of the Egyptian agricultural sector in the world agricultural market and so promoting an export agriculture. The State plays a dominant role in the management, control and distribution of agricultural resources, particularly water and land, strongly fought over by both the various economic sectors, including agriculture, and by peasant farming and capitalist investment agriculture. The State has developed aid and support systems for investment agriculture but these mechanisms have not really benefited small peasant farmers. Private investment accounts for the greater part of agricultural investment.

Any analysis aimed at ensuring food security must guarantee fairness and balance between economic and social considerations; the impacts of the food crisis have shown the limits of the policy implemented.

**Libya is externalizing its production**

Libya only has 5% farmland and imports on average 75% of its food needs. To achieve security for its food supply (cereals in particular), in a context of strongly growing demand and limited agricultural land and water resources, Libya is moving toward externalizing its production. So the country has started a number of investment projects (land rental) in Africa (e.g. Sudan, Mali, Liberia) and elsewhere (Ukraine).

**Sudan has considerable but underexploited natural resources**

The agricultural potential of Sudan is underexploited. The country has a total of 85 million hectares of arable land of which only 20% is cultivated each year (around 20 million hectares). Thanks to abundant rainfall (around 1,000 billion m³ per year), it is self-sufficient for all food products apart from wheat.

Land comes under the State Ownership on 95% of the country, although private property is recognized.

In 2009, 930 million dollars were invested in the agricultural sector (as against 700 million dollars in 2007), 17% of total economic investments made.
IV.4 Regional cooperation

No country has the means to eliminate on its own the structural deficit of its national agricultural production. Strengthened regional cooperation could allow countries to secure their supplies and benefit from the complementarities of their agriculture and industries. It offers opportunities for optimizing synergies and promoting exchanges of experiences, technology transfers, trade and investment.

Despite there being a number of bilateral and multilateral agreements between the countries (e.g. Agreement to Facilitate and Develop Trade among Arab States, agreement on trade in agricultural products among AMU countries, ratified in 1993), trade in the region is still very weak.

Better coordination of agricultural and food security policies would make it possible, given a common vision, to improve countries’ negotiating capacities with the EU and in the international trade negotiations process and international forums. The AMU countries adopted an agriculture strategy for the Maghreb (15th session of the Maghrebi Ministerial Commission for Food Security, Marrakesh, October 2009) and an action plan: 2011-2020 (16th session of the Maghrebi Ministerial Commission for Food Security, Algiers, December 2010) which picked out a number of priority fields for cooperation: scientific research, sustainable management of natural resources, improvement of productivity, access to markets and investments.

Alongside this dynamic, partnership agreements are developing between some countries. Algeria and Morocco recently signed (2011) a bilateral cooperation agreement in various agricultural filed that could strengthen food security in the two countries. This agreement involves in particular scientific research, agricultural production, the fight against desertification, rural development and exports of agricultural products. Besides exchange of experience, the agreement is also aimed at the promotion of partnerships between agricultural operators in the two countries.

Algeria has also embarked on cooperation with Sudan so as to support the Sudanese agricultural sector in the fields of irrigation, scientific research, water saving and waste water purification and reuse in irrigation. The two parties also agreed on the possibility of Algeria providing the Sudanese agricultural sector with seed and fertilizer products and agricultural hardware and equipment.
A recent meeting of the “5+5” mechanism on food security in the Mediterranean (February 2012, Algiers) emphasized the strengthening of regional cooperation on exchange of information and monitoring of agricultural prices on the international markets, regulation of agricultural and food product markets, development of opportunities for complementarity on trade in agricultural products between “5+5” partner countries. The experts also proposed setting up a food security observatory and the creation of a Euro-Mediterranean training and research space integrating dissemination of know-how, experience and technology, setting up a permanent scheme for drawing up an inventory of activities and research results recorded at regional level.

11 The “5+5” group is made up, for the South, of Algeria, Tunisia, Mauritania, Morocco, and Libya, and France, Italy, Spain, Portugal and Malta represent the countries of the North.
V. CONCLUSION

SUMMARY AND KEY STRATEGIC MESSAGES

V.1  Summary

The uncertainty burdening world markets for agricultural products is a constant threat to the supply of national markets and the food security of the population of the region. The scenarios drawn up by the main specialist institutions (OECD, FAO, World Bank, EC, USDA) show that world agricultural product prices continue to be volatile and are likely to remain high over the next two decades. Rising import costs and trends toward protectionism could in this way make adjustments to national supply via purchasing from outside more difficult.

All countries have seen a domestic rise in the prices of basic food products. This has been partly contained thanks to generally untargeted emergency ad hoc measures aimed at supplying domestic markets and moderating costs borne by consumers. A number of support measures for producers (fixing producer prices, distribution of and subsidies on inputs), have also been adopted.

All these short-term compensation measures have led to large levies on national budgets, to the detriment of investment and other social expenditure like education or health. Measures to reduce or remove customs tariffs on imports of cereals have led to a loss of budget receipts and could compromise the development of domestic production. Food subsidy programmes (the main social welfare safety net used) accounted for a large and growing share of state expenditure in most of the countries, while their impact on the most impoverished remained limited. These general measures could pose a serious budget problem if basic product prices remain high. Food subsidy mechanisms should undergo evaluation to guide the deployment of better targeted and financially viable social security safety nets (taking account of women and children).

Short-term interventions when necessary must be carefully examined so as to avoid the negative effects on budget resources and investments. They must be complemented by medium and long-term programmes aimed at sustainable growth of national agricultural production to meet growing food demand, reduce dependency on expensive an uncertain imports and limit the budgetary imbalance caused by subsidies and other situation-linked protectionist measures. To this end, structural obstacles handicapping the sector must be removed and the involvement of the private sector facilitated. Incentives for investment and improving productivity have made it possible to increase private investment significantly in some countries.
All the forecast scenarios and FAO projections for 2030 come to a unanimous conclusion: the countries of North Africa will be faced with major issues on food security in general and for cereals in particular in the coming years. Countries will have to confront serious demographic pressure, changes in modes of consumption and food which are being westernized, as well as pressure on water and land resources which make winning further agricultural land area difficult.

In such a context with ever harsher climate conditions and the deterioration of natural resources (limited agricultural land and water resources), growth of agricultural production will depend on increasing yields and so on innovations in technology and varieties (R&D) and better management/conservation of water and land. Adapting production systems to climate change could be an opportunity to embark on such a transition. This presupposes large-scale investment in research and development and training of qualified human resources and the setting up of regional and international partnerships to take advantage of existing and future technological progress.

Countries will have to increase the share of agriculture in their national budgets and encourage private investment and count on the development of production capacity and improved competitiveness in farming operations. Large-scale agricultural investment must take place must be made with due respect for the rights and means of subsistence of the rural population. Opportunities associated with these investments (increased agricultural productivity, budget receipts, employment, local income) must be looked at in the light of the benefits and risks incurred for this population. Investment agreements involving land transfers to large national or international investors, or foreign governments should be transparent, involve the local communities concerned and undergo compulsory environmental impact studies. Benefits arising from these agreements should be used to the advantage of the local community.

Development of family farming (which accounts for 80% of farms) should be a key priority element of public policy which should be promoted by lifting barriers limiting productive capacity and viability of farms, in particular regulation of the agricultural property tenure issue (property and usage rights, land fragmentation) which seriously affects the improvement of agricultural production and farmer’s incomes. This dynamic should also involve a strengthening of farmers’ organizational capacity. Efforts should be directed toward improving the productivity of rainfed agriculture (which is the most common), raising the efficiency of irrigation systems and reducing serious crop failures.
Countries in the region which will remain highly dependent on world markets will have to adopt measures to mitigate their vulnerability to food price shocks through:

✓ better management of their imports and optimization of agricultural trade, in particular as part of South-South cooperation, through reduction of tariff barriers;

✓ setting up risk management mechanisms: building up emergency stocks, setting up a specific intervention fund...

**V.2 Key messages and avenues for reflection**

Promotion of food security calls for a range of responses which must come as part of an overall strategic approach, which is coordinated and open to all stakeholders, in particular local stakeholders including local authorities. Such an approach will incorporate objectives on agricultural development, combating poverty and job creation in particular, taking account of external environmental factors (sustainable management of water and land resources), adaptation to climate change and disaster risk management. It must also as an absolute necessity be part of a vision for integrated rural development.

To this end, any food security strategy should be focused along four decisive lines of action:

1. **Increasing national agricultural production closely connected to optimum management of natural resources and climate risks through:**

   ✓ Boosting public and private investment in agriculture and in particular in rural infrastructure, research and development and innovation;

   ✓ Improving the investment climate of the agricultural sector;

   ✓ Improving the productivity of rainfed cereal production, bearing in mind that water reserves are a limiting factor;

   ✓ Adaptation to climate change: suitable varieties, improved irrigation systems and farming techniques;

   ✓ Development of a national capacity for producing agricultural inputs;

   ✓ Adoption of the sector approach;

   ✓ Support and setting up of socio-economic conditions favouring sustainable development of family farms through: easier access to production factors, a support framework, training, improved living conditions in
rural areas strengthening the role of rural women in the development of agriculture;

✓ Integrated rural development Continuation and strengthening of land tenure reforms;

✓ Putting in place risk management strategies and systems and making them more accessible to farmers.

2. Security and accessibility of supply through:

✓ Improved information systems on international markets;

✓ Creation of priority trade partnerships as part of South-South cooperation, within the Mediterranean zone and with the EU (main partner of the countries);

✓ Evaluation of economic and social impacts of measures implemented by the countries to build sustainable policies and heighten the countries’ resilience in the face of shocks from the outside;

✓ Regulation of trade in agricultural products at national level and implementation of an appropriate price policy;

✓ National coordination of response measures to price volatility and greater political dialogue with key stakeholders;

✓ Setting up risk management mechanisms: building up emergency strategic stocks, futures contracts, setting up a specific intervention fund...

3. Making social welfare policies more effective, targeted at the poor and vulnerable population, in particular women and children on the basis of:

✓ Evaluation of the impact/effectiveness of social welfare measures;

✓ Analysis of the most appropriate targeting criteria;

✓ Setting up monitoring systems for food insecurity and vulnerability;

✓ Defining coordinated sustainable social welfare policies;

✓ Taking account of rural employment, in particular young people and women.
4. Heightened regional cooperation in key fields:

✓ Monitoring agricultural prices on international markets;

✓ Creation of a joint agricultural bank;

✓ Setting up an industrial hub for fertilizer production;

✓ The implementation of existing trade agreements and harmonization of trade policies;

✓ Negotiation of bilateral trade contracts between the EU and countries of the region;

✓ Production of an atlas of agricultural complementarity in terms of supply and demand for agricultural products;

✓ Development of opportunities for complementarity over trade in agricultural products;

✓ Technology transfers;

✓ Mutualization of research efforts;

✓ Increased investment and interbusiness cooperation.
BIBLIOGRAPHY


WB-FAO-IFAD. Improving food security in Arab countries _ January 2009


Common Country Assessment (CCA- UNDAF)- 2011- Mauritania- Morocco


FAO- Climate change, water and food security - June 2011.


