



SYRIAN ARAB REPUBLIC
Ministry of Agriculture and Agrarian Reform
NAPC
National Agricultural Policy Center

National Programme for Food Security in the Syrian Arab Republic

Damascus, August 2010

Acknowledgment

The formulation of the National Programme for Food Security in Syria (NPFS) was carried out by a National Team under the coordination of the National Agricultural Policy Center (NAPC) and was funded by the Food and Agriculture Organization of the United Nations (FAO.)AO

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Abbreviations and Acronyms

ACB	Agricultural Cooperative Bank
ACSAD	Arab Center for the Studies of Arid Zones and Dry Lands
AEPF	Agricultural Export Promotion Fund
AFESD	Arab Fund for Economic and Social Development
AMS	Aggregate Measurement of Support
AOAD	Arab Organization for Agricultural Development
ASF	Agricultural Support Fund
CA	Conservation Agriculture
CACP	Commission for Agriculture Costs and Prices (India)
CBS	Central Bureau of Statistics
CM	Cabinet of Ministers
CMO	Cotton Marketing Organization
CoBS	Commercial Bank of Syria
CSO	Civil Society Organization
DRC	Domestic Resource Cost
EDF	Exports Development Fund
EDPC	Export Development and Promotion Commission
EPSDC	Environment Protection and Sustainable Development Council
FAO	Food and Agriculture Organization
Firdos	Syrian Fund for Rural Development
FSCA	Federation of Syrian Chambers of Agriculture
FYNP	Five Years National Plan
GAFTA	Great Arab Free Trade Area
GCAE	General Commission for Atomic Energy
GAP	Gross Agricultural Product
GCB	General Company for Bakeries
GCF	General Commission for Fisheries
GCM	General Company for Mills
GCMDA	General Commission for the Management and Development of Al-Badia
GCRS	General Commission for Remote Sensing
GCS	General Establishment for Silos
GCP	FAO Government Cooperation Programme
GCSAR	General Commission for Scientific Agricultural Research
CDIS	Conditional Direct Income Transfer
GDMET	General Directorate for Meteorology of the Ministry of Defense
GECB	General Establishment for Cattle Breeding
GECG	General Establishment of Consumption Goods
GECGM	General Establishment for Cotton Ginning and Marketing
GECPT	General Establishment for Cereals Processing and Trade
GEF	General Establishment for Feed
GEP	General Establishment for Poultry
GESI	General Establishment for Sugar Industry
GESM	General Establishment for Seed Multiplication
GESMAA	General Establishment for Storage and Marketing of Agricultural and Animal Products
GETM	General Establishment for Tobacco Monopoly
GFC	General Fertilizers Company

GIS	Geographic Information system
GOFI	General Organization of Food Industries
GoS	Government of Syria
GOS	General Organization for Sugar
GPF	General Peasant Federation
GWU	General Women's Union
IB	Industrial Bank
IC	Investment Commission
ICARDA	International Center for Agricultural Research in the Dry Areas
IDR	Imports Dependency Ratio
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
IPM	Integrated Pest Management
KFAED	Kuwait Fund for Arab Economic Development
MAAR	Ministry of Agriculture and Agrarian Reform
MENA	Middle East and North Africa
MoE	Ministry of Education
MoENV	Ministry of Environment
MoHE	Ministry of Higher Education
MoET	Ministry of Economy and Trade
MoHU	Ministry of Housing and Utilities
MoI	Ministry of Irrigation
MoIND	Ministry of Industry
MoINF	Ministry of Information
MoINT	Ministry of Interior
MoSAL	Ministry of Social Affairs and Labor
MIS	Market Information System
MITF	Modern Irrigation Transfer Fund
NAPC	National Agricultural Policy Center
NGOs	Non-Government Organizations
NPFS	National Programme for Food Security
PSIA	Poverty and Social Impact Analysis
RYU	Revolution Youth Union
SPFS	Special Programme for Food Security
SSR	Self-Sufficiency Ratio
TCP	FAO Technical Cooperation Programme
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
WB	World Bank
WDI	World Development Indicators
WFP	World Food Programme
WTO	World Trade Organization
WUA	Water Users' Association

FISCAL YEAR

July 1 – June 30

CURRENCY EQUIVALENTS

(As of June 2010)

US \$1.00 = 46.00 Syrian Pounds (SP)

SP 100.00 = US \$2.174

WEIGHTS AND MEASURES

1 donum (don)	=	0.1 hectares
1 cubic meter (m ³)	=	35.310 cubic feet
1 liter (l)	=	1.057 quarts
1 kilogram (kg)	=	2.205 pounds
1 metric ton (t)	=	2,205 pounds

Executive Summary

Agriculture is a Leading Sector in the Syrian National Economy

The agricultural and rural sector has a vital role in the national economy of Syria. Agriculture contributes about 20-25 percent of GDP and is the main source of employment and income for 47 percent of the population. The sector generates about 16-20% of non-oil exports and is a major source of raw materials for the processing industries. Recently with the occurrence of frequent droughts, agriculture's contribution to the GDP, proportion of trade, and absorption of the workforce have been declining.

Sustainable Water Resources Management is a major Challenge to Sustainable Agricultural Development and Food Security

Water resources management is a serious challenge to sustainable agricultural development and food security in Syria. In general, Syria is considered as a dry and semi-arid country, where the annual rainfall rate is less than 350 mm in more than 90% of the overall area. The rainfall increases in coastal and mountainous areas due to the existence of a range of mountains parallel to the coast, and it declines towards the East. With an annual average of all water resources capacity reaching 15.5 billion m³, Syria has been experiencing an increasing shortage in most water basins, because of the growing demand and the frequent droughts affecting most of the country. In recent years, the average water deficit has amounted to about 3.5 billion m³. Consequently, this situation led to reducing groundwater tables, declining the capacity of some rivers, drying springs, and hence negatively affecting the agricultural production. The Government policies are oriented towards enhancing the efficiency of water utilization. While several policies are adopted to improve the demand management of water resources, investment has been also accelerating and more than 161 dams were built until 2008 with a total storage capacity of about 19 billion m³. Currently, more than 10 additional dams and many other governmental irrigation projects are under construction.

Young Population and Limited Arable Land

Arable land in Syria represents 32% of the total area, non-arable land 20%, meadows and pastures 45%, and forests 3%. The total actual cultivated land is about 4.7 million hectares, 70% of which is rainfed and 30% irrigated. With an annual average population growth estimated at 2.45%, the total population reached 22 million in 2009, 51% of whom are males, and about 62% of the total population is under the age of 24. The percentages of urban and of rural population are 53% and 47%, respectively.

A fluctuating Trend in Food Availability

In general and till 2006, Syria attained self-sufficiency for most commodities such as wheat, legumes, vegetables and fruits. After the recent global financial and food crises and with frequent droughts since 2007, food production has not been able to catch with the increasing demand of the more affluent Syrian population specially for wheat, sugar, fish and vegetable oils.

The economic growth in Syria has been positively reflected on the nutritional level. While the average expenditure on food was relatively high (42% in 2006-2007), the average per capita calorie intake increased to more than 3200 kcal /day in recent years, compared to 3054 kcal /day in 2000. This level of per capita daily calorie intake in Syria is well above the UN minimum daily requirements defined according to average nutritional food standards. However, most of the increase in Syria's average calorie intake is obtained from vegetal sources, and there is a decreasing trend for the calorie intake from animal sources during the same period. During the same period, the per capita daily protein consumption increased from 74.8 to 86.7 grams/day with a significant increase of vegetal protein share from 53.4 to 63.8 grams /day versus a very slight increase of animal protein share. The individual dependency rate on protein from plant sources was 73.6% and from animal sources 26.4%. Meanwhile, the

per capita daily fat consumption has declined from 104.5 grams/day in 2000 to 96 grams/day in 2004, and the proportion of fat from plant sources reached 76% against 24% from animal sources. These findings clarify the increasing difficulty of access to specific high value food products.

Need to Update Information on Poverty

The number of poor, vulnerable and food insecure segment of the society reached about 2.02 million corresponding to 11.4% of total population in 2003-2004 (UNDP, 2005). Despite the progress achieved in food production and stability and the improvement of individual income. The distribution of poor significantly differs between the southern, northern, central and coastal areas and between rural and urban areas. The Northeastern region (Idleb, Aleppo, Al Raqqa, Deir Ezzor and Hassakeh governorates) is the poorest area in Syria. Using the lower poverty line (less than \$1/day), poverty incidence is highest in the Northeastern rural region (17.9 per cent), followed by the Northeastern urban region (11.2 per cent). The incidence of poverty is less in the Southern urban region (Damascus, Rural Damascus, Daraa, El Sweida and Al Quainter governorates) with 5.8 per cent.

Economic Reform is Accelerating since 2000

The Government of Syria (GoS) has embarked since 1987 on gradual market-oriented agricultural reforms which was accelerated by 2000 as clearly outlined in the 10th Five Year National Plan (2006-2010). The government's commitment to the reforms is further re-iterated in the coming 11th Five Year National Plan (2011-2015).

Food Security is a Government Priority

The GoS is aiming at achieving sustainable agricultural development, food security and alleviate poverty. Several plans, programmes and projects have been formulated and implemented to achieve these goals. The 10th Five Year National Plan FYNP (2006-2010) sets the major objectives and future orientation of the agriculture sector. Also, a draft of a strategic framework for sustainable agricultural development in Syria has been developed (MAAR, 2000). In addition, the draft 11th FYNP (2011-2015) includes directives about agricultural development till 2015. In all these efforts, the GoS has focused on achieving the national food security at the household, regional and national levels, while improving the livelihood of the Syria citizens through a sustainable utilization of the scarce natural resources. Meanwhile, the Syrian Arab Republic is committed to fulfill the World Food Summit's decisions to half the number of starving and undernourished people in the world by 2015 and achieving the Millennium Goals (MDG) adopted in 2000 to make the world more peaceful, prosperous, and equitable to free people from extreme poverty and hunger. Accordingly, the agricultural policies continue to pay the utmost attention for food security placing it at the top of national priorities.

Separate Policies and Programmes for the Multifaceted Food Security

The agricultural policies are aiming at eliminating trade and production market distortions taking into account social security and equity, enhance production and productivity of agricultural products based on comparative advantage, enhance food security including availability, stability, access and safety and utilization. Availability of wheat as the most strategic crop in Syria is a major concern to the GoS and increasing production to attain the increasing national demand is among the Government objectives. The Government also aims at increasing farmers income and improve food quality and distribution efficiency along the whole value chain for agricultural and food products. Targeting social support and subsidies to attain their intended objectives to bring equity and to raise the living standards of the poor, vulnerable and food insecure segment of the society is among the Government highest priorities.

In doing so, the GoS has collaborated with partners in development to initiate and implement effective investment and developmental programmes and projects to achieve the goals of food security.

Most of these policies, reform measures, programmes and projects were planned and implemented separately and provided piece-meal solutions to the integrated and multifaceted challenge of sustainable

food security. In spite of all of the previous and ongoing efforts there seem to be yet a great need for a coherent, time and cost bounded programme for food security in Syria.

The Need for a Coherent, Cost and Time Bounded National Programme for Food Security

The GoS has decided to formulate a comprehensive National Programme for Food Security (NPFS) to address all elements and dimensions of food security and to contribute to sustainable agricultural and rural development and alleviating poverty.

The added value of the NPFS is that the previous National Plans and Strategic Framework did not address priority food security issues and dimensions within a coordinated and actionable investment framework. The NPFS is intended to provide a strategic programme framework with a set of prioritized actions, implementation modalities and indicative investment costs that will be funded by the government, private sector and donors/International Financial Institutions (IFIs).

Consequently, efforts from different parties need to be concerted, combined under one umbrella and linked to one framework whose ultimate objective is achieving food security. A comprehensive programme has been formulated in order to concert efforts and place them under one authority that would monitor the implementation and make adjustment when necessary, and tackles obstacles that face the programme by communicating in time with decision makers in the country.

The NPFS in Syria is a comprehensive programme targeting the entire food insecure population. It proposes actions oriented towards developing a broader based approach to food security, targeting directly poor people, small farmers, the most vulnerable groups and the food insecure. It puts in place activities to enhance productivity, diversify livelihoods and build the capacities of food insecure people to achieve sustainable food security, while simultaneously assisting those in immediate need, through safety net programmes.

NPFS linked to other National and International Food Security related Initiatives

The NPFS is linked to the on-going initiatives to ensure complementarity with global MDGs and the World Food Summit (WFS) goals as well as the ongoing initiatives of special concern to Syria such as UN agencies initiatives and support, global and national concerns to climate changes, the right to food, women empowerment and governance. The formulated NPFS is in harmony with national social and economic development goals and supports the Government ongoing reform efforts.

The Objectives and Framework of the NPFS

The NPFS in Syria is contributing to the overall impact of “*achieving sustainable agricultural and rural development and reducing poverty*”. The overall expected outcome of the NPFS is “*to achieve and enhance food security in Syria*”. This outcome will be achieved through realizing the following specific objectives:

1. Improve the sustainable management of natural resources;
2. Enhance agricultural production and productivity;
3. Promote agricultural policies, institutional capacities and supporting services;
4. Enhance food stability and risk management capabilities; and
5. Improve food access, quality and safety.

Accordingly, the coherent NPFS includes 5 major outputs/components/pillars to achieve the objectives stated above. The five outputs will be achieved/implemented through 54 specific, well defined and complementary priority projects that were selected based on specific criterion. The NPFS major outputs/components/pillars and projects are:

1. Sustainable management of natural resources and environment:
 - 1.1. Water Resources Management (8 projects)
 - 1.2. Environment (2 projects)
 - 1.3. Forestry Development. (3 projects)

2. Agricultural production and productivity
 - 2.1. Plant Production (7 projects)
 - 2.2. Livestock Production (13 projects)
3. Policies, Institutions and Supporting Services. (4 projects)
4. Food Stability and Risk management
 - 4.1. Drought Management (3 projects)
 - 4.2. Household Food Security and Livelihood (5 projects)
5. Food Access, Quality and Safety (9 projects)

Prioritization Criteria used

The projects constituting the programme elements were selected among a wider set of projects and actions. The selected projects to achieve the objectives of the NPFS represent priority investment and technical proposals. The following criteria were used in selecting the priority projects of the NPFS:

1. Multiple Effect on Identified Objectives and Expected Outputs
2. Clarity of Institutional Responsibility
3. Human Absorption Capacities
4. Sequencing Pre-requisites for other projects (satisfying pre-conditions for other projects)
5. Continuation of on-going programmes/projects
6. Availability of Funds

About 2.24 million households will directly benefit from the NPFS

The NPFS targets the food insecure population in Syria with special emphasis on the poor people, small farmers and other most vulnerable groups. The total number of beneficiaries for the NPFS reaches about 2.24 million households.

NPFS Costs US 4.07 billion...But Expected Contribution from Partners in Development is less than 7%

The approximate cost of the NPFS is about US\$ 4.07 billion, table 5-1. The coherent programme will cover most of geographical areas of Syria, and takes into account the sustainable management of natural and economic resources. The management unit and the involved organizations will set a definite applicable timetable for programme implementation. The allocated budget for monitoring and evaluation for the programme represented about 2% of total cost for the components and reached about US\$ 80 million. The established unit within the State Planning Commission (SPC) to manage the implementation of the NPFS may provide in kind contribution to cover the bulk of the needed funds for the M&E.

The GoS is collaborating with the Kuwait Fund for Arab Economic Development (KFAED) and the Arab Fund for Economic and Social Development (AFESD) and Kuwait Fund for Arab Economic Development (KFAED) to fund the rehabilitation and development of the Tigris and Alkhabor basin area (project 6.1.1.1) which may cost about US\$ 2.173 billion. The project has a clear developmental and food security implication and will serve small holders, contribute to conserving the environment, and to food security. In addition, the funds of US\$1.086 billion needed for the transformation from the traditional irrigation practices to modern irrigation systems during the period 2010-2015 (project 6.1.1.5) are allocated through the Modern Irrigation Transfer Fund (MITF). Accordingly, nearly US\$ 3.26 billion or about 80% of the NPFS estimated budget is committed by the Government. The foreign currency component needed to implement the NPFS represents only 6% while the local currency component represents about 94% of the total estimated budget of the programme. About 58% of the total cost of the NPFS will be disbursed during the 11th FYNP (2011-2015), while 42% will be spent during the 12th FYNP (2016-2020). The GoS has agreed to include the NPFS within the 11th FYNP. This is an indication of the Government commitment to support the implementation of the NPFS and to seek the needed funding. Given the above mentioned government commitment to the suggested water related projects, the remaining required funds reaches about US\$ 369 million for the whole programme consisting of US\$ 291 million for the period 2011-2015, and about US\$ 78 million is needed during the 2016-2020. The suggested contribution of the GoS in the implementation of all projects averaged about 25% of total cost.

Accordingly, the required funding by partners in development to implement the coherent NPFS reaches about US\$ 277 million consisting of US\$ 218 million during the period 2011-2015 and about US\$ 59 million during the period 2016-2020. The support needed from partners in development represents less than 7% from the total cost of the programme. The Government seeks the support of FAO and other partners in development to identify potential funding for the remaining elements of the coherent NPFS.

Based on the above estimates for the potential number of beneficiaries, the average cost/investment within the NPFS is about US\$ 1815 per household.

The State Planning Commission will Manage the NPFS

The NPFS will be executed through a specialized administrative unit under the State Planning Commission (SPC). The Unit will shoulder the responsibility of preparing the annual plans for the programme, and following up their implementation. The SPC was selected to lead the implementation of the NPFS due to its mandate as the major actor in preparing the Five Year National Plans as well as annual plans, which allows it to follow up the implementation, in coordination with other concerned sectors.

Results Based Monitoring and Evaluation is an Integral Part on NPFS's Formulation

A Monitoring and Evaluation Activity was an integrated part of the Programme's design and formulation. The proposed Unit within SPC overlooking the implementation of the NPFS would operate a 'Results-Based Monitoring and Evaluation System'. This system will greatly enhance the capacity to measure progress towards achieving the aims listed above. Monitoring and evaluation results will be published on an annual basis (in conformity with Government/SPC rules) and provided to all stakeholders. This will provide necessary feedback at the decision making level, to direct program executors (ministries and agencies) and to the public at large (the final beneficiary group).

Risk facing the Implementation of the NPFS is Moderate

Risk analysis for factors that may hinder the proper and sequenced implementation of the identified programmes and projects was also an integral part of the formulation of the NPFS in Syria and of the envisaged results-based management of the NPFS. The major risk factors were identified through systematic brainstorming sessions with the multidisciplinary formulation teams and stakeholders in the regions. Activities to mitigate the impact of the identified risk factors were proposed as activities within the programme elements. Some of the risk factors outside the control of the MAAR and the management unit of the SPC were identified as assumptions needed to be followed closely during M& E process. It is assumed that Syria is ready in committing to sustain a continuous effort to provide and enhance the needed domestic capacity to monitor all aspects of the NPFS and to study rapidly changing developments. The SPC in charge of coordinating the implementation of the NPFS has demonstrated its commitment to the task at hand. The limited institutional and technical capacities in some ministries, and the possible delays in funding and possible lack of commitment from partners in development were among the highest risk factors facing the implementation of the NPFS.

The Text

The NPFS is presented in six chapters. The first provides a background including the role of agriculture in Syria, the formulation process of the NPFS and the definitions and dimensions of food security. Chapter 2 deals with the Status of Food Security in Syria while Chapter 3 is devoted to the Food Security related Policy and Institutional Framework. A review of the ongoing Programmes and Projects implemented by the Government and Partners in Development with some lessons learned is given in Chapter 4. The Objectives and Framework of the NPFS are stated in Chapter 5, and the detailed programme components and priority projects are depicted in Chapter 6. The Implementation Arrangements and the Risk Analysis and Mitigating Assumptions are discussed in Chapters 7 and 8, respectively. Annex 1 is devoted to a presentation of the logical framework of the NPFS, and Annex 2 is devoted to the statistical tables.

I. Background

The Syrian Arab Republic is located at the Eastern coast of the Mediterranean. Turkey borders it in the north, Iraq in the East and Southeast, Jordan in the South and by Palestine in the Southwest, and in the West by the Mediterranean and Lebanon. The total area is 185.180 km².

With an annual average population growth estimated at 2.45%, the total population reached 22 million in 2009, 51% of whom are males. Syria is classified as a young community where 62% of the total population is under the age of 24. The percentage of urban and of rural population is 53% and 47% respectively.

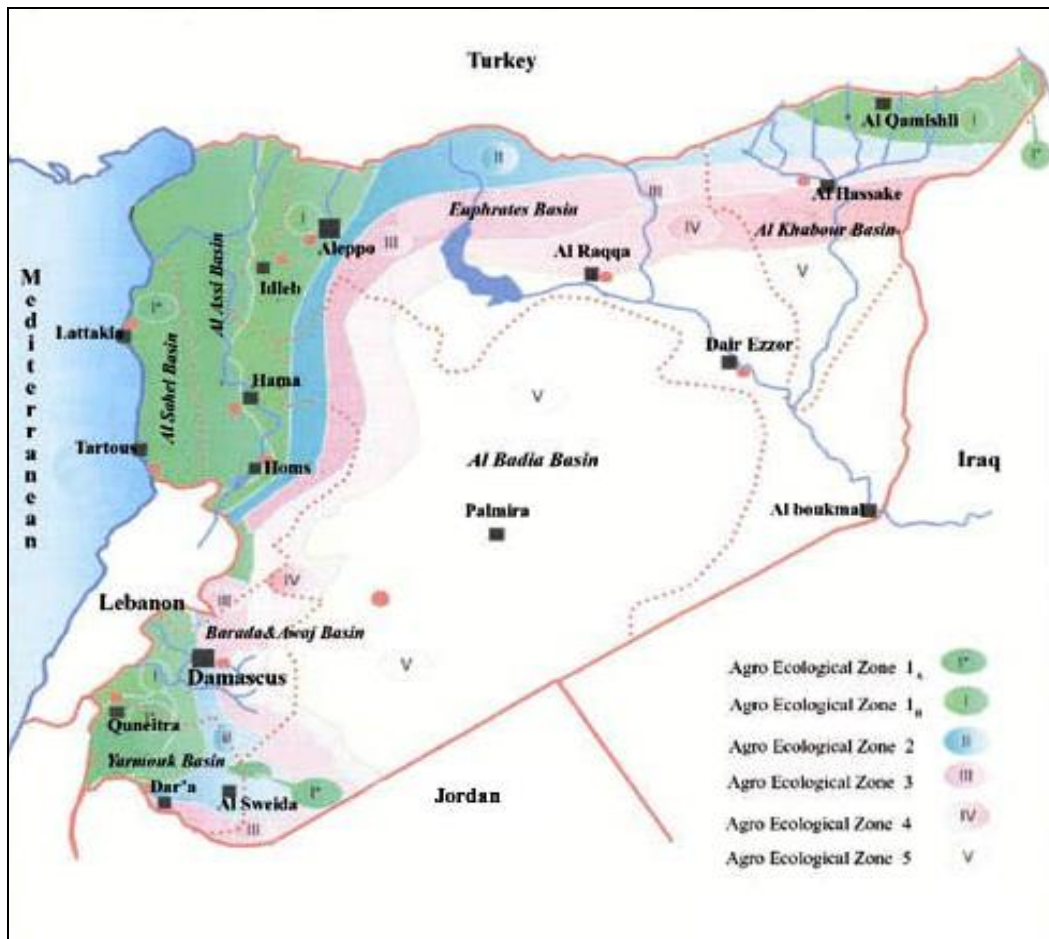
The climate is Mediterranean, characterized by relatively cool rainy winter and warm dry summer, mainly resulting from low atmosphere pressures passing over the Mediterranean. Principally, rainfall distribution is affected by the local terrain in the region. The rainfall increases in coastal and mountainous areas due to the existence of a series of mountains parallel to the coast, and it declines towards the East.

In general, Syria is considered as a dry and semi-arid country, where the annual rainfall rate is less than 350 mm in more than 90% of the overall area.

According to precipitation rates, the country is divided into five agro-climatic zones (settlement zones) shown in (Figure 1-1) as follows:

- First Climatic Zone: forms 15% of the total area with annual average rainfall 350 - 1000 mm. it is divided into two sub zones:
 - Zone A: its annual rainfall rate exceeds 600 mm.
 - Zone B: its annual rainfall rate varies between 350 and 600 mm.
- Second Climatic Zone: forms 13% of the total area with annual average rainfall varies between 250 and 350 mm.
- Third Climatic Zone: forms 7% of the total area with annual average rainfall of 250 mm.
- Fourth Climatic Zone: forms 10% of the total area, with annual average rainfall varies between 200 - 250 mm.
- Fifth Climatic Zone: represents 55% of the total area, with annual average rainfall mostly is less than 200 mm.

Figure (1-1) Agro-climatic Zones



1.1 Agriculture in Syria

Land uses in Syria are distributed as follows: arable land 32% of the total area, non-arable land 20%, meadows and pastures 45%, and forests 3%. The total actual cultivated land is about 4.7 million ha, 70% of which is rainfed and 30% irrigated.

Generally, the irrigated areas have been steadily increasing since the nineties, reaching a stable level in the recent years. Indeed, the increase or decrease in the cultivable area is based on rainfall rates that replenish rivers, springs and wells. Annex table (1-2) represents the evolution of land uses balance between 2000 and 2008.

The State is the owner of Al Badia land (pastures) that account to 55% of the country area, forests represent 3% of the total area, and some lands in agricultural areas that mostly invested by the private sector through leasing or utilization contracts. Most of the investment in the cultivated land is private (including the cooperative sector) accounting for 98.5% of total agricultural investment compared to 1% for the joint sector and 0.5% for the public sector.

In addition to rainfall, **water resources** in Syria mainly consisted of permanent and temporary rivers, springs, and groundwater. The annual average of all water resources capacity is estimated at 15.5 billion m³ out, of which about 6 billion m³ coming from the Euphrates River.

Syria has been experiencing an increasing shortage in most water basins, because of the growing demand and the frequent droughts affecting most of the country. In recent years, the average water deficit has

amounted to about 3.5 billion m³. Consequently, this situation led to reducing groundwater tables, declining the capacity of some rivers, drying springs, and hence negatively affecting the agricultural production.

Water uses are distributed among several sectors as irrigation, industry and household consumption, etc. The greatest share of total available water is devoted to agriculture, which consumes 89% for irrigation against 7% for drinking and household use, while industry uses up to 4%. Averagely, 60% of the irrigated areas rely on wells and 23% on governmental irrigation projects, while the rest (17%) depends on rivers and springs. As for irrigation, the traditional schemes are still dominant in most areas. Conversion of modern irrigation methods (sprinkle and drip) covers only about 19% of the total irrigated area in 2008.

In view of the limited availability of water resources and the increasing demand on water, considerable efforts have been placed by the Government to develop water resources investment. In this context, 161 dams were built until 2008 with a total storage capacity of about 19 billion m³. Currently, there are other 10 dams and many other governmental irrigation projects under construction. Corresponding to water resources availability, many wells have been recently dug in different regions for irrigation, drinking and manufacturing.

the agricultural and rural sector is of special importance to the national economy of Syria. This is mainly due to the vital role it plays, not only through its contribution to the **Gross Domestic Product (GDP)**; employment; and the national trade balance, but also through its contribution to the development of non-farming activities such as marketing, processing, and transportation. Indeed, the agriculture sector is essential for the achievement of food security and supplying the raw materials necessary for the development of transformation and agro food industries. Additionally, it stimulates the development of other sectors through its demand for non-agricultural goods and services used in agricultural production. Agriculture is one of the most important sectors of the national economy in Syria as it comes second after the manufacturing sector (including agro-industry and natural welfare) with a share of 21-25%. These percentages were maintained for several years, in spite of the increase in the agriculture share in GDP, due to the development of other sectors. Moreover, agriculture is affected by the severe droughts that reduce considerably its contribution to the GDP, proportion of trade, and absorption of the workforce. Annex table (1-1) shows GDP components ratios at market price between 2000 and 2007.

Since the nineties, **crop production** has significantly developed particularly in irrigated areas, leading to the achievement of self-sufficiency in many agricultural products. This is true mainly for wheat, dry legumes, and most vegetables and fruits. However, the agricultural production, particularly rain-fed products e.g. barley and legumes, is still subject to fluctuation and highly influenced by precipitation and other weather conditions of high temperatures or frost. Annex table (1-3) shows the evolution of the most important agricultural products between 2000 and 2008.

Livestock production has also significantly increased and accounted for 32-36% of the total agricultural production. Syrian livestock production provides a good percentage ranging between 80-100% of domestic demand for red and white meat, eggs, milk, and dairy products. In general, animal production sector in Syria mainly relies on raising sheep, goats, and cattle for the production of milk, red meat, wool, and leather; in addition to poultry, which is the basic source for white meat and eggs. On the other hand, camels, buffalo, and fish production contributes for just a small share to Syrian animal production. Annex tables (1-4 and 1-5) show the population of main livestock in Syria during the last ten years, and annex table (1-6) illustrates the evolution of meat, milk and eggs production.

In recent years, estimation of **agricultural labor** ranged between 20-25% of the total labor force corresponding to 1.1-1.4 million that accord with seasonal activities. These figures are, however, below the level reached ten years ago that was 30%. Noticeably, the agriculture sector absorbed the highest share of female employment. Available data suggests that women labor accounts for 30% of the total workforce, 50% of which is working in agriculture. The sector is also characterized by the prevalence of family labor.

The agricultural sector has witnessed a gradual shift from relatively closed market to more open market corresponding to recent changes included in the Tenth Five-Year Plan (2006 – 2010), which also focuses on adoption of the **social market economy** to increase trade liberalization and rapid integration into the global economy.

The Syrian government has taken a set of measures to enhance **foreign trade** including: (i) cancellation of export license that used to be obtained for a large part of agricultural food products, (ii) allowing the imports of banned agricultural products from Arab countries members of the Great Arab Free Trade Area, and (iii) gradual reduction of customs duties during the period 1998- 2005 reaching full cancellation by 2005. Aiming at accelerating trade liberalization, the same procedure has been expanded to include countries engaged in bilateral agreements of free trade zones with Syria such as Turkey. Likewise, it will be applied on the Association Agreement with the European Union, upon its signature.

The overall Syrian trade evolved significantly during the years from 2000 to 2007. However, the growth of the total trade (17.7%) was higher than the agricultural trade growth that averaged 11.9% due to the facilities granted by the State to encourage foreign trade. Among the measures applied, were the liberalizing the import of many products, particularly luxury goods and cars. In general, agricultural trade volume ranged between 12 and 20% of the total trade.

The total imports grew by 20.3% against a share of 13.7% for agricultural imports attaining 12 to 21% out of the total value of imports. Compared to a growth of 15.1% in the total value of exports, the agricultural exports grew by 9.7% registering 12 to 20% out of the total exports.

The overall trade balance was positive until 2003, but it turned to negative since 2004 due to the growth in imports of oil and its derivatives, in addition to shortening the imports negative list giving permission to import many banned or restricted products. Since 2004, the agricultural trade balance witnessed a continued deficit resulting from frequent droughts coupled with high increase of imports of some agricultural products and inputs. Table (1-7) in the annex shows an improvement in total and agricultural trade between 2000 and 2007.

Important imported food commodities are sugar, maize, rice, tea, vegetable oils, and others. While the foremost exported goods include live sheep, cotton, wheat (except in 2008 where it was imported due to the poor production caused by the unfavorable weather conditions), olive oil, tomatoes, and others.

1.2 NPFS Formulation Process

The Government strategic orientations aims at achieving food security to the population while devoting special attention to the poor and vulnerable groups of the society. The Government of Syria (GoS), the private sector, the Non-Government Organizations (NGOs), and Syria's Partners in Development with all agencies in the Civil Society are exerting great efforts to achieve the goals of food security and poverty reduction in Syria. The Government of Syria has taken bold steps and adopted several measures towards achieving this goal. Meanwhile, several aspects of sustainable agricultural development and food security have been studied over the years. Currently, there is a great need for the efforts of the Government of Syria (GoS) and all concerned parties to be harmonized under a single framework that facilitates the process of implementation and monitoring. The preparation of the NPFS is timely and highly needed.

The added value of the National Programme for Food Security (NFSP) is that the previous national plans and strategic framework, did not address priority food security issues within a coordinated and actionable investment framework. The NPFS is intended to provide a strategic programme framework with a set of prioritized actions, implementation modalities, monitoring and evaluation set-up and indicative investment costs that will be funded by the government, private sector and partners in development including the International Financial Institutions (IFIs).

In the preparation phase of the NPFS, a participatory approach was adopted at all stages. The experience of international organizations, mainly FAO, in ensuring effective contribution from all stakeholders was instrumental.

Building national capacities was given a considerable attention during the preparation of the NPFS and several interactive brainstorming and exchange sessions were held during this process. The contribution of the local population (beneficiaries) and other stakeholders participated in the preparation sessions at the Governorates level was useful in identifying constraints and needs for improvement.

Exploiting the intense experiences of earlier national and international projects that have been contributing to achieving food security, was taken into consideration, especially the projects that adopted the participatory approach. Lessons learned from the design and implementation of these projects was useful in formulating the current NPFS.

The programme introduces a new orientation by focusing on sustainable management of natural resources combined with using modern production techniques that increase the income through achieving efficiencies by increasing production, reducing cost or both.

The programme formulation team consisted of multi-disciplinary workgroups and utilized individual experiences to cover all dimensions of food security. Groups were formed in the following domains: household food security, livelihood, and nutrition; agricultural and rural institutions; irrigation and water management; safety nets, livestock production of small holders; and crop and agricultural production for small holders (crops, vegetables, fruit trees). In addition, the programme recruited two national experts, one in the field of forestry and the other one in field of safety nets.

The formulation of the NPFS was based on systematic process to identify the neediest geographical areas and targeted poor and vulnerable groups. In addition to reviewing all recent and ongoing efforts related to the multi-dimensions of food security in Syria, an assessment was made for the available survey data and information from the Central Bureau of Statistics (CBS) and the State Planning Commission (SPC) on poverty and vulnerable groups. After many interviews and meetings, 17 villages were selected in four governorates (Deir Ezzor, Al Hassakeh, Aleppo, Latakia) as having distinct characteristics that could be useful in understanding details about the poverty, and food insecurity issues. The selection was based on geographical, environmental, and economic and social characterizations. In principle, the 17 selected villages were considered as a representative for 123 villages in these areas that encompass about 43,796 households. Eventually, the findings could be generalized to similar regions, table 1-1.

After identifying the governorates and the areas within governorates that need special attention, brainstorming sessions were planned and held in each governorate. These sessions were attended by stakeholders in each governorate including, farmers, herders, traders, government officials, representatives from the civil society including private investors and NGOs. Lively discussions and exchange of information took place during the sessions to assess demographic, social, economic and environmental characteristics of the selected villages and identify the other villages in the governorate or other governorates that have similar characteristics. Based on the results of these sessions, multidisciplinary teams were constructed and visited the selected villages where an in-depth assessment of the constraints and needs were carried out. After the identification of the overall objectives and dimensions of the envisaged coherent programme, prioritization criterion were identified and applied to consider projects for achieving the goals of the NPFS. Targeting the project to the neediest area and having the possibility of replication in several sites and governorates were among the prioritization criterion.

Table 1-1: Targeted and Representing Villages

Governorate	Selected villages	Number of villages represented by the selected village	Number of households in the represented villages
Lattakia	Alshahroura	6	800
	Alqranah	8	1711
	Mareen	3	800
	Bet alshakouhi	3	150
	Total	20	3461
ALHasake	Alhol	9	400
	Hanonet	28	3000
	Alzarqa		
	Makhroom	10	2000
	Tal hafian	8	555
Total	55	5955	
DerEzzor	Abu Khashab	8	1000
	Aljuthi Alsharqi	5	5236
	Alkashkeh	3	7500
	Alharmooshieh	6	6000
	Mejeel	6	4934
	Total	28	24670
Aleppo	Baee	6	300
	Bir baker	5	1000
	Almintar	5	8200
	Tal Abu jadha	4	210
	Total	20	9710
Total		123	43796

1.3 Food Security Definition and Dimensions

The following UN/FAO World Food Summit (Rome 1996) definition of food security and its associated dimensions is generally accepted in Syria and adopted for the purpose of preparing the NPFS: *all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.* The main elements of food security as adopted in this report are:

- (1) **Availability:** food supplies must be sufficiently adequate to feed the population. Food availability thus covers food production, productivity, post-harvest management, processing and marketing. A food item could also be available through imports when Syria does not have a comparative advantage in its production.
- (2) **Access:** people must have physical, social and economic access to sufficient food. Where appropriate, access thus includes food safety nets for vulnerable groups in combination with income generating activities.
- (3) **Stability:** access and availability must be assured at all times. Food stability thus includes food stocks, disaster mitigation and market-based risk management measures etc.
- (4) **Utilization:** food must be safe and nutritious. In addition, nutrition security is described as a situation where all people at all times have the ability to utilize biologically sufficient nutrients to live an active and health life. The Government of Syria pays attentions to the nutritional aspects of the population with special attention to the poor segment of the society, children and women.

II. State of Food Security in Syria

Syria is seeking the realization of the objective of food security as defined above by the Food and Agriculture Organization. The GoS is attempting to simultaneously achieving food security at the individual, household, and national levels. The following summarized the state of food security in Syria.

2.1 Food Availability

Available data on food production for the period (2000-2006) shows a positive simple annual growth rate that exceeded 6% for cereals, fodder grains, vegetables, white meat, milk, eggs and sugar, while it was less than 4% for other products, Annex table 2-1. However, the average growth rate of food groups varied, where it was positive for most of them and negative for the others, especially legumes. Annex table 2-2 shows availability of major foods during the 2000–2006 period.

As for the selected food products, the simple growth rate for most products was positive, especially for wheat, some vegetables, and some fruits, and it was negative for other commodities such as cotton¹. This was mainly due to the State tendency to reduce cotton planted area to rationalizing water use (Annex Table 2-3).

Notably, the per capita food availability changes in line with the change of total availability for almost all food groups and foodstuffs mentioned above.

In General, the indicators illustrate the increase in per capita share from basic foodstuffs such as wheat, potatoes, tomatoes, beef, and poultry with a positive simple growth rate, while the per capita share of sheep meat decreased due to the price increase that resulted from excessive exports.

2.2 Self-Sufficiency

High Self-Sufficiency Ratio (SSR) has been achieved in a variety of agricultural food commodities mainly wheat, legumes, cotton fibers, vegetables, fruits, olives and olive oil, and animal products. While a high deficit is mostly concentrated in sugar and maize, a relatively slight shortage is recognized in some dairy products, meat, vegetable oils, and barley particularly in dry seasons.

Given the differences between annual production, imports, and exports SSR is calculated as an average between 1996 and 2006. The calculation of the upper limits, the mean, and the lower limits of SSR during this period was attempted. The analysis of the trend in the SSR for normal years (excluding outliers) reveals the following:

- SSR of major commodities exceeded 100% including wheat 110%, lentils 240%, chickpeas 126%, and cotton fibers 258%. SSR also exceeded 100% for other basic products such as all kinds of meat except fish, sugar and livestock fodder. Accordingly, the Import Dependency Ratio IDR of these commodities is acceptable except for barley, livestock fodder and sugar.

- Available detailed data for 2006 indicates attainment of self-sufficiency for most commodities such as wheat, legumes, vegetables and fruits, but with rates less than the requirements for barley 74%, fish 49%,

² These non-food products (cotton, barley) were considered due to their importance for food security situation as cash crops affecting producers' income.

and sugar 27%. Annex table (2-5) shows Self-Sufficiency Ratio with detailed data for 2006. It is found that the SSR was close to or more than 100% in 2006. However, some indicators do not accurately present the reality as for milk production. 50% of the total quantity of milk is used as fresh consumed milk representing a SSR of 100% and the other part used as processed milk with SSR of 85%. Thus, powder milk and many types of cheese were imported to cover the local demand.

As it is shown in the table, products with low SSR are that consumed directly or used as inputs for the production of other goods, such as sugar, fish, maize, vegetable oils, animal feed, etc.

Based on self-sufficiency ratios, trends, and changes between the studied periods, it can be concluded that food availability is not a serious challenge in Syria. The overall increasing trend line indicates a good performance of production. Although food supply is stable, it can be potentially improved by increasing the irrigated area through the government support given to enhance the use of modern irrigation technologies, as well as the expansion of the implementation of advanced methods in the field of artificial rainfall to both increase the amount and improve the distribution of precipitation. Notably, the production diversity in Syria allows the provision of alternative food items and widen the available food baskets for the consumers.

2.3 Food Processing

Achievement of food security is highly linked to other relevant indicators besides availability. The agricultural industry and modern cooling systems ensure the provision of agricultural products for a longer period during the year, stability of prices, and reduction of price fluctuations throughout the whole period of production, in addition to maintain the living standards for both producers and consumers. Agricultural and food industries in Syria for both public and private sectors mainly rely on domestic production of crops such as sugar beet, cotton, wheat, olives, grapes, apples and citrus, as well as local animal products like milk and meat. The most important food products manufactured by public and private sectors include dairy products, bread, biscuits, vegetable oil, tomato paste, canned food, jam, fruit juice, carbonated and alcoholic beverages and sugar. The value of food production, beverages and tobacco industries in both the public and private sectors varied recently between 21 and 25% of the total value of the products in manufacturing industry sector.

2.4 Agricultural Trade

Considering that food trade is one of the key determinants of and contributors to food security, the Government has significantly amended the national trade policies, which, before the nineties, were characterized mainly by the domination of public sector companies. At the beginning of the 90s, several policy reforms were introduced giving the private sector more incentives to support and develop the overall trade in general and agricultural trade in particular. The main aim was to ensure supplies that cover domestic consumption needs, especially of rice, sugar, tea, vegetable oil, meat and dairy products, and others.

Since 2000, several procedures have been adopted to accelerate the trade liberalization process e.g. reducing custom duties on food commodities and inputs. Syria also joined to the Great Arab Free Trade Area (GAFTA) and implemented a gradual tariff reduction on all agricultural products starting from 1998 to the full cancellation in 1/1 2005. However, regular charges were made to several specific imported products during the production peak in Syria. In addition, a number of preferential trade agreements were signed with several countries. For example, a free trade agreements with Turkey entered into force on 1/1/2007 giving the two countries tariff quotas for particular products. In addition, tariffs have been reduced to become below 7% for major food products and production requirements, while high fees of 50% were imposed on luxury goods or commodities available locally and having good surplus.

Syria has also initialed an Association Agreement with the European Union, first in 2004 and again at the end of 2008 after modifying some of its contents. But it has not been signed to date for reasons related to

the EU. This agreement should further strengthen the general trade relations with EU and agricultural trade in particular.

On the other hand, Syria has stepped up the needed procedures to boost foreign trade through the issuance of the relevant legislation to promote import and export, allow entry of most of the products, and shorten the negative list.

2.5 Supporting Services

With a view to develop and increase the efficiency of the agricultural sector, the Government provides a series of services including:

- Agricultural research

The General Commission for Scientific Agricultural Research (GCSAR) was established in 2001 aiming to develop agricultural research and coordinate the work of all the MAAR directorates involved in agricultural research. These included directorates of agricultural scientific research, land and irrigation, as well as the bureaus of cotton, olives, citrus, apple, and sugar beet. The GCSAR comprises several specialized departments concerned with crops, horticulture, cotton, natural resources, socio-economic studies, plant protection, and livestock. Among the most outstanding research activities of GCSAR is obtaining 24 high yielding varieties of wheat, barley, lentils, cotton, maize, and sorghum. In addition, thousands of improved animal breeds were distributed to farmers and breeders aiming to increase livestock productivity, especially of Awasi sheep and Shami goats.

- Agricultural extension

The Agricultural Extension Directorate (AED) of MAAR, sets extension programmes to ensure transforming to farmers the needed knowledge and technology for the development of plant and animal production. The extension services are provided free of charge through a countrywide network of extension units present all around the country and amounting to 1200 units. Agricultural instructions are also published through available media and the implementation of activities, outreach programmes, extension fields, seminars, field visits and different publications and bulletins.

- Education and training

Several agricultural and veterinary schools and Intermediate Institutes are available in various regions. There are also five training centers located in different governorates concerning about training, skill enhancing activities, and providing courses on priority issues of agricultural and technological development.

- Empowerment of rural women

a special attention is given to rural women to increase their participation in local community development, in general, and in agricultural development, in particular. Thus, a Directorate for Rural Woman has been established in the Ministry of Agriculture, to particularly help enhancing rural women awareness and increase their participation in farm household income.

- Services and plant protection

The Plant Protection Directorate of MAAR carries out a comprehensive programme of plant protection to reduce crop losses induced by plant pests and diseases. In addition, a system to regularly monitor and control of potential epidemics is adopted with the needed measures on the basis of up-to-date scientific information with due consideration for human health and environmental protection. The Pesticides Commission assesses the country requirements of pesticides according to the planned areas for cultivation, the expected diseases, and areas susceptible to infestation. The needed pesticides for compulsory control of pests of a general nature and/or of public concern are provided free of charge by the State. The Government promotes the adoption of Integrated Pest Management (IPM) with a special

focus on biological control, which is effectively applied on many agricultural crops mainly citrus, cotton, olives, and apples, and it is intended to cover other crops in future.

- ***Veterinary services, vaccinations, and maintenance of local and improved breeds of livestock***

These services are provided through a network of veterinary clinics and centers established by the Government for this purpose. The private sector is also allowed to supply locally produced or imported medicines and vaccines to protect livestock production.

- ***Infrastructure***

The Syrian Government gives due attention to the development of rural infrastructure through the establishment of agricultural roads, land reclamation and others.

- ***Social services such as health, education and employment have direct impact on agricultural productivity and income generation.*** The health situation in Syria has improved in general terms, due to the increased number of doctors of various disciplines, public and private hospitals, and improved public and specialized health and services centers. In addition, development of locally produced cheap medicines has covered 90% of the total needs. According to health indicators, the health status of the Syrian citizens is relatively acceptable for both rural and urban people, but related services provided in urban areas are much better than those in rural areas. Therefore placing more efforts to improve health status of rural population in Syria is required.

Meanwhile, the Government pays also due attention for both the education level and gender equality. The government expenditure on education accounted for 10-15% of the national budget in recent years. Since 2005, the private universities were allowed to function in Syria. Available statistical data for recent years shows that the total enrollment of elementary school reached 98% (100% for male and 96% for female). As shown by preliminary results of the general census in 2004, illiteracy rate for people over 15 years declined from 27.5% in 1994 to 19% in 2004. This percentage varies according to gender (12.1% for males and 26.1% for females). Rates of illiteracy at provincial level also varied, the highest is in Al-Raqqa governorate 38.6% and the lowest is in Damascus 7.2%.

Also, the governmental programmes seek to reduce unemployment by encouraging investment, improving the economic environment, and implementing relevant economic reform programmes at all levels. Furthermore, programmes and projects are being developed and implemented for absorbing the labor force by providing more job opportunities responding to the significant population growth, with particular reference to women. Preliminary results of 2004 census show that unemployment rate ranged between 8 and 12.3% (8.3% for males and 24.1% for females). The highest percentage of unemployment (26.5%) is concentrated in Al- Hassakeh governorate, while the lowest (4%) is in Damascus.

2.6 Poverty

According to UNDP estimates of 2003-2004, the number of poor and those who cannot get their dietary and basic needs in Syria is 2.02 million corresponding to 11.4% of the total population, despite the progress achieved in food production, stability and the improvement of individual income. The distribution of poor significantly differs among the southern, northern, central and coastal areas and between rural and urban areas.

The Northeastern region (Idleb, Aleppo, Al Raqqa, Deir Ezzor and Hassakeh governorates) is the poorest area in Syria. Using the lower poverty line, poverty incidence is highest in the Northeastern rural region (17.9 per cent), followed by Northeastern urban region (11.2 per cent). The incidence of poverty is less in the Southern urban region (Damascus, Rural Damascus, Daraa, Al Sweida and Al Qunaitra governorates) at 5.8 per cent.

Differences in poverty measures across regions are statistically significant. The ranking of regions remains unchanged for other measures of poverty, indicating that not only do poor households in the Northeastern rural region represent large proportions of their population, but that their expenditure level is

far below the poverty line. In general, rural areas in all regions have higher poverty measures than their urban counterparts, with poverty incidence in rural areas between 1.55 to 1.96 times higher than in urban areas.

Poverty is still concentrated in rural areas, with extreme poverty relatively low in urban areas. Urban areas, with more than 50 per cent of the population share, were found to have only 38.8 per cent of the poor. The regional distribution of poverty is more conspicuous, as 58.1 per cent of the poor in Syria (using the same poverty line) live in one region; the Northeastern region, which has 44.8 percent of the total population. Moreover, the Northeastern rural region's poverty share increases with the distribution sensitive measures² P1 and P2, reflecting the significant depth and severity of poverty in this region when compared with the others.

The results are similar when using the upper poverty line. The Northeastern rural region has the greatest incidence, depth and severity of poverty, where 35.8 per cent of the individuals are poor. This region also exhibits the highest amount of inequality for the poor, as it has the highest poverty gap and severity indexes.

While regional differences dominated the poverty map for Syria, there were some differences in poverty between specific governorates within each region. For example, although two governorates in the Northeastern region had overall the highest incidence of poverty, one governorate in this region, Deir Ezzor, had an incidence of 4.7 per cent, lower than Damascus. The governorate of Aleppo is by far the poorest, especially in rural areas, where the poverty level is more than twice the national rural average, and nearly three times the poverty level in urban areas.

2.7 Nutrition and Food Utilization

In general, the economic growth in Syria has been positively reflected on the nutritional level. The average per capita calorie intake increased to more than 3200 kcal /day in recent years, compared to 3054 kcal /day in 2000. Most of the increase is obtained from vegetal sources, whereas the per capita daily calories of these sources increased from 2635 kcal in 2000 to 3004 kcal in 2004 representing an increased ratio from 86% in 2000 to 89% in 2004 of the total calories intake. On the other hand, there is a decreasing trend for the calorie intake from animal sources during the same period, where it declined from 417 in 2000 to 386 in 2004. This can be considered as an indicator showing the growing dependency on cheap vegetal sources rather than expensive animal sources compared to incomes.

During the same period, the per capita daily protein consumption increased from 74.8 to 86.7 grams/day with a significant increase of vegetal protein share from 53.4 to 63.8 grams /day versus a very slight increase of animal protein share. The individual dependency rate on protein from plant sources was 73.6% and from animal sources 26.4%. These figures clarify the difficulty of buying livestock products due to their high prices in the first place and the low-income in Syria in the second. Meanwhile, the per capita daily fat consumption has declined from 104.5 grams /day in 2000 to 96 g / day in 2004, and the proportion of fat from plant sources reached 76% vs. 24% from animal sources.

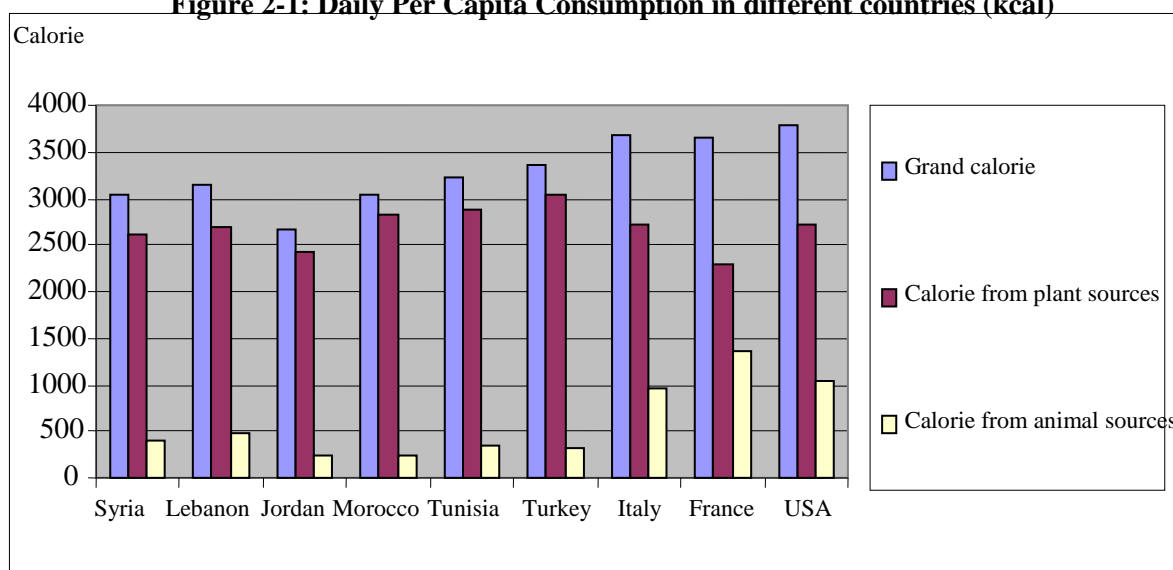
It is useful to compare the per capita intake of calories, proteins and fats distributed by vegetal and animal origin in Syria with those of other countries. For this purpose, four Arab countries have been selected, namely Lebanon, Jordan, Morocco and Tunisia, in addition to Turkey, France, Italy and the USA. The

² (P0) is a measure of the prevalence of poverty. It denotes the percentage of households that are poor – as defined by the poverty line – as a proportion of total population. This measure; however, is insensitive to the distribution of the poor below the poverty line. This is captured by the following two indices, P1 and P2. The *poverty gap index* (P1) is a measure of the depth of poverty and denotes the gap between the observed expenditure levels of poor households and the poverty line. Assuming perfect targeting, the poverty gap index indicates the amount of resources (transfers) needed to bring all poor households up to the poverty line. The *poverty severity index* (P2) measures the degree of inequality in distribution below the poverty line and gives greater weight to households at the bottom of the income (or expenditure) distribution

choice of countries of different levels of income shows the effect of per capita income on the structure of calories and nutrients intake, as clarified by the next figure.

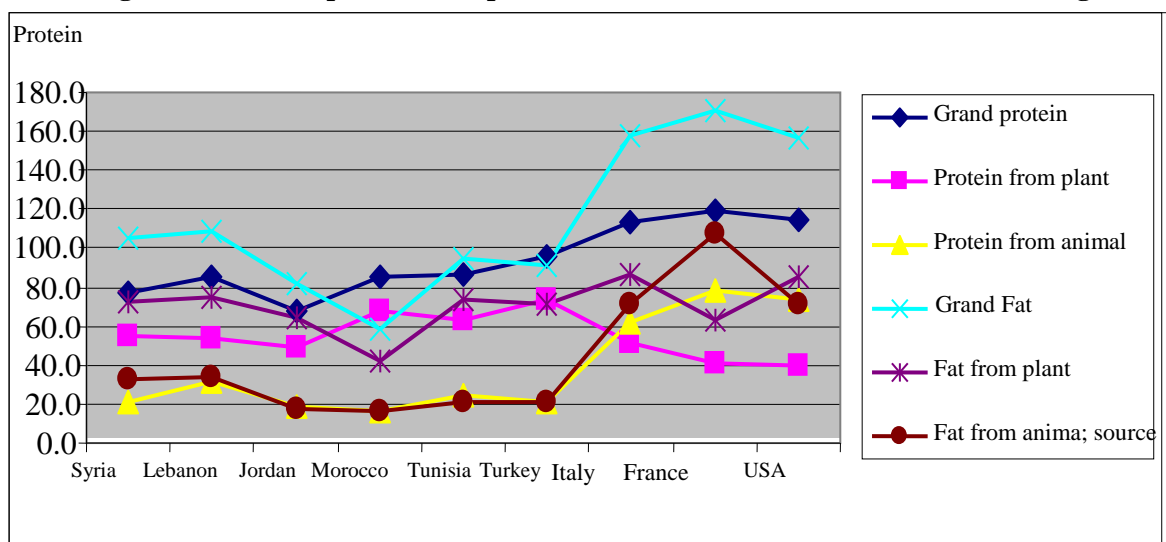
In 2002, the total daily per capita calorie intake was 3,153 kcal in Lebanon, 3,038 in Syria, and 2,673 in Jordan. Calories of animal sources amounted to 469 kcal in Lebanon, 413 in Syria, and 246 in Jordan. The per capita daily consumption of protein was higher in Lebanon (85.4 grams) than that in Syria (77 grams) and in Jordan (67.4 grams). Similar pattern is observed for fat consumption. Syria had the same level of calorie intake as Morocco. The percentage of total calories of vegetable origin was higher in this country 92% and so was the intake of protein 85 g/day. The average daily calorie consumption in Syria in 2002 was lower than that in Tunisia and Turkey by an average of about 250 calories. Protein intake was also lower than in these two countries.

Figure 2-1: Daily Per Capita Consumption in different countries (kcal)



Source: Elaborated from the FAOSTAT and the MAAR database.

Figure 2-2: Per Capita Consumption of Protein and Fat in different countries (gram)



- When comparing food consumption of Syria in terms of calorie and nutrients intake to high-income countries in 2002, the daily-consumed calories were 3,653 in France, 3,670 in Italy, and 3,774 in USA. These levels are higher than in Syria (by more than 600 calories per day) and reflect the income effect and differences in consumption patterns. Moreover, the share of calories of animal sources in these countries

is higher than that in Syria and represented 37 % in France, 26% in Italy, and 28 % in USA. The fact derived from these figures is that the share of calories and proteins of animal origin increases in line with the per capita income increase.

As a result, the level of per capita daily intake calorie in Syria is well above the UN minimum daily requirements defined according to average nutritional food standards. Availability and stability of foodstuffs correspond to consumer demand and changing habits. The available data indicates that both food availability and accessibility has improved as a result of policies applied, particularly price support policy for producers and consumers.

The above-mentioned indicators clarify the increase in per capita share of calories from vegetal sources and the decrease of that from animal sources representing a clear shortage in per capita calorie taken from animal sources and a wide difference between the two sources contradicting with the internationally recommended rates. Compared to other countries, Syria is considered as a medium nutritional level country, and it needs therefore to offer sufficient and balanced food for the increasing population, especially of the rural and Bedouin people (Al-Badia population). Moreover, several groups of rural population suffer from a certain level of food insecurity, particularly during dry years in semi-arid and marginal areas, and high mountain, in addition to farmers who do not own land or have small holdings, in many areas around the cities and in communities of poverty (slums).

Agricultural statistics show that self-sufficiency has been achieved, especially in wheat, legumes, potatoes, vegetables and fruits, with an export surplus (varying between years) from wheat, cotton, legumes, citrus, apples, olive and olive oil, tomatoes, and potatoes. According to international nutrition standards, local animal products (red and white meat and others) are not adequate to meet the Syrian population requirements. Nevertheless, the national statistics represent increasing satisfaction rates of meat taking as indicator the high export and low import of these products. The increased export of sheep can be explained by the surplus resulting from diminishing meat consumption because of its high prices compared to the average incomes. The yearly average per capita share of red meat amounts to 11 kg, poultry 10 kg, and a very low quantity of fish 1-2 kg, which is expected to increase after permitting fish imports.

Finally, increasing the proportion of animal protein in consumption patterns of Syrian population is necessary. Therefore, there is a need to encourage animal production investments, especially those of fodder production, in order to increase their outputs to cover the wide gap between vegetal and animal protein supply, and to meet future demand of the growing population.

2.8 Cost of Living and Food Expenditure

In general, revision of food security status in Syria indicates acceptable averages, but the per capita share of animal products is insufficient while it is good from plant products.

To determine the impact of price increase on food security, it is necessary to study the structure of food expenditure out of the overall expenditure in Syria relying on official data taken from the last Household Expenditure Survey carried out in 2006-2007 by the Central Bureau of Statistics CBS (Table 2-7).

The average expenditure on food was relatively high (42%), taking into account the increasing need for spending on other necessary non-food requirements. In fact, the evolution of prices affects not only quantities of food consumed but also the pattern of consumption through the substitution effect. Therefore, diminishing the expenditure on food by limiting meat consumption and relying highly on cheap and supported foodstuffs such as bread, sugar, and rice is the most likely method adopted by most people to cope up with the increased cost of living. However, the dilemma for most people is meeting the other increased expenses including the high cost of housing rents (even in slums), medical treatment, private education, clothing, electricity, water, telephone, mobile, transportation, etc.

III Policy and Institutional Framework Related to Food Security

The Syrian government started designing the 2025 strategy after adopting the 10th five-year plan, taking into account achieving the agricultural sector development and harmonization with the new social market economy approach. The main aim of the social market economy is to achieve further economic liberalization with attention given to producers' interest.

To this effect, a comprehensive analysis was carried out of the agriculture sector status during the period 1992 – 2003 and the study included the achievements, constraints, policy objectives and changes, and future orientations till 2010. Moreover, the 10th Five-Year National Plan (FYNP) emphasized practical programmes to face the current constraints and defined specific financial plans needed for implementing these programmes. Also, the draft 11th FYNP (2011-2015) reflects the overall objectives for the social and economic development as well the agriculture sector major objectives and envisaged programmes and plans.

3.1 Agricultural Policy Framework

3.1.1 Overall Policy Framework

A. Agricultural Development Framework

There are several assessments of the overall policy orientation of Syria's agriculture. The 10th FYNP (2006-2010) sets the major objectives and future orientation of the agriculture sector. Also, a draft of a strategic framework for sustainable agricultural development in Syria has been developed (MAAR, 2000). In addition the draft 11th FYNP (2011-2015) includes directives about agricultural development till 2015. In all these efforts, the GoS has focused on achieving the national food security in line with improving the living conditions of producers and consumers.

The overall objectives and sub-strategies needed to accomplish each objective and secure necessary financial resources were clearly defined as to ensure the development of agricultural sector, achievement of food security, solving the problems, overcome weaknesses points, and strengthen the positives. Based on these reports, the overall objectives of the Government can be summarized as follows:

- Attaining the efficient use and sustainability of natural resources, while taking into account the environmental dimension and compatibility with the international standards to better serving the humanitarian needs and economic and social development;
- Achieving food security by using available resources, benefiting from the comparative advantages, developing and strengthening competitiveness, and adopting environmental friendly production diversification;
- Pursuing achievement of a surplus of quality agricultural products that meet the international standard and specifications for domestic consumption and export;
- Collaboration among all sectors in the development process giving priority to technology, employment, and inputs supply;

- Providing a favorable environment to encourage investment in agriculture and agro-processing in order to increase the agricultural revenues, create jobs, improve living standards, and reduce poverty and rural-urban migration;
- Achieving a good contribution to Gross Domestic Product GDP through increasing production, productivity, and the efficient use of inputs;
- Introducing alternative crops of better economic returns and addressing the related ministries to encourage export of processed and semi-processed products to take advantage of the value added and, hence, increase the economic returns and achieve a positive balance of payments;
- Seeking to establish income-generating projects to improve the living standard of producers, in line with advancement of the least developed regions to reduce poverty and, hence, achieve integrated development in all sectors and regions;
- Activating the role of agricultural extension in transferring to farmers the scientific research results, benefiting from bio and environmental diversity of the domestic products, and increasing the awareness of farmers in order to increase production efficiency;
- Attaining water resources sustainability through development of integrated studies on the hydrological basins and studies and the possibility of establishing information intranets;
- Enhancing the agricultural producers' awareness about the participatory use of groundwater, and the importance of establishing joint irrigation projects to facilitate the use of ground water, and reduce its depletion;
- Adopting a new structure regulating the institutional work between governmental bodies, farmers, and producers targeting the poor, activating the role and participation of civil society as a developmental goal, as well as originating adequate banking, credit, and financial regulatory mechanisms; and
- Building a base of qualified human resources, through internal and external training programmes, capable of developing integrated management of natural resources.

Long-term objectives and overall goals for a comprehensive and sustainable future development of the agricultural sector have been defined up to year 2015 as follows:

- Increase economic growth rates of the agricultural sector to exceed that of the population growth rate with a minimum of 3.5% per year to contribute to improving incomes and, thus, enhance the economic and social conditions of producers to ensure their settlement and reduce rural-urban migration;
- Enhance the rational use of natural resources, combat their degradation, depletion and pollution to ensure environment safety and achieve sustainable development;
- Increase the value of agricultural output through more rational use of inputs, improved productivity of livestock unit and area unit, especially in irrigated cropland, and secure the requirements of agro industry;
- Insure pricing and marketing requirements to satisfy the national consumption demand of vital food commodities (wheat, beans, etc.);
- Achieve food security through growing crops that enjoy comparative and competitive advantages in domestic and foreign markets;
- Seek out to satisfy the domestic processing and export demand in terms of quantities and qualities of agricultural commodities;
- Attract and encourage national, Arab and international investments in the agricultural sector and industries based on agricultural commodities, as an essential tool for the development process;

- Develop agro-processing and marketing to benefit from the value-added and maximize the economic returns;
- Develop the infrastructure and services in rural areas, local and traditional industries, and establish income generating projects and activities to provide additional employment opportunities for rural population;
- Develop and update regulations and laws related to agriculture and irrigation to ensure the optimum use of land and water and maintain producers' rights;
- Enact new legislation and policy reforms governing the organic farming, protect water sources from pollution, conserve reserves, genetic resources, etc;
- Develop a clean and safe agriculture for providing quality products and enhance competitiveness in domestic and foreign markets.

Meanwhile, the following guiding principles need to be followed for all future projects to be considered for the upcoming two FYNPs:

- Building the capacities of the labor force to be capable of developing the agricultural sector and to lead the efficient manufacturing and marketing of agricultural products;
- Developing appropriate policies compatible with international policies, rules and regulations, and relying on consulting centers to assist in studies implementation and setting the development scenarios; and
- Adoption of international standards and specifications in production and attainment of quality assurance of the agricultural raw and processed products, as well as providing databases, information systems, and required laboratories.

B. Water Resources Development Framework

Given the importance of **water resources management** and irrigation, being the primary factor determining the development of agriculture, several strategies have been identified as follows:

The Future vision indicates that “Water security is an essential part towards sustainable development enabling the use of water as a tool to ensure food security”. The limited water resources restrict the horizontal expansion of land reclamation, networks, and water supply for agriculture. Therefore, it is important to focus on adoption of modern irrigation systems and efficiency improvement of irrigation networks. The agricultural research and extension are also of special importance to increase the productivity of unit area.

Consequently, integration of efforts is required to develop and protect water resources as a vital and strategic asset. Thus, seeking to cover the needs of human, social, and economic development through effective application of policies and strategies for integrated management of water resources to be, until the next twenty years, able to:

- Meeting the expected quantity of water needs within standard quality for all sectors;
- Contributing effectively to improve the Gross Domestic Product GDP growth of other sectors, especially agriculture and industry;
- Conservation of quality and sustainability of natural resources and environment protection, in addition to practicing efficient control on the environmental impact in various projects of the State;
- Expansion of employment opportunities and contribution to the development of remote areas; and
- Creating full technical and administrative linkages between agriculture and other sectors.

To achieve this, the most important future trends and strategies can be summarized as follows:

- Considering the possibility of dams construction in promising places of water availability, especially in coastal and Euphrates basins, in light of economic and technical feasibility studies;
- Accelerating the programmes of transition to modern irrigation in the remaining irrigated area, about 1200 thousand hectares over 10 years. In 2006 the total converted area was 150 thousand hectares. Due attention should be given also to the modernization of governmental irrigation networks within the Tenth Five-Year Plan period to reduce water consumption per hectare from 12,800 to 8,000 m³/year. That is to be done through creating specialized executive departments and a special fund for transition to modern irrigation to support the beneficiaries. The fund will initially focus on the most deficit basins in water balance, namely Tigris, Khabour, Barada, and Awage:
- Stressing the optimal use of surface water resources in the country, especially the Euphrates and Tigris rivers;
- Continuing the development in hydrological and hydro-geological observation and carrying out water basin studies to implement qualitative and quantitative assessment of water resources;
- Completion of the establishment of integrated information network to monitor the quality and quantity of surface water and groundwater associated with secondary centers equipped with modern devices and technologies in all provinces, and managed by well-trained technical staff of high competency;
- Expansion of the establishment of stations for wastewater treatment and the safe use of treated water to irrigate some crops, gardens, etc;
- Developing a comprehensive plan for the integrated management of water resources based on water security strategy, participatory approach in management, in addition to setting programmes to build up human capacity in line with the development of technical and informational tools for water management;
- Developing a bank for information with links networks on water resources to facilitate the analysis process and hence establishing system of decision support; and
- Moving to a constructive planning stage implied harmonization with other development sectors on a regulatory basis corresponding to a prospective plan in order to study the development of this sector.

In previous years, several programmes were implemented in Syria to manage and develop water resources to meet the increased demand of the growing population and the economic growth. Indeed, these efforts could neither limit the water deficit nor shape an integrated and sustainable system that, due to climatic changes, ineffective planning, and lack of accurate information on water resources. However, the skills of workers in this sector would play an important role in the development of water resources and management.

Accordingly, the Tenth Five-Year Plan provided for restricting the land reclamation to areas having sustainable water resources. The Plan focuses, therefore, only on increasing the reclaimed areas in the Euphrates basin and the southern plains of Aleppo.

In this framework, Syria has started a new institutional system in order to apply modern methods in the integrated management of water resources to meet particularly water deficit through integrated plans and comprehensive hydraulic studies of water resources.

The Tenth Five-Year Plan adopted a revision work for policies and methods related to management and investment of water resources that represent the backbone of economic development through:

- Carrying out integrated hydrological and hydro-geological studies for the entire Syria to precisely explore the water balance elements, determine the available quantity of surface and groundwater sources, and assess the demand of these resources.

- Adopting a clear water strategy to develop programmes for enhancing the efficient use, preservation, and maintenance of water sources. In addition, apply relevant procedures to ensure the conformity of those programmes with the planning for the multiple use of water, and adoption of careful policies for resource allocation use.
- Taking all possible measures that restrict the aggravation of water pollution problem to be permanently monitored and find relevant solutions. In addition, conduct assessment studies on the environmental impact of new projects under the supervision of bodies responsible for planning and management of water resources.
- Providing efficient institutional and legal frameworks and adequate financial resources to overcome the limited technical, human, and financial resources in order to implement the principles of integrated management of water resources and hold a national action plan to achieve this goal.
- Enabling the various water related institutions to manage its resources in an integrated manner covering the real needs of rural communities, especially in remote and poor areas, through an effective, rational and sustainable way.
- Engaging the economic planning of resource management and planning of available water resources, as well as rationalizing the use and development of non-traditional sources of water to achieve the utmost possible use of water.
- Activating the private sector role in water resources management provided conducting analytical economic and technical studies that prove its ability to supply water according to quality and public health standards and with a competitive price.
- Enhancing awareness, dissemination of information and education, and international cooperation and supporting the role of the private sector, community institutions, and water users in controlling and managing water resources.

Achieving effective management of water resources and environmental sustainability, coupled with raising economic efficiency of water use during the Tenth Five-Year Plan will lead to achieve the following specific quantitative goals:

- Conversion of 50% of traditionally irrigated land, equivalent to about 1.2 million hectares, into modern irrigation systems;
- Increase irrigation efficiency from about 50% to 85% and reduce waste in different water networks to less than 5% out of the total conveyed quantity;
- Increase the reused treated wastewater to over 300 million m³;
- Prevent groundwater depletion by reducing the share of land irrigated with non-renewable groundwater and unlicensed wells down to nil during the next five years;
- Raise up to 20% the proportion of technical human resources capable of applying rules of integrated management for water resources and dealing with the computational systems and programmes, mathematical modeling, and numerical analysis of data;
- Increase rain-fed areas by 10%, especially in regions irrigated by non-renewable groundwater, and raise the efficiency of water harvesting;
- Achieve full conversion to modern irrigation techniques;
- Expand agricultural drainage networks by 10% annually to cover about 450 thousand hectares suffering from drainage and salinity problems in the Euphrates basin, provided the water content of different contaminants are within the minimum level of standards permitted to avoid affecting public health.

3.1.2 *Agricultural Policies*

The Syrian Arab Republic is committed to fulfill the World Food Summit's decisions to half the number of starving and undernourished people in the world by 2015 and achieving the Millennium Goals adopted in 2000 to have a world more peaceful, prosperous, and equitable to free people from extreme poverty and destitution. Accordingly, the agricultural policies continue to pay the utmost attention for food security placing it at the top of national priorities. This is being followed up through the formation of technical committees responsible for food production, consumption and distribution, as well as monitoring the general nutritional status. In addition, the Syrian government is continuously adjusting agricultural and macro policies to achieve higher growth rates in all economic sectors and to adapt the Syrian economy to world developments in order to realize food security at the individual, household and national levels.

The agricultural policy reform programmes aim at the elimination or reduction of the agricultural sector distortions and ensuring the efficient use of local resources. Initially, input subsidies have been gradually reduced, direct subsidy is being offered to target groups, government intervention started being less rigid in the planning process, and the process of trade liberalization is progressing at accelerated rates. Crop diversification policies were also promoted and increased attention was given to the competitiveness of Syrian products. The concept of self-reliance has gradually substituted the concept of self-sufficiency implying a more active participation of the country in international trade. Agricultural trade expanded and played a more important role than in the past in achieving food security. Policies aiming at increasing the competitiveness of Syrian exports in global markets are being implemented. At present, agricultural trade is considered as an essential element in ensuring national food security.

In spite of the high population growth rate, which is currently about 2.45%, the above mentioned policies led, during the last decades, to a noticeable economic growth exceeding 4%, which is considered good in comparison with different developing countries' rates. This progress, which the Syrian government proposed, has been achieved through the overall boost in the economy, especially in the agricultural and mining & manufacturing sectors. In this regard, the Syrian government gives due attention for both agriculture and agro-industry because of food security objectives.

The Government subsidizes basic food commodities, especially bread, sugar, and rice. The subsidy reaches up to about 50% of the value of bread, 20-30% of the value of rice and sugar distributed by ration cards at 0.5 kg for rice and 1 kg of sugar per person per month for all Syrian citizens. The General Establishment for Storage and Marketing, the General Establishment for Consumption (GECG), and the General Establishment for Retail Trade (GERT), all affiliating to the Ministry of Economy and Trade, secure several basic foodstuffs at affordable prices by reducing the profit margin of some commodities e.g. vegetal and olive oil, ghee, tea, and some fruits and vegetables. GERT stores contribute to 10-15% of the total demand on basic food commodities. In addition to food, assistance is provided by the government, or through donor countries and international organizations' assistance, in order to help the poor affected by drought or farmers whose land is being reclaimed until the start of production.

Complying with the strategic orientation of the government to develop agricultural production and to support food security, there have been steady efforts to supply rural services, increase the cultivated areas (irrigated and rain-fed), ensure timely provision of inputs and encourage the production of agricultural products, especially the strategic ones and livestock. As a result, self-sufficiency has been achieved in a variety of products such as wheat, legumes, cotton, vegetables, fruits, red meat, raw milk, and eggs resulting in a lower dependency on import. The government seeks to enhance self-sufficiency of other important commodities (imported ones) according to economic competency principle, such as sugar, liquid and hydrogenated vegetal oil, dairy products, and part of livestock feeds.

In the light of its potential to achieve the aforementioned goals, the government devotes, to the extent possible, the needed budget for the investment plans. Such budget is used to expand the services offered for agricultural production to improve scientific research, training and education, agricultural extension,

infrastructure, land reclamation and job opportunities, and to enhance the economic role of rural women in increasing household income by providing them with soft credits to start income generating activities.

3.1.2.1 Agricultural planning process

Agricultural planning in Syria has witnessed several changes and developments. The “central planning” approach was adopted for several years in Syria. Starting from 1987, various adjustments have been introduced to the agricultural planning policy, and the role of government in the development and adoption of the production plan was identified to include the following:

- Development of the general indicators for the production of strategic crops such as wheat, barley, cotton, sugar beet, tobacco lentils, and chickpeas. The government sets the pricing policy and is committed to buy all the production based on the demand plan and the technical suitability in each region.
- Meeting the local consumption demand on food commodities, manufacturing plants needs from agricultural products, and exporting surpluses in view of providing foreign exchange to secure food requirements that cannot be produced locally.
- Determination of crop patterns and rotations according to land quality and water availability, while preserving them from degradation and depletion;
- Definition of the appropriate starting and ending timing for crops cultivation for each region based on the agricultural research results;
- Ensuring timely provision of production inputs at the required quantities and qualities;
- Providing appropriate instructions at every stage of the production process;
- Ensuring the requirements of conducting general pest control at epidemic spread of disease and pests;
- Designing production plans in each province by the competent authorities in the agricultural sector, in light of certain indicators set by the central administration;
- The Government intervention is restricted to the major agricultural crops areas, while the choice of other secondary crops is left to producers with holdings exceeding 0.5 hectares, while who hold less than 0.5 hectares are free to choose the type of crops even of strategic crops; and
- A further modification to simplify the planning policy was made in 2004 by shifting from planning for individual crops to planning for crop groups where producers can chose what to plant within a variety of crops. For example, if the plan includes “legumes group” the producer can have a variety of choices among legume crops (lentils, chickpeas, beans, peas ... etc).

3.1.2.2 Agricultural pricing policy

Many important modifications have been made lately concerning the pricing policy of agricultural products. They are mainly characterized by:

- Linking the price policy with agricultural development policy considering price as a means to implement the production plans, especially of major crops;
- Applying central pricing for major crops only including wheat, barley, lentils, chickpeas, maize, cotton, sugar beet, and tobacco;

The pricing policy is based on determining the production cost plus margin profit matching with the importance of the crop. In general, prices set for most of these crops have not been increased since 1996 in order to be close to the international prices. The only increase in prices was applied in 2005 for barley, chickpeas, lentils and sugar beet according to sugar content. However, following the high increase of world prices in 2008, crop prices were increased in order to encourage farmers to continue farming and deliver their production to State institutions to satisfy the domestic demand.

- Applying a gradual removal of subsidy on production inputs to eventually be eliminated and targeting support to those who really deserve it (details in support policy herein after). Also, support the costs of operation and maintenance of areas irrigated from governmental schemes, which constitute about 30% of the total irrigated areas, In addition to subsidizing hard and soft wheat seed regarding its high prices in the world market.

3.1.2.3 Agricultural marketing policy

In the second half of the eighties, the Government began to take actions reforming the marketing policies of different agricultural products, both plant and animal. The applied procedures are principally based on protection of producers and consumers, motivating the private sector contribution to the marketing of agricultural products, developing marketing functions and services, and restricting the government monopoly over agricultural marketing. The most important applied measures include:

- Abandoning the policy of compulsory delivery of agricultural products to the State companies even for the major ones except cotton, sugar beet, and tobacco whose processing is monopolized by the State;
- Allowing the private sector to export most of the agricultural products, excluding wheat and other crops that are exclusively marketed by the State;
- The prices set by the Government are binding for those wishing to sell to State institutions, while they are considered as indicative prices for marketing goods not restricted to State institutions.

3.1.2.4 Agricultural finance policy

Agricultural financing in Syria is provided through the Agricultural Cooperative Bank (ACB), which is characterized by several key features such as:

- The agricultural loaning to various sectors public, cooperative, and private is restricted to the Agricultural Cooperative Bank (ACB) and its branches distributed around the agricultural areas.
- The bank provides loans in-cash and in-kind for producers. In-kind loans supply production inputs as fertilizers, seeds, and chemicals according to pre-determined quantity, type, timing of delivery, and the dates of repayment based on the annual requirement agenda performed by ACB. As for the means of production such as tractors, harvesting machines, sprayers and threshers, beehives, imported cattle, etc, they are handed over to borrowers mostly through public institutions. To perform its lending activities, ACB collaborates with specialized institutions in the agricultural sector concerned with locally produced or imported agricultural inputs, as well as public marketing institutions, farmers' cooperatives, and the Ministry of Agriculture and Agrarian Reform.
- Interest rate charged by ACB is less by 1-2% compared to other banks;
- ACB loans are provided to public, private, cooperative and joint sectors and for short, medium and long terms.

3.1.2.5 Fiscal policy

A - Subsidy

The Government subsidy offered in the past to production inputs contributed to achieving the agricultural development, especially for strategic crops that require costly inputs. This subsidy enhanced the use of improved seeds, chemicals, and fertilizers particularly for wheat and cotton.

In the first period, the subsidy policies aimed at achieving the following:

- Expanding the use of modern inputs in the production of major crops;
- Balancing the prices of agricultural goods and production inputs;
- Stabilizing the input prices and, thus the rates of profits and farm incomes; and

- Stabilizing prices of agricultural products and, thereby, reducing the effects of price fluctuations on consumption expenditure, especially for low-income people;

In the second period, the government altered the support policy by reduction and even cancellation of many types of input subsidy. The most important amendments were:

- Following a decision of the Supreme Agricultural Council, the prices of locally produced seeds have been set at the cost price since 1986.

- For imported inputs, several decrees were issued in 1987 and after, including removal of subsidies, mainly on pesticides and packages. Then a gradual removal of subsidies on fertilizers, and agricultural machinery and instruments was initiated.

- Continuing the support for fuel (for all sectors), public irrigation networks fees paid by beneficiaries, and for fertilizers due to the recent increase in world prices, in addition to granting some support to prices of durum and soft wheat seeds.

- In 2008, Decree No. 29 was issued for the establishment of Agricultural Production Subsidy Fund, with a view to match the support given with the different support types applied in developed countries and with WTO provisions, in order to:

Contributing to achieving food security, raise the economic efficiency of the production process, and enhance the competitiveness of agricultural production assuring that the fund is allocated for the attainment of agricultural policies, which are annually assessed and determined by the Cabinet, to cover the following:

1 - Support the prices of some agricultural products.

2 - Support production inputs.

Methods and forms of support currently in force will be gradually replaced by the new Fund. The Fund support to be offered in the following fields:

1 - Improved seed distributed by the public authorities;

2 - Different types of seedlings distributed by the public authorities;

3 - Fodder distributed by the State to support the livestock production;

4 - Veterinary drugs, artificial insemination, and vaccines used for the development of livestock treatment of epidemics;

5 - Public control against epidemics threatening the agricultural production; and

6 - Strategic crops marketed by State institutions (wheat, cotton, barley, and sugar beet), where the prices are defined according to their importance for food security, export, livestock feed, and others; as well as to ensure the application of technology, encourage agricultural production, attain of agricultural policies, and achieve production efficiency;

B - Taxes

- The agricultural sector is exempted from several taxes, especially production and consumption, cooperatives agricultural investment, agricultural workers' housing, agricultural commodities' stores, and livestock barns;

- Production taxes are limited in general. They were imposed on agricultural commodities in cases of: on farm animals and exported agricultural production, as they were subject to 9-12% of the estimated value;

- Exemption from agricultural production tax was given for the exported vegetables and fruits whether fresh, dried, frozen, and packaged without packages;

- In 1999, cotton and its products were also added to tax exemption list;

- Exemption from agricultural production tax has been applied since 2001 to all exported agricultural products; and
- The customs tariff on imports has been recently modified to be the least for production inputs, and the highest for agricultural products and luxury goods.

3.1.2.6 Exchange rate policy

According to the country's economic orientation, multiple exchange rates were applied in Syria during the eighties with a view to either support or impose a tax on exports or imports. The motives for this variation can be justified as follows:

- These rates are considered as alternatives to the devaluation of the local currency and to prevent the increase of imported goods' prices, especially main staples and medicines; and
- Focusing import on essential consumption goods and production inputs without affecting the total demand;

However, the different exchange rates were unified to be roughly equal to that of the neighboring countries.

3.1.2.7 Agricultural investment policy

The Government policy aims at enhancing the role of private sector in the economic development process and encouraging investment in the field of agriculture and agro-food processing. Therefore, several investment laws and legislations have been passed. Importantly, the Decree No. 10 issued in 1986 allowing the establishment of joint agricultural companies between the State and the private sector, where the State offers land that equals 25% of the company capital. On this basis, few companies were founded with modest scale.

In addition, Investment Law No. 10 of 1991 and its amendments issued by Decree No. 7 of 2000 aim at enhancing the participation of private investments in all economic sectors, including agriculture and agro-food industry. Moreover, Decree No. 8 of 2007 included the new investment law, and Decree 9 of 2007 provided for the establishment of the Syrian General Commission for Investment to further develop this sector.

The Ninth and Tenth Five-Year National Plans have encouraged the private sector investors to invest in agricultural processing, assembling, sorting, packing, shelving and storage in the form of integrated lines and providing them with several incentives and financing facilities.

The Government has applied a number of measures to support investment and exports in order to promote the private sector contribution in foreign trade and encourage export. These measures include: reducing taxes and custom duties imposed on exports and imports and exempting the exported agricultural products from the production tax.

Meanwhile, the investment policies in the public sector focused on investing in public goods with emphasis on establishing infrastructure and large development projects by the central departments to be distributed to the various economic sectors in the form of plans and development programmes.

Through the general state budget, the public sector executes services projects to contribute to development of agricultural production process , e.g. forestry projects, plant protection, veterinary care, agricultural roads, etc.

3.1.2.8 Agricultural trade policy

The Syrian trade, before 1987, was characterized by government interventions in internal and external trade policies. While, the period after 1987 was characterized by abolition of some restrictions to allow the private and public sector institutions to import necessary supplies to run their manufactories relying on their ability to export their products. In addition, a policy of linking import to export was adopted. Moreover, tariff duties has also been reviewed, and public institutions contribution to foreign trade was

promoted by allowing them to purchase from the private sector and export with market prices and keeping the foreign exchange export earnings.

In the past years, the overall foreign trade relied on public-sector institutions. However, foreign trade policy in Syria has gradually changed giving a greater role to the private sector in production and foreign trade. In addition, the international agreements allowed for further liberalization of agricultural products trade.

3.1.3 Impacts of Agricultural Policies on Resources Utilization and Food Security

The agricultural sector has played an important role in the economic and social development process by adopting relevant policies corresponding with general trends of the State. The applied policies generated positive and negative impacts. Analyzing these impacts and the challenges facing the agricultural sector would help to draw a picture for future policies. The general features of future policies are shown in the Tenth Five-Year Plan as follows:

A - Strengths (Positive Aspects)

- Increase of the cultivated areas irrigated on public irrigation projects, also increase of rainfed, cultivated areas through land reclamation projects in mountains and hills to increase production and food supply.
- Achieve self-sufficiency in strategic crops (wheat, legumes, and cotton), vegetables, most fruits, olives and olive oil, and others; providing a surplus for export of many of them; as well as attaining increased self-sufficiency rates of major agricultural products.
- Improve, considerably, the living standard of urban and rural areas accompanied with increased per capita availability of food products, leading to enhancement of per capita calorie intakes averagely from 2.350 kcal per day, in the 70s, to 3.200 kcal per day in recent years. Recently, the average rate amounted up to 3.398 calories per day including 87 grams of protein and 114 grams of fat.
- Attain a significant increase in production of many agricultural products that has led to shift from importing many food goods to achieving self-sufficiency and surpluses in many of them.
- Increase the contribution of raw agricultural and processed materials to export and, hence, to trade balance by rates ranging between 16 and 22% of the total export volume for different years. Taking into account that many of the manufactured products that rely on agricultural products are not counted within agricultural exports such as cotton, textiles, and others, although they account for more than 5% of total exports,
- Adopting an approach of gradual liberalization of the domestic market and rapid integration into the global economy and promotion of foreign trade relations through concluding several trade agreements;
- Develop rural infrastructure to serve the agricultural sector (farming methods, electricity, water, communications, transport, storage, etc.); and
- Develop the agricultural sector services (research, extension, training, veterinary care, etc.) by increasing the allocated budget.

B - Weaknesses (Negative Aspects)

- Shortage of water from various sources, particularly groundwater as a result of random drilling of wells and unbalanced pumping; and lowering of the groundwater capacity, all of which led to emergence of a clear deficit between water availability and demand. In addition to quality deterioration of irrigation water that coincided with the slow transition to modern irrigation technologies;
- Continual deterioration of natural pastures and desertification of Al Badia as a result of cultivation, overgrazing, and random movement of machineries;

- Fragmentation of agricultural holdings that hinder investment and mechanization and failure to take serious steps to curb this phenomenon; and
- Mismatching between the marketing and export activities and production development process, leading to reduced returns of agricultural activity and lost value-added;

3.2 Institutional Framework Related to Food Security

Given the importance of food security as a fundamental subject in the provision of food to improve people social status, it constitutes a part of the functions of various ministries and their affiliated institutions.

Hereinafter, a description for the role of ministries and the related institutions concerned with the achievement of food security:

3.2.1 Ministries and Public Agencies

Several ministries and institutions are involved either directly or indirectly in food security and management of disasters and risks affecting food security. In addition, departments, commissions, and committees, each in its own field, work on the implementation of programmes and activities contributing to food security achievement.

3.2.1.1 Ministry of Agriculture and Agrarian Reform MAAR

The Ministry of Agriculture and Agrarian Reform (MARR), and its central Departments and Directorates of agriculture in the governorates, in addition to other bodies and institutions, all together participate in the definition of the overall objectives of the agricultural sector and the agricultural development strategy in line with the State orientations related to the social market economy. In addition, they are responsible for the formulation, implementation, and follow-up of the agricultural policies, programmes, and mechanisms to raise the efficiency of the agricultural sector, improve its performance, and optimize investment of its resources. Moreover, they take relevant measures to satisfy local needs of essential food commodities, as well as pursuing to achieve food security and development of productivity of crops that, in particular, have comparative advantages and able to compete in domestic and foreign markets. Moreover, they contribute to the development of scientific and agricultural research and protection of agricultural products, thereby helping to improve productivity and reduce costs, in addition to finding suitable alternatives for some existing crops and animal units to increase the returns of agricultural activity.

MAAR is the main executive body responsible for providing different services for agricultural production including conservation of soil and vegetation, development of plant and animal production, plant protection, animal health, agricultural extension, establishment of protectorates, pastoral farming, and secure water for Al Badia population and their herds, etc. Moreover, it carries out several agricultural development projects such as land reclamation, establishment of agricultural roads, rural women development, establishment of small income-generating projects, and others.

The most important public institutes of MAAR in the area of food security include:

- *The General Commission for Scientific Agricultural Research (GCSAR)*

It was created in 2001 by the Law No. 42 aiming at developing the scientific agricultural research through unification of all agricultural research departments of MAAR; in addition to ensuring the administrative and financing autonomy necessary to carry out research activities; as well as to improve the wages and work conditions of the personnel and researchers of the GCSAR . It oversees and coordinates all research activities carried in the fields of natural resources, crops, horticulture, cotton, and plant protection, livestock research, economic research). GCSAR annually carries out about 600 researches on crop production through 40 research stations spread in different regions. They include 14 Land research stations and 13 soil laboratories equipped for soil analysis, 14 water and irrigation research stations

allocated in various governorates to improve irrigation methods and determine water requirement of each crop, in addition to several research stations to develop livestock production.

- General Establishment for Poultry (GEP)

It was established under Decree No. 391 of 1974. It produces about 350 million table eggs per year (equivalent to 14% of Syria' total production), chicken meat up to 4000 tons representing 2.4% of the total production, in addition to chicks of chicken and layer hens by 17 million chick accounting for 22% of Syria' total production.

- General Establishment for Cattle Breeding(GECB)

It was instituted by Legislative Decree No. 389 of 26/2/1974. Via modern breeding methods, it raises about 30 thousand heads of cattle producing about 1500 tons of meat and about 27 thousand tons of milk accounting both for less than 3% of Syria total production of both. Indeed, several studies recommend transforming this institution into a research institution for the production of improved heifers to be distributed to breeders at affordable prices.

- General Establishment for Seed Multiplication (GESM)

It is a research institution for seed production aims at ensuring supply of improved sterilized seeds at reduced prices. It was established under the Legislative Decree No. 190 of 1970 as one of the leading productive enterprises. It runs several production projects including the national project for production of local potato seed. The institution provides different rates of some types of improved seed: 100% for cotton, 45% of wheat, 8% for barley, 27% for potato, 14% for beans, 3% for lentils, 27% for chickpea, and 41% for maize.

- General Establishment for Feed (GEF)

Established under Legislative Decree No. 18 of 15/2/1974 to oversee the firms of fodder manufacturing and processing, establish needed warehouses to store livestock feed in different parts of the country. In addition, it oversees internal and external marketing of all fodder products, including import, export, domestic distribution, and purchasing from producers in advance contracts. It owns 118 feed distribution centers and 25 warehouses with storage capacity of 370 thousand tons; in addition to seven fodder factories, three of them are still under initial operation. The institution plays a positive role in balancing feed prices through the inventory of its warehouses, which is considered a strategic reserve. Its contribution to securing fodder for livestock accounts to 25%, while the private and cooperative sectors produce and import the other 75% of local animal feed demand.

- Agricultural Production Support Fund (ASF)

It was established under Legislative Decree No. 29 of 5/5/2008. The fund annually devotes amounts necessary to cover the costs of agricultural sector subsidy to contribute to the achievement of food security, attaining economic efficiency of production process, and enhancing competitiveness of agricultural production.

- The most important tasks of the Fund are to provide subsidies allocated to apply agricultural policies that have been yearly assessed and determined by the Council of Ministers in order to cover:

- The improved seed distributed by the public authorities;
- Different kinds of nurslings (fruit, forest, Pastoral) distributed by public authorities;
- Feed for livestock distributed by public authorities;
- Veterinary drugs, artificial insemination, and vaccines used for the development of livestock and treatment of epidemic diseases that threaten livestock;
- Pest control against epidemics that threaten agricultural production;
- Support the prices of some strategic crops (wheat, barley, cotton, sugar beet); and

- Production of crops and animal products according to the instructions of the Ministry of Agriculture;

The Fund started its tasks on 1/1/2009 and it is an important step to support the agricultural sector to contribute to the achievement of food security.

- *General Commission for Fisheries (GCF)*

It was established by the Decree No. 31 of 2008, with the aim of developing and protecting fish production sources as well as managing and simulation activities of the fish production sector.

3.2.1.2 *Ministry of Irrigation (MoI)*

The Ministry of Irrigation plays a key role in achieving food security. It holds the overall responsibility for the management of water resources in Syria, the management of irrigation sector, land reclamation, and the construction of dams, and others. Its main tasks set by the law No. 16 of 1982/b include:

- Studying water resources, assessment of their potential, development, protection from pollution, defining utilization, in addition to drafting related legislations;
- Designing irrigation and land reclamation projects, construction of irrigation and drainage facilities, dams, and other subsidiaries, in addition to conducting these projects directly or overseeing the execution;
- Running stations of irrigation, drainage, and pumping;
- Maintenance of water installations and main networks of irrigation;
- Proposition of economic, agricultural, and social plans and policies for projects of irrigation and reclamation;
- Law No. 16 of 1984 issued on the establishment the Public Company for Water Studies responsible for studying water resources, irrigation projects, water installations and land reclamation;
- Issuance of the recent Legislative Decree No. 90 of 2005 on the establishment of the General Commission for Water Resources; and
- Establishing the Modern Irrigation Transfer Fund (Decision No. 91 dated 29/9/2005)

3.2.1.3 *State-Planning Commission (SPC)*

In coordination with various ministries, it participates in the selection of investment and productive projects, setting development priorities of the State, inclusion of these projects in the development plans and determining their budgets;

The State Planning Commission participated with the Central Bureau of Statistics and other institutions in linking the outcomes of the study “assessment of the poverty situation” with the Census of Population and Housing conducted in 2004 to produce a **map of the living conditions**. It was prepared by using about 75 variables and identifying the most powerful indicators to be linked to lower living conditions in order to determine the top priorities. as for example: proportion of households with sanitation, unemployment rate for females, illiteracy rate for females, proportion of population under 15 years, proportion of literates of age 15 years and more, fertility, the rate of overcrowding in housing, etc.

3.2.1.4 *Ministry of Environment (MoENV)*

It was established by Legislative Decree No. 25 of 2009. It works to insure environment safety and protection from pollution. In addition, it carries out many tasks in coordination with the related public authorities to strengthen the relations with other countries and international and regional organizations to cooperate in issues related to environment conservation. The ministry also implements a number of projects and core activities in the field of combating desertification.

3.2.1.5 The General Commission for Management and Development of Al-Badia

Established under Legislative Decree No. 34 of 2006 and it is located in Palmyra in Homs Governorate having a legal entity and financial autonomy. The commission aims to develop Al-Badia and its communities, natural and human resources, and infrastructure; as well as coordination with the concerned authorities to carry out economic, social, and service development programmes in the Syrian Badia.

3.2.1.6 Ministry of Social Affairs and Labor (MoSAL)

It partly provides job opportunities to secure sources of income and improve people's living standards. It is also working to establish a social aid fund, which is one of the programmes included in the Tenth Five-Year Plan as a social safety net complementing the social protection system and based on the approach of the social market economy.

The Tenth Five-Year Plan approved a set of strategies that aim to develop effective social protection system through a set of programmes needed to strengthen social safety nets, social security, and labor market policies. One of these programmes is the National Fund for Social Aid. The NFSA has a legal entity and financial and administrative autonomy and aims to contribute to poverty reduction through the provision of regular or emergency aids for certain categories of eligible people according to approved standards.

The Ministry also conducted a survey to identify households unable to secure their basic needs and so for finding jobs. The survey, which started on 1/12/2008 and ended on 30/4 /2009, is one of the projects that the Tenth Five-Year Plan focused on to reduce poverty. Accordingly, a database will be built on the data obtained and after analyzing the resulting indicators relevant programmes and projects should be arranged targeting living conditions improvement of those vulnerable households. To this target, several measures would be taken such as devoting some subsidized foodstuff to these families, ensuring their economic empowerment, and supporting them in the fields of health, education, culture, and social.

This multi-objectives survey will result in important outcomes that will principally serve the State institutions and ministries in developing their own development programmes.

3.2.1.7 Ministry of Housing and Utilities (MoHU)

It plays an important role in management and protection of the natural resources through the following tasks:

- 1 - Assessment of needed water for household consumption, industry and agriculture;
- 2 - Increasing the reuse of wastewater after treatment, where several treatment plants established in most governorates;

As for of designing the urban expansion blueprints, the Ministry seeks to:

- Exclude, as much as possible, fertile, arable, irrigated and planted land from the urban expansion plans and maintain the agricultural land;
- Expand housing in non-arable land; and
- Limit the horizontal expansion of housing, which occurs on the expense of agricultural areas.

3.2.1.8 Ministry of Information (MoINF)

The key role of the ministry is to enhance the awareness about food security importance, conservation of natural resources and forests, combating desertification, and the rational use of water and energy through visual, audio-visual programmes and information bulletins.

3.2.1.9 Ministry of Education (MoE)

Through the educational programmes at all levels of education, the ministry illustrates the concept of food, environmental issues, as well defining how to preserve the natural resources.

3.2.1.10 Ministry of Interior (MoINT)

It is concerned with monitoring the implementation of legislations and regulations related to the protection of natural resources and biodiversity.

3.2.1.11 Ministry of Higher Education (MoHE)

Through different educational institutions (universities and higher and medium institutes), the ministry contributes to the preparation of qualified technical cadres to work in various fields including agricultural and research, different issues related to protecting the environment, and to develop studies and research.

3.2.1.12 General Directorate for Meteorology of the Ministry of Defense (GDMET)

The GDM carries out many studies in the field of biophysical indicators relating to desertification and drought, and provides precipitations data in all regions.

3.2.1.13 General Commission for Remote Sensing (GCRS)

GCRS develops many projects and studies related to the protection of nature, disaster prediction, natural resources survey, and determination of existing plantations.

3.2.1.14 General Commission for Atomic Energy (GCAE)

GCAE carries out several studies related to the protection of food security against disasters relying on biodiversity and combating desertification projects.

3.2.1.15 Environment Protection and Sustainable Development Council (EPSDC)

The Council is chaired by the Prime Minister and composed of the Ministers of agriculture and agrarian reform, local administration and environment, irrigation, health, education, industry, interior, finance, media, housing, tourism, electricity, oil and mineral wealth, social affairs and labor, and transport; as well as heads of the State Planning Commission and some public organizations including the General Federation of Labor Syndicates and The General Women Union. It comprises also heads of Vocational Syndicates, General Federation of Artisanry Associations, and Chambers of Industry of Damascus and Aleppo.

The Council is the highest coordination body responsible for endorsing the general policy of environment protection, national strategic plans, and related programmes according to the State policy, and pursuing the implementation through relevant ministries. The Council also approves adoption of specifications and standards for environment and pollution, regulations and conditions that must be recognized in industrial firms, and other activities that negatively affect the environment.

3.2.2 Public Agencies

Many public and civil society organizations contribute to the development and conservation of production to improve the economic and social status including:

3.2.2.1 General Peasant Federation (GPF)

An organization of economic and social aspects founded in 1964. It contributes to setting policies and strategies for agricultural development through farmers' associations. It includes 5600 associations, 4300 of which are multi-purpose and, and the rest are specialized. The organization covers 88% of Syrian villages. As noted, the role of rural women is being improved through their contribution to productive work of agricultural, economic, and social nature. The farmers' federation plays an important role in the implementation of programmes to combat desertification, protect soil from erosion, preservation of vegetation, forests, and biodiversity, in addition to pastoral and forestry farming, within the available resources.

3.2.2.2 Federation of Syrian Chambers of Agriculture (FSCA)

The Syrian Federation of Agricultural Chambers was founded in 1990. It includes 14 agriculture chambers. The number of the present members is about 300,000 farmers. Funding is done through membership fees and direct services to farms for which specific payments are charged. It plays a potential role in the agro-industrial investment.

3.2.2.3 General Women's Union (GWU)

A public organization, founded in 1967, concerned with women and family issues and aiming at promoting their effective role in society, improving the situation of Syrian women, and strengthening the role of the community in childhood and motherhood issues. The GWF holds seminars to enhance awareness for women on different fields of food security in which women and families can contribute.

3.2.2.4 Revolution Youth Union (RYU)

An organization for youth in all stages of education, The RYU, executes environmental awareness campaigns and field activities in the field of forestation and environmental cleanup campaigns. In addition, the environmental clubs of RYU are present in all provinces.

3.2.2.5 Non-governmental Organizations (NGOs)

During the last decade, many non-governmental organizations were established and participated with other sectors in the area of food security.

3.2.3 Specialized Institutions related to Food Security

The agricultural sector includes many service-related activities generally provided by the government. The MAAR provides most of these activities, which are designed to increase production and improve productivity on the medium and long term. Mainly they focus on loans provision, stimulating scientific research, promoting agricultural extension services, conducting training programmes, promoting several agricultural development projects and development of rural women, executing pest control campaigns, improving public infrastructure, as well as providing relevant services to livestock production sector, including vaccines and veterinary medicines.

The most important specialized institutions relevant to the development of agricultural production:

3.2.3.1 Lending and funding institutions

Agricultural loans are the most important support service in the agricultural sector used as a means to accelerate agricultural development by achieving the following objectives:

- Increase capital creation in agriculture, particularly in the case of medium-and long-term loans, which focus on the construction, purchase of machinery, and the establishment of new production projects or expanding the existing to benefit from economies of scale.
- Increase production efficiency through the provision of short term cash and kind loans to supply production inputs such as fertilizers and improved seed varieties, and, hence, to reduce the production cost through improved productivity on the bases of mechanization and the use of advanced technologies in many production activities.
- Provide necessary funding to help farmers to cope with changing economic conditions and with the risk of seasonal income and expenditure fluctuations, weather conditions, the possibility of epidemics spread, and emergency events.

3.2.3.2 Public bodies and development support funds

This category includes:

Investment Commission (IC)

Aiming to attract investments and encourage local, foreign and Arab investors, the Government is keen to provide the best facilities through legislations and relevant measures including incentives, exemptions and facilities. The following are the most important laws related to agricultural investment:

- Decree N0. 10 of 1986 concerning the establishment, promotion, and organization of joint agricultural sector companies.
- Investment Promotion Decree No. 10 of 1991 and its amendments issued by Decree No. 7 of 2000 and Decree No. 8 of 2007 providing further incentives and advantages to investors.

- Legislative Decree No. 9 of 2007 for the establishment of the Syrian Commission for Investment entrusted with carrying out national policies related to investment, the creation of a single window to provide services to investors, and formation of the Higher Council for Investment.

Investment policy has contributed to attract many local, Arab and foreign investments, and has significantly evolved since the beginning of the nineties. The increased volume of private and public investments is a result of improved investment climate, liberation of most the national economy sectors, and opening these sectors to private investments. The number of private projects licensed by the investment law and acting in the field of foodstuffs reached to 5000 thousands in 2008.

Export Development and Promotion Commission (EDPC)

The Supreme Council of Export and Export Development Commission were established under the Legislative Decree No. 6 issued on 3/2/2009 corresponding to the concept “export for development”. The Prime Minister chairs the SCE which is composed of the concerned ministers and heads of federations of agricultural, commercial, and industrial chambers. The Council objectives include:

- Setting the export strategy and policy in the Syrian Arab Republic;
- Studying and developing local laws and regulations relating to export to correspond to global economic changes;

The SCE supervises EDPC and Export Development Fund.

Export Development Fund (EDF)

- Legislative Decree No. 19 on 20/4/2009 related to the establishment of Export Promotion Fund and devoting the amounts necessary for exports development.

In order to bring about the recognition of the State economic policy, the Fund aims at increasing the volume of national exports, diversifying the markets, reduce related restrictions, enhance Syrian products competitiveness against similar foreign goods, and enable them to access foreign markets. To this effect, the fund can do all what it takes in a way conforming to the cited development goals and tasks.

3.2.4 Institutions and Companies related to Production, Marketing and Services

3.2.4.1 Ministry of Economy and Trade (MoET)

A - General Establishment for Cereals Processing and Trade (GECPT), General Company for Silos (GCS), General Company for Mill (GCM), and General Company for Bakeries (GCB):

GECPT was established under Decree No. 1125 of 1975 that defines its main functions in the marketing of cereal crops (wheat, barley, lentil, chickpeas), both internally and externally and ensures availability of domestic needs. The GECPT, GCS, GCM, and GCB, affiliate to the Ministry of Economy and Trade, cooperating to produce subsidized standard bread for the Syrian population.

- GECPT buys the production of wheat, barley, lentils, and chickpeas and pays prices covering the cost of production plus profit margin for producers. GECPT mainly concerns about wheat marketing, which recently bought it by prices equivalent to production costs +25%. The quantities of wheat procured internally ranges between 2.5 and 3.5 million tons/year according to the climatic conditions. It also keeps a strategic reserve of wheat to fill Syria demand for one year at least. However, quantities sold to GECPT of other crops decreased to the benefit of the private sector.
- GECPT control the import and export of the products mentioned, mainly of wheat in recent years, according to the domestic demand, availability of surplus for export, and the policy of securing basic food for population.

The GCS helps the GECPT to accomplish its tasks as for technical storage of cereals. In addition, GCM through its self-capacity and leasing of mills provides flour to the GCB, which in turn and through its backup and private sector bakeries fulfills the Syrian people needs of standard bread at subsidized prices. As it is well recognized, bread is the main staple in Syria.

- Finally, although the technical storage capacity of these institutions and companies has been greatly improved, continuing these efforts is needed to meet the increased demand of the growing population. It is also necessary to apply effective technical measures to reduce grain waste and losses, which would ensure more supply for the national food security.

B - The General Establishment for Storage and Marketing of Agricultural and Animal Products (GESMAA), and General Establishment of Consumption Goods (GECG),

- Legislative Decree No. 534 of 2000 established the GESM, after merging three companies, namely: Fruits and Vegetables, Storage and Cooling, and the General Company of Meat. GESM is linked to the Ministry of Economy and aiming at:

- Contributing to internal and external marketing of agricultural and livestock products, while focusing particularly on the wholesale trade, import, and export;
- Establishment of storage and cooling units for products reservation;
- Investment and development of centers of sorting, packing, and packaging; and regular and cooling transport means;
- Developing centers for sorting, grading, packaging, and manufacturing of agricultural production, both plant and livestock;
- Collaboration with all producers from all sectors to achieve its objectives;

- In addition, the GESM is also authorized for the positive intervention in time of crisis. It is essentially responsible for selling vegetables and fruits at cheaper prices compared to those of the market, as well as exporting surplus of apples and citrus.

- the GESM has five branches, 8 departments, and more than 400 retail stores distributed in different regions of the country provinces, in addition to approximately 100 sale cars.

- The quantity of domestic production with which GESM deals is between 100-150 thousand tons of various food products, mainly vegetables and fruits. The storage and cooling capacity of GESM is about 65 thousand tons. The estimated import capacity is 5- 10 thousand tons per year of vegetables, fruits, and meat while of exported products it is approximately 15-20 thousand tons of vegetables and fruits in the times of peak production.

- Another important institution is the General Establishment of Consumption Goods (GECG) that affiliates to the Ministry of Economy and Trade. The GECG is considered a complementary institution to GESM. It has 14 branches in all Syrian governorates with 1033 selling outlets. It is mainly involved with the provision of several food products such as sugar, rice, all types of oils, and many other food products at prices set by the Ministry of Economy for consumer protection.

The three above mentioned establishments are considered as governmental supportive bodies responsible for ensuring food products at affordable prices. They also contribute to the employment of large numbers of workers, and thus securing the livelihood for more than 10 thousand female and male workers.

3.2.4.2 Ministry of Industry (MoIND)

A - General Organization of Food Industries (GOFI):

GOFI contributes by 10-15% of Syria's production of vegetable oils, variety of canned products, pasteurized and UHT milk, dairy products, chocolate, biscuits, pasta and noodles. The private companies produce the rest of all food industries.

B - General Organization for Sugar (GOS)

The GOS processes all production of sugar beet that accounts to 1.2-1.5 million tons per year, and produces about 100-125 tons of refined sugar, which secure 15-20% of domestic consumption of sugar, while the remaining proportion is imported by the private and public sector.

IV. Past and Ongoing Programmes and Projects Supporting Food Security

The Government is seeking to improve food security in a sustainable manner through carrying out investment projects and encouraging private sector involvement in agricultural investment. The Government allocates annual funds for the ministries of agriculture and irrigation (about 15% of the total annual investment budget) for the execution of production services and projects in different domains of agricultural sector all over the country, aiming to develop agricultural production and achieve national food security coupled with sufficiency of main staples, especially wheat.

In this regard, the Government has adopted and implemented several investment projects, in services and production, and provided them with the necessary funding, from either local resources or Arab and international funds. In these projects, the State contributes on the average about 20-25% of the total projects' budgets.

The following are the most important ongoing projects in Syria that mainly target improvement of food security, creation of employment opportunities, and ensuring stable incomes for rural households. It should be noted that after the completion of the externally funded projects, the government is committed to support and finance their functions to ensure sustainability and that each of these projects could achieve the desired long-term impacts after the withdrawal of the funding from partners in development.

4.1 Government Supported and Implemented Projects

4.1.1 Projects Implemented by the Ministry of Agriculture and Agrarian Reform (MAAR)

The total area reclaimed since the beginning of fruit trees plantation projects and up to 2008 accounts 750 thousand ha, of which 640 thousand ha devoted to fruit trees and the rest to crop production. The most important projects are the following:

4.1.1.1 Fruit trees plantation project

It started in 1977 aiming at reclaiming 386 thousand hectares in the first and second climatic zones in the governorates of Dar'a, Sweida, Quneitra, Rural Damascus, Homs, Hama, Aleppo, Idlib and Al-Hassake to be cultivated with agricultural crops or fruit trees. The total reclaimed area until 2008 reached to 295 thousand hectares.

4.1.1.2 Second fruit trees plantation project in Al-Quneitra

The project started in 1977 in the context of the Fruit Tree Project. It aims at reclamation and forestation of 36 thousand ha of mountainous and hilly land that covered by stones and rocks up to 75%. The area reclaimed up to 2008 reached to 6 thousand ha.

4.1.1.3 Green belt project

The project was implemented in marginal areas situated between two different types of land, the first one is productive gives good returns while the other is on the edge of the desert land (marginal). The project spread over an area of 1100 km long and of 8-20 km width adjacent to the Jordanian borders up to the Turkish border, in areas with average precipitation of 225 to 250 mm/ year.

The project activities focused on land reclamation and cultivation of fruit trees in the privately owned land, including almonds, pistachios, olives and grapes. In addition, the project also monitored plantation

process providing the necessary services. This was associated with the provision of incentives as rations of different kinds of food in order to stimulate farmers' cooperation with the project. The area reclaimed reached up to 165 thousand hectares at the end of 2008.

4.1.1.4 *Fruit trees development project (Ali Al-Ali Project)*

The project started in 1986, in the aim of raising farmers' income, improving their living conditions, and reducing rural migration through the development and improving the mountainous and hilly land. Particularly that is characterized by climatic conditions appropriate for the development and cultivation of fruit trees in the governorates of rural Damascus, Homs, Hama, Aleppo, Tartous, and Lattakia. Until 2008, the overall reclamation covered about 75 thousand hectares.

4.1.1.5 *Agricultural development project in the Southern Region*

The project was carried out in two stages, with a total value in the first stage (1986-1992) 52 million U.S. dollars and in the second stage (1993-2003) 30 million U.S. dollars. Since 2003, the project is run by local fund.

The project targeted land reclamation for fruit trees and field crops plantation in the southern region including Dara'a, Al-Sweida, Rural Damascus, and Al-Quneitra. In addition, the project carried out other development activities such as rural women development, agricultural extension enhancement, loans provision for the development of cottage industries, etc. It also has contributed to raising the standard of living of the rural population, increase agricultural production, create additional income sources and, thereby, reduce the migration to cities of the population in the project area. The total area reclaimed by the project 135 thousand ha, of which 60 thousand ha devoted for the cultivation of fruit trees and the rest to grow crops.

4.1.1.6 *Agricultural development project in Jabal Al-Hoss:*

The project began in 2001 with fund of 19 million dollar and continued by self-financing after 2008.

The project aims to improve the living conditions of small farmers and rural women by increasing rain-fed agricultural areas. In addition, it helps strengthening the capacity of agricultural extension to carry out applicatory researches needed to assist in the transfer to modern technologies, provide technical services to farmers, develop livestock production, and support the establishment of a national policy for control and management of agricultural pests, pesticides, hormones and toxic substances in animal and plant products. Up to 2008, 32 thousand ha have been reclaimed including 10 thousands ha for fruit trees farming and the rest for crops.

4.1.1.7 *Agricultural development project in the Central and Coastal Region*

The project started in 2002, as self-financed and invested with a total value amounting to US\$ 117 million. The project seeks to achieve integrated development of the rural population and improve their standard of living in the project area, which includes the governorates of Homs, Hama, Tartous, and Lattakia.

The overall objectives of the project focus on increase the area of arable land, implement support programmes for rural women development, agricultural extension, and communications; as well as contribute to the development of livestock, and help in achieving the maximum utilization of available water resources. The total areas reclaimed up to 2008 by the project amounted to 40 thousand ha, including 27 thousand ha for fruit trees plantation and the rest to grow crops.

4.1.1.8 *Rural development project in Idleb Province*

The project started in 2004 for a period of 8 years with total value of US\$ 36 million. It aims to improve the living conditions of farmers and rural women in the project area by expanding the arable area, plantation of fruit trees and crops, improving the land productivity, development of livestock, and strengthening the capacity of agricultural extension. Additionally, it supports the participation of women

in development, supports small income-generating projects, and contributes to maximizing the productivity of available water resources.

4.1.1.9 Rural development project in the North-Eastern Region

The eastern region with its three provinces Al-Raqqa, Al Hassakeh, and Deir-Ezzor is considered currently the poorest region and most needy for development in Syria, though these three governorates were in the past an important source for agricultural products, especially grain. Indeed, the recurrent drought and recession and dryness of Al Khabour river led to more poverty and worsened the living conditions of the population, pushing many of them to migrate in search of a source of income.

The project was established at the beginning of the year 2008 aiming to achieve a sustainable development for the Northeastern region and cover an area of 7.6 million hectares in a period of seven years.

The total cost of the project is US\$ 58 million shared by 36% from the Syrian government, 35% from the International Fund for Agricultural Development (IFAD), and 29% from the Fund for International Development (OBEC). The executing agency is the Ministry of Agriculture and Agrarian Reform in collaboration with the Ministry of Irrigation, the Ministry of Finance, the Ministry of Local Administration, the Ministry and Environment, and the State Planning Commission.

The project comprises five components:

The first component: establishing and enabling the social organizations to facilitate resource management, business operations, and marketing;

The second component: improving water resource management and introduction of modern irrigation technologies;

The third component: increasing productivity and profitability of production and of crops and livestock projects for farmers;

The fourth component: development of non-agricultural projects to increase output, incomes, and employment opportunities; and

The fifth component: coordination and management by institutions support in the field of training, technical assistance and environment management.

4.1.1.10 National project for the transfer to modern irrigation systems

The excessive investment and high exploitation of water to meet the increased demand and expansion of irrigated area in addition to limited water resources and recurrent drought have resulted in decreasing the quantities of water available and emergence of an annual water deficit of more than 3.5 billion cubic meters. Corresponding to the problematic water issue, the Syrian government is focusing on water use rationalization and raising the efficiency of water use, especially in agricultural practices that consumes about 90% of water resources in Syria.

- Issuance of Legislative Decree No. 91 /2005 containing the creation of a National Fund for Transfer to Modern Irrigation in the Ministry of Irrigation with a budget of SP 52.3 billion, to fund farmers wishing to convert to modern irrigation methods in the form of interest-free long term loans for ten years;

- Adoption of 42 local companies and plants and other 16 Arab and foreign companies producing modern irrigation equipments according to the Syrian standard;

The beneficiaris of the project include:

- Small peasants and farmers in irrigated areas based especially on groundwater (wells) and governmental irrigation projects;

- Small peasants and farmers, especially those who are unable to install modern irrigation systems;

- Agricultural associations and water users associations in irrigated areas;

- Areas planted crops compatible with modern irrigation methods;

The project was launched in June 2006 (11/6/2006) and will be implemented within 10 years. The first loan was granted in April 2007.

The project action plan includes modernization of 1.2 million hectares irrigated with traditional methods.

Important achievements of the Project up to 15/6/2009 include:

- The total amount of loans granted to farmers is 1.3 billion Syrian pounds.
- The total number of beneficiaries of loans is 2750.
- The total area converted to modern irrigation schemes through the fund forms about 20 thousand hectares.
- The Fund did not attain the expected outcome due to delays in delivery.
- The total area converted to modern irrigation before the project and up to date is 260 thousand hectares.

4.1.1.11 *Integrated development project in the Syrian steppe*

The project was implemented during the period (1998-2006) with a funding of US\$ 104 million and it is still going on with self-funding.

The project mainly aimed at covering an area of 3 million hectares, development of the desert and grasslands, re-vegetation, restoration of the grassland to the maximum production capacity, combating desertification, and limiting the soil erosion. The most important achievements:

- Drilling of more than 200 wells for drinking water;
- Establishment of more than 500 cooperatives in the desert to regulate grazing, rangeland management, and protect the desert territory;
- Creation of fodder fund to meet a part of the growing needs of livestock; and
- Providing some essential services such as schools, health clinics and, electricity, and telephone lines to some communities;

4.1.1.12 *Development of natural resource research in the Syrian steppe*

The project aims at:

- Achieving integrated management of natural resources in the Syrian Steppe;
- Development of forest and pastures research;
- Control and reduction of land degradation;
- Improve the efficient use of runoff caused by rainfall, control soil erosion, secure drinking water for livestock and domestic needs, and improve the living conditions of Al Badia population;
- Securing a good vegetation cover to increase soil moisture and pastoral plantations;
- Securing some quantities of water through water harvesting.

4.1.1.13 *Drilling, renovation, and equipping wells in Syrian Badia:*

The project aims at:

- Drilling wells in the Syrian desert to for free to secure water for sheep and breeders;
- Installation of wells engines with necessary equipments for operation;
- Maintenance of engines, pumps, and machineries; and
- Creation of job opportunities for Al Badia residents;

The number of wells in the Syrian Steppe is 315 distributed in AL Badia to meet the needs of livestock and provide drinking water for breeders.

- The estimated total cost of the project is 460.8559 thousand S.P.

4.1.1.14 Development of Syrian Badia;

The project started in 1977. It established 13 pastoral nurseries producing more than 13 million pastoral seedlings planted annually in the protected pastoral and sheep breeder associations. Additionally, it established seven centers for the collection of 60 tons annually of pastoral seeds to be sowed directly on the soil to increase the vegetation cover and 63 pastoral protectorates to allow restoration and renewal of vegetation, and regulate the grazing for breeders;

The project aims at:

- Protection of natural vegetation, reduction of rangeland degradation, and development of degraded areas by pastoral planting and artificial seeding;
- Production of seeds and pastoral seedlings through the establishment of centers for seed collection and pastoral nurseries;
- Establishment of pastoral protectorates in view to re-planting extinct species, improving the natural vegetation in degraded areas, and secure a part of the forage reserve for livestock and, thus relieving the demand pressure on feed; and
- Improving pasture and maintaining a buffer of feed for the years of drought; as well as increase the animal numbers to achieve self-sufficiency of their products.

The project plan during the Tenth Five-Year Plan includes:

- Production of 66 million pastoral seedlings and plantation of 140 thousand ha through direct seeding in degraded lands;
- Production and collection of 500 tons of pastoral seeds;
- Protecting desert lands from abuses and violations;
- limiting sand hills advance through the establishment of 67 protectorates, 13 nurseries, 8 centers for seed production, 4 green oasis, and 4 observatories;
- Maintaining the protectorates, limiting the sand hills expansion, protect oases, and establishing pastoral seed multiplication centers;
- Provision of services to desert population within the activities of the project;

4.1.1.15 Survey of natural resources project in the Syrian steppe, by using remote sensing techniques and geographic information systems

- The project started in 2004 in coordination between the Ministry of Agriculture and Agrarian Reform and the General Commission for Remote Sensing.

- The project aims at:

- 1 - Analyzing the current status of natural resources in the Syrian Steppe and identifying local plant communities and types of the vegetation;
 - 2 - Determining direct and indirect effects of desertification and land degradation on the Syrian pastures;
- The most important activities of the project:
- 1 - Establishing a database for land use and agricultural production maps;
 - 2 - Estimation of crop yields relying on satellite images taken by a comprehensive survey of natural resources and comparing them with the available information on land use in the study area; and

3 - Preparation of trained cadre to deal with remote sensing techniques provided with the required equipment;

- The estimated total cost of the project is 314,053 thousand S.P.

4.1.1.16 Forest protection and fire-fighting project:

- The project started in 1995 with the aim to protect forest resources, preservation of the forest environment and forest fires combating.

- Project objectives:

1 - Protecting forests from fires and establishing centers equipped with the needed equipment; and

2 - Establishing forest stations and observation towers as well as formation of specialized teams for fires control;

- Project activities:

1 - Providing the requirements of the project including 16 fire-control centers, 75 control towers, 144 forest stations, in addition to securing the requirements for forest protectorates;

2 - Securing wireless communication means between the fire stations, observation towers, and fire brigades.

4.1.1.17 Reforestation and forests development project

The project aims at:

- Improving productivity and quality specification of forest, environmental conditions, and encouraging the natural regeneration of forests;

- Mitigating forest fires impacts; and

- Benefiting from forest woods resulting from renewing process;

4.1.1.18 Fisheries in inland waters development project:

The project aims at:

- Exploring the possibility of using land affected by saltiness for fish production;

- Considering the possibility to benefit from irrigation canals and drainage for fish production, and the efficiency of breeding Carp fish (as a herbivore) for their maintenance:

- Introduction of new improved strains of fish and testing and disseminating the most appropriate;

- Providing technical advice and carrying out feasibility studies for fish projects;

- Establishment of nature reserves for fresh water and marine biology;

- Protection of fisheries and prevention of irregularities, infringements, and illegal means of fishing;

- Organizing training courses for the dissemination of experiments and studies results;

- Monitoring the activity of fishing and its production;

4.1.2 Major Projects Implemented by the Ministry of Irrigation

4.1.2.1 Handling flooded and reclamation of plain Al-Sabkha

The project started in 2006, while its investment started in 2009. It includes the establishment of irrigation and drainage modern networks; building Khan Touman channel, dam, accessories, roads, land leveling, installation of pumping station and accessories, and other complementary works; as well as building Almahrab channel, Almuwelih reservoir and completion of the main drainage. The estimated total cost of the project is 1,950,000 thousand S.P.

The project aims at the reclamation of 22.000 hectares with modern irrigation systems using treated wastewater, agricultural and economic development of the regions irrigated by sewage or subjected to

floods, environmental conservation, benefiting from treated wastewater in irrigation, and development and management of water resources in the region.

4.1.2.2 Reclaim the rest of the first Stabilization Region Lower Firat (Deir Ezzor - Eastern Region)

The project started in 2008. It consists of the establishment of irrigation and drainage pipe networks, pumping stations and accessories, roads, land leveling, and other complementary works. The estimated total cost of the project is 17,250,000 thousand S.P.

The project aims at the reclamation of 27,000 hectares by conversion to modern irrigation; in addition to the development of water resources management, agriculture, and industry in the region to support the national economy.

4.1.2.3 Reclamation of second priority from southern Aleppo plains

The project started in 2006 including establishment of irrigation and drainage pipe networks, pumping stations and accessories, roads, land leveling, and other complementary works. The estimated total cost of the project is 16,700,000 thousand S.P.

The project aims at the reclamation of 25,400 hectares by modern irrigation methods, and promotion of educational, social, and hygienic aspects of the region; as well as improvement of soil conditions, agriculture, and industry to support the national economy.

4.1.2.4 Reclamation of Al Rasafa Basin (Al Rakka - Eastern Region)

The project started in 2006, while the date of investment will be in 2011. It consists of the establishment of irrigation and drainage pipe networks, pumping stations and accessories, roads, land leveling, and other complementary works. The estimated total cost of the project is 6,850,000 thousand S.P.

The project aims at the reclamation of 10,000 hectares through modern irrigation methods; in addition to the development of water resources management, agriculture, and industry in the region to support the national economy.

4.1.2.5 Reclamation the third section of east Al-Balikh (Al Rakka - Eastern Region)

The project started in 2007, while the date of investment will be in 2011. It consists of the establishment of irrigation and drainage pipe networks; pumping stations and accessories; roads, land leveling, and other complementary works. The estimated total cost of the project is 4,300,000 thousand S.P.

The project aims at the reclamation of 6,000 hectares through modern irrigation methods; in addition to development of water resources management, agriculture, and industry in the region to support the national economy.

4.1.2.6 Reclamation of Jernieh plains (Al Rakka - Eastern Region)

The project will start in 2010 and the date of investment is 2013. It consists of the establishment of irrigation and drainage pipe networks, pumping stations and accessories, roads, land leveling, and other complementary works.

The project aims at the reclamation of 10,000 hectares through modern irrigation methods; in addition to development of water resources management, agriculture, and industry in the region to support the national economy. The total estimated cost of the project is 6,850,000 thousand S.P.

4.1.2.7 Reclamation of the eighth section of Firat Adna (Deir El-Zor- Eastern Region)

The project started in 2006, the date of investment will be in 2010. The project consists of the establishment of irrigation and drainage pipe networks, pumping stations and accessories, roads, land leveling, and other complementary works.

It aims at the reclamation of 35,612 hectares through modern irrigation methods; in addition to development of water resources management, agriculture, and industry in the region to support the national economy. The Total estimated cost is 2,300,000 thousand S.P.

4.1.2.8 Reclamation of lands adjacent to Al-Khabour River (Deir Ezzor - Eastern Region)

The project started in 2007, the date of investment will start in 2011. It consists of the establishment of irrigation and drainage pipe networks; pumping stations and accessories; roads, land leveling, and other complementary works.

The project aims at the reclamation of 16,000 hectares via modern irrigation methods connected to a channel dragged from the Euphrates River to Al-Soar city. In addition to development of management of water resources, which experienced drought due to dryness of Al Khabour River; agriculture; and industry in the region to support the national economy. The total estimated cost of the project is 10,250,000 thousand S.P.

4.2 Projects Funded by Donors in the Field of Agriculture and Food Security

Several organizations, funds, and donor countries have contributed to support many projects and activities pertinent to food security including:

4.2.1 Projects Funded or Implemented by the Food and Agriculture Organization of the United Nations (FAO)

FAO has assisted in the implementation of many projects targeting the sustainable development of the agriculture and rural sectors in Syria through a variety of projects in the form of Technical Cooperation Projects (TCP), or through the GCP Governmental Cooperation Projects and others. The most important of these projects are:

4.2.1.1 Technical Support/Collaboration

4.2.1.1.1 Special Programme for Food Security (SPFS)

Aiming at assisting in the alleviation of food insecurity, the FAO has initiated, since September of 1994, the Special Programme for Food Security in order to secure and increase stability and sustainability of staple food production. The Syrian Government joined the programme at the end of 1997, which was conducted in two phases:

- Phase I: mainly concerned with the selection of 34 farmers to participate in the programme in five governorates (Homs, Aleppo, Hama, Idleb, and Lattakia) and supplied with improved seeds and fertilizers. However, they should comply with the core components of the programme that primarily focus on water control, intensification, diversification, in addition to other activities e.g. the selection of the type of inputs, time of serving the production, extension and training, the participatory approach and women participation.

The total cost amounted to US\$ 60 thousand covering a total area up to 177 ha.

- Phase II: carrying out a project specialized in water control with a total cost of one million dollars jointly funded by the FAO with a share of US\$ 400 thousand through the Technical Cooperation Programme in addition to a similar contribution from the farmers and the Government. This phase helped 34 farmers in four governorates (Homs, Hama, Idleb, Aleppo) to adopt modern irrigation equipment covering a total area of 92 ha.

Achievements of the programme included:

- Assisting 34 farmers in the first phase through the provision of seed, fertilizer, and instructions to make the optimal advantage of the programme;
- Contributing to the provision of developed irrigation equipments in the second phase for 34 farmers to control irrigation;

- Carrying out several studies to determine the current situation and prospects for the development of agriculture in selection areas, whereas these studies are mainly concerned about saving water, further intensification of agriculture, improved crop rotations, and integration of the development of plant and animal production;
- Choosing the appropriate inputs capable of increasing production;
- Developing appropriate programmes for accurate and timing services;
- Focusing on training and consultation;
- Participation of farmers, involving women, in the development of annual plans;
- Cooperation with various research bodies to use the latest technologies for each crop;

With respect to project activities, particularly in the development of irrigation technologies, the project expanded to include a project funded by the Syrian government “Transition to Modern Irrigation” covering all the Syrian districts.

4.2.1.1.2 *Development of organic agriculture in Syria (GCP/SYR/011/ITA)*

Budget(phase I): USD\$ 1,000,000 (2006-2009)

Budget(phase II): USD\$ 999,993.5

Duration: 3 years (January 2010- Dec 2012)

Government Counterpart: Directorate of Agricultural Extension, GCAR, MAAR

Impact

Capitalization on the achievements of Phase I and provision of further institutional strengthening and technical guidance in strategic areas in order to increase the output of certified organic agricultural production in Syria, with a progressively growing involvement of interested farmers and other private sector stakeholders.

Outcome

The organic sector in Syria strengthened and made efficient.

Outputs

- Development of a National Organic Policy
- Technology generation and knowledge management for organic agriculture
- Building agricultural training and extension capacity building of targeted MAAR Departments
- Carry out a training programme in support of expanding organic agriculture
- Guidance for implementing national regulations on organic agriculture
- Fostering private sector involvement in the development of services for the organic sector
- Supporting the marketing of organic products
- Enhance the national awareness on organic products

4.2.1.1.3 *Integrated community based forest fire management (GCP/SYR/012/ITA)*

Budget: USD \$900.000

Duration: 3 years (January 2009- December 2011)

Government Counterparts: Forestry Directorate, MAAR

Impact

The project will contribute to strengthening and mainstreaming policies, laws, regulations, strategic and management plans operational practices and institutional capacity of MAAR to achieve greater integration and participation of communities to focus on livelihoods and integrated watershed and land-use approaches to reducing the negative impacts of fire and to facilitate management of forest resources on a sustainable basis.

Outcome

Establishment of an integrated and community based fire management system for the best of the Syrian population livelihood.

Outputs

- Awareness and community mobilization strategy developed.
- Pilot areas assisted with implementation
- National institutions concerned with forest fire management at both central and regional levels developed and strengthened.
- A fire incident management system providing for a technically sound and effective “Incident Command System” established.

4.2.1.1.4 Prevention and disposal of persistent organic pollutants (POPs) and obsolete pesticides in Syria (GCP/SYR/013/GEF)

Budget: USD \$ 2,954,928

Duration: 2 years (October 2009- September 2011)

Government Counterparts: Plant Protection Directorate, MAAR, Directorate of Environmental Protection and Sustainable Development, MOEnvironment

Impact

Reduced adverse impacts on health and environment from excessive and poorly controlled pesticide use

Outcomes

1. All POPs and other obsolete pesticides in Syria destroyed
2. Strengthened capacity for pesticide life-cycle management
3. Strengthened capacity to raise awareness of pesticide issues
4. Project managed effectively and M&E plan implemented

Outputs

- 100 tons of obsolete pesticide stocks that remain in original or unsuitable containers repackaged
- 700 tons of POPs and other obsolete pesticides shipped to a destruction facility
- 700 tons of POPs and other obsolete pesticides destructed in an environmentally sound manner
- 10 000 contaminated empty containers cleaned and recycled 25 customs staff trained in import controls for pesticides;
- 4 laboratory staff trained in the methodologies for quality control of pesticides;

- FAO's Pesticide Stock Management System for maintaining Syria's pesticide registry implemented
- Training programme developed for Ministry of Health pesticide applicators and 15 staff trained as trainers;
- 15 Medical practitioners trained in diagnosis and treatment of pesticide intoxication;
- Pesticide legislation reviewed and revised;
- Proposal for Syria's Hazardous Waste Management strategy is developed; and
- Recommendations made for improvement in the regulation of the Chemical Manufacturing sector.
- an IPM strategy for the control of Sunna pest in wheat developed and implemented through 20 Farmer Field Schools
- Communications strategy developed
- Best practices identified and information disseminated to target groups
- PMU established
- Detailed work plan developed **and progressed** tracked
- Monitoring and Evaluation (M&E) system established and implemented

4.2.1.1.5 *Capacity building in sustainable forest management planning and forest fire planning in Syria (GCP/SYR/014/TUR)*

Budget: USD \$199,992

Duration: 2 years (November 2009- October 2011)

Government Counterpart: Forestry Department in Idleb Province, MAAR

Impact

Forest management planning and implementations are carried out in accordance with sustainable forest management principles and methodologies so that environmental, social and economic functions and contributions of forests in the country's development and in improvement of livelihood of the communities living within forest areas are strengthened.

Outcome

Adequate institutional capacities are established at the Syrian Forestry Organization and its related units to undertake ecosystem based participatory forest management planning, fire management and forest resources monitoring and assessment tasks appropriately in Syria.

Outputs

- An ecosystem based functional forest management plan prepared.
- A forest fire management plan prepared with the participation of the main stakeholders.
- Adequate knowledge and experience provided for the Syrian Forestry Organization in sustainable forest management planning and its implementation
- Training for Syrian foresters on fire management planning and its implementation provided.
- Training for Syrian foresters provided on photo interpretation training in Turkey
- Training on forest resources monitoring and assessment prepared.

4.2.1.1.6 *Drought early warning system in support of the implementation of a national drought strategy GCP/SYR/015/SWI*

Budget: USD\$ 476,150

Duration: 2 years (January 2010- January 2012)

Government Counterpart: Directorate of Drought, MAAR

Impact

Increased contribution of agriculture to the country GDP and household food security vulnerability reduced through prevention of compromising droughts effects.

Outcome

A National Early Warning System (EWS) established and fully operational and effective in support of the implementation of the national drought strategy with emphasis on the rangelands and marginal areas.

Outputs

- Infrastructure and procedures established for development and refinement of data processing, analysis and summary and implementation throughout the Al Badia and extended into the marginal areas
- Data base and mapping information system developed and established for the target areas
- Procedures established for improved dissemination of early warning information
- National capacity strengthened and developed to operate and maintain the EWS on a sustainable basis

4.2.1.1.7 *Regional initiative for obsolete pesticide management*

Budget: CHF 1,000,000 (GCP/RAB/004/SWI)

Duration: 30 months (November 2008- May 2011)

Government Counterparts: Plant Protection Directorate, MAAR, Directorate of Environmental Protection and Sustainable Development, MOEnvironment

Impact

Reduced adverse impacts on health and environment from excessive and poorly controlled pesticide use.

Outcome

Healthier rural communities and healthier food

Outputs

- Improved pesticide management through legislation, registration, and storekeeping, and improved capacity of extension officers and farmers through training.
- Reduced reliance on pesticides.
- Reduced risk of obsolete pesticides through the disposal of existing safeguarded stocks in Syria, and to the extent possible within funding limitations, their identification in Jordan and Lebanon and their safeguarding and disposal; and
- Improved hazardous waste management capacity, including initiatives to establish management schemes for the collection and recycling of empty pesticide containers.

4.2.1.1.8 *Strengthening capacities toward the establishment of a regional platform for the detection of genetically modified organisms (TCP/RAB/ 3202)*

Budget: USD 413 000

Duration: 24 months (August 2008- July 2010)

Government Counterpart: GCSAR

Impact

Creation of a systematic and scientifically agreed upon approach to GMO detection and analysis, leading to increased efficiency for the management of safety and security of GM crops and products across the region, in accordance with the international instruments relevant to this sector.

Outcome

Increased collaboration in GMOs detection and enhanced harmonization of related laboratory procedures, standards, techniques among the participating countries, as well as strengthened technical skills in GMOs detection in agriculture products.

Outputs

- The regional collaboration in GMO detection among the participating countries is enhanced, in order to harmonize their practices and certification schemes based on common standards and good practices.
- A training package in GMO detection in Arabic and English is developed and made available for the project training activities as well as for future in-house training courses.
- The capacities of technical staff of the participating countries in GMO detection are increased.
- An agreement for the establishment of the ‘regional platform for GMO detection in the region’ is prepared and agreed upon among the participating countries.

4.2.1.1.9 *Formulation of an operational agriculture and food security strategy and policy for Al Ghab (TCP/SYR/3202)*

Budget: USD 474 000

Duration: 1 year (December 2009- November 2010)

Government Counterpart: General Commission for Al Ghab Management and Development, MAAR

Impact

Achievement of the vision of Al Ghab development which emphasizes a competitive, market-based, internationally-oriented, environmentally and socially sound agricultural and non-rural sector for bettering livelihoods, enhancing food security and improving living standards in Al-Ghab region.

Outcome

Enhanced capacity of relevant central and decentralized institutions and partners to formulate an Operational Agriculture and Food Security Strategy Policy for Al-Ghab through a consultation and participatory process and through sound analysis of the sector.

Outputs

- Detailed review of the agricultural sector of Al-Ghab valley with a focus on the interaction of Al-Ghab agriculture with the rest of the economy and the factor productivity, especially with regards to employment issues by gender and age, and migrations;
- Policy intent statement providing orientations for the creation of an enabling policy framework for private and public investments in agriculture in Al-Ghab;
- Investment profile providing indications of priority areas for both private and public investments in Al Ghab.

4.2.1.1.10 Other Projects

A. Other FAO/GCP Projects

- Institutional Strengthening and Agricultural Policy project implemented during the period 1998-2008, with a total cost of US\$ 9.5 million.
- Project on Management Plan for Forest Fires through the Participatory Approach GCP/SYR/010/ITA for a period of three years (2004-2006) and final cost of US\$ 1031 thousand;
- Pest Integrated Management in the Near East: for a period of two years and cost of US\$ 2 million;
- Reviving Pastures and Establishment of Wildlife Protectorate in the Syrian Steppe (Al- Talila).

B. Other FAO/ TCP Projects

- Potato seed multiplication and palm nurseries based on tissue plantation techniques with a budget of US\$ 319,000; Forest sector policy and institutional development – TCP/SYR/3103 (2008-2009) with a budget of US\$ 310 thousand;
- Establishment of an early warning system to reduce the effects of drought in Syria within a period of (2004 - 2006) with a budget of US\$ 244 thousand;
- Establishment of food insecurity maps during 2005, and with a budget of US\$ 330 thousand
- Strengthening local capacity in the field of phytosanitary within the period (2004-2005) with budget of US\$ 352 thousand;
- Safe Storage and assembling used up, out of use, and undesirable equipments and materials within a period of 12 months, and with a budget of US\$ 388 thousand; and
- Training project on management against herb Alhalooke in legume crops within the period (2004-2005) with a budget of US\$ 366 thousand;

4.2.1.2 Drought emergency projects

4.2.1.2.1 OSRO/SYR/901/EC

Budget: USD \$1,384,430

Government Counterpart: MAAR

Duration: (2009-2010)

Impact

Sustaining the remaining asset base of vulnerable small-scale herders through the provision of animal feed and provision of limited sheep restocking

Outcomes

- Protect the livelihoods and sustain the life of the 9,000 beneficiaries of small herders and contribute to the food security and resilience of targeted households;
- Provision of animal feed in support of 9,000 beneficiaries for a period of three months is expected to cover the consumption needs during the most critical period, and thus maintain the remaining livestock until the pastures and crop residues become available again in the next season.
- The restocking component will enable the targeted 200 beneficiaries of those who lost their herds completely to resume their sheep herding activity and therefore to partially restore their livelihood and resilience.

Outputs

Distribution of 30,4612 MT of animal feed (to 12,693 families in the Northeastern region).

4.2.1.2.2 OSRO/SYR/902/SPA**Budget:** USD \$692, 215**Government Counterpart:** MAAR**Duration:** (2009-2010)**Impact**

Livelihoods and food security, of the most destitute drought-affected farmers and small herders in the northeastern part of Syria, supported

Outcomes

- ensure access of up to 2 550 destitute farmers in the rainfed areas of Al Hassakeh governorate to local varieties of drought-tolerant barley seeds for the 2009/10 cropping season;
- ensure that at least 2 000 destitute small-scale herders maintain the remainder of their herds through provision of animal feed; and
- assist 100 households of those who lost their herds completely to restore the minimum of their livelihoods through a limited restocking programme.

Outputs

- 554 MT of barley seeds distributed to 3693 destitute farmer families;
- 1000 MT of animal feed distributed to 2000 destitute herder families;
- 500 sheep distributed to 100 woman headed households.

4.2.1.2.3 OSRO/SYR/903/CHA**Budget:** USD \$1,400,000**Government Counterpart:** MAAR**Duration:** (2009-2010)**Impact**

The most destitute drought-affected farmers in the northeastern region of Syria are self-sufficient in terms of food supply and livelihoods in 2010

Outcome

11,000 of the rainfed-crops drought-affected farming population assisted in restoring their livelihoods activities in the upcoming agricultural season 2009/10.

Outputs

- 884 MT of barley seeds distributed to 5893 destitute farmers in the project area
- 742,600 MT of wheat seeds distributed to 3713 farmer families

4.2.1.3 TeleFood projects:

It is small-scale projects aims at improving the status for some households. They include:

- Project on Creating a Rural Beekeeping in the province of Al Qluneitra at cost of US\$ 9,3 thousand;
- Project on Construction of Breeding Unites for Laying Hens at the Rural Household Level in Jabal al-Hoss;
- Project on Plantation of Agricultural Mushrooms at the Rural Household Level in Jabal al-Hoss; and
- Projects on Creation of a Model for Raising Awasi Sheep in Hamma at cost of US\$ 19.4 thousand;

4.2.2 Cooperation Projects with the World Food Programme (WFP)

The World Food Programme is one of the United Nations food aid projects aiming at improving food security in developing countries. In cooperation with the State Planning Commission, the Ministry of Agriculture and Agrarian Reform, and others, the programme, since 1986 has been granting food rations for residents and schools in vulnerable areas concentrated mostly in the rural districts of Syria. Moreover, the programme in cooperation with the Directorate of Plant Production implemented a project on “Support Small Farmers and Owners of Small Herds in Marginal and Degraded Land” that is considered as one of the pilot projects during 2003-2008.

- The Project “Drought Emergency” started in 2008 and implemented by the World Food Programme and FAO in coordination with the General Commission of Al Badia, distributed food aid to people affected by drought in rural areas.

Project “Support Small Farmers and Owners of Small Herds in Marginal and Degraded Land”

It was implemented in isolated regions and communities having relatively high rates of poverty associated with food insecurity, poor infrastructure, and deteriorating natural resources. The project targeted poor farmers having less than 7 hectares of rainfed land and Al Badia sheep breeders who own less than 70 head and are in position below the poverty line with a monthly average income less than 50 dollars and with seriously high malnutrition rates.

- The project activities covered provinces of Rural Damascus, Aleppo, Homs, Hama, Deir Ezzor, Al-Hassakeh, Dara'a, and Sweida.

- The strategy of the project mainly focuses on protection of vulnerable households in cases of drought and crisis, in addition to support adult education, reduce gender disparity in education, and develop skills.

- The number of beneficiaries of the project reached 38,040 in many fields e.g. fruit trees farmers, sheep breeders, and fishery growers (in irrigation and drainage channels); in addition to attention given to rural women through ending illiteracy programmes, skills development, and training to establish income-generating projects, as well as training women working in nursing production centers.

- Until 2007, the project distributed 35 thousand tons of foodstuffs such as flour, lentils, canned fish, pasta, and vegetable oil.

It is worth mentioning that the World Food Programme, in coordination with donor states and organizations, has increased its support in the last two years for the poor in Syria, particularly of the desert areas and northeastern regions that heavily influenced by drought. The support is given through food aid to reduce the effects of severe drought hit Syria in recent years.

4.2.3 Projects and Activities with other International and Arab organization

4.2.3.1 Syrian Fund for Rural Development (Firdos)

Firdos was established in 2001 as a first non-governmental and non-profit organization concerned on rural affairs. In 2007, Firdos with other similar projects became under the umbrella of the Syria Trust for Development. STD includes in addition to Firdos projects Shabab, Massar, and Rawafed that is currently being formed and mainly concerned with culture and heritage.

Firdos activities cover 60 villages in six governorates. Credits granted by Firdos reached 3500 with a total value of 150 million S.P. devoting 50% of them to women, aiming to encourage women to initiate their own business to attain self-reliance and enhances their participation in local development committees.

Mainly, Firdos activities focus on rural development including health care, business support, training and rehabilitation, mobile library, mobile information center, dental clinic, and various social activities. Notably, the most important project applied is the Revolving Loan Fund established in Al-Gharrawi village in Al-Raqqa province, in cooperation with the International Fund for Agricultural Development IFAD and the MAAR.

4.2.3.2 *Project of Rural Community Development in Jabal Al-Hoss (2003-2007)*

The project works to establish an institutional system of national micro-finance to help combating poverty and achieving sustainable human development. The project succeeded in the establishment of 30 Development Fund in Jabal al-Hoss villages with a total amount of US\$ 50 million funded by the UNDP and Japanese Government, with a contribution of the local community by US\$ 13 million. The project implemented multi programmes for rural community rehabilitation and training in all fields, developing variety of economic activities, in addition to carrying out several social, economic, and environmental studies. Furthermore, the project focused on the effective participation of women in all its plans and programmes.

Overall objectives of the project

- Transforming rural development funds based on micro-finance system into financing institutions accessible by the poor, and achieving sustainability through a legally licensed civil association;
- Developing the mechanism of existing lending systems focusing on the need to maintain flexibility, ease, and speed up the process of evaluation for granting loans;
- Quality and quantity development of credit portfolio in line with enhancing awareness about credit and its economic feasibility;
- Developing rehabilitation and training programmes for the village community relevant to the actual needs of people;
- Enhancing the active participation of local community, especially women, in the development process giving them the leadership and enabling them to participate in decision-making;
- Developing information systems (internet, loans, archiving, and documentation) applied in the project and the creation of institutional linkages with other networks in the country.

4.2.3.3 *Major irrigation programmes funded by donors countries:*

A series of bilateral programmes funded by some donor countries have been implemented as follows:

A - Cooperation with Germany

Through the cooperation, advisory services and technical assistance are provided to the Ministry of Irrigation concerning the development of system for groundwater control in Aleppo basin, establishment of a water data bank, and training.

B - Cooperation with Nederland

It focuses on cooperation in the field of establishing climate observation stations, building a database, rehabilitation of the national staff, and development of Al Raqqa center.

C - Cooperation with Italy

Mainly focuses on the implementation of “Rationalization of Irrigation Systems” project in Ras al-Ain in Al Hassakeh governorate, in addition to signing a new Memorandum of Understanding between governments of Syria and Italy for technical and financial cooperation for the period (2008- 2010).

D - Cooperation with Spain

The Spanish company “Turksa” carried out an audited technical study for the technical stipulations of the project “Tadmor (Palmyra) Oasis and Orchards Irrigation and Rehabilitation”.

E - Cooperation with Japan

Through the establishment of Information Center for Water Resources, actions are being taken to:

- Collect and enter various historical and present data into the database including climatological data, surface and ground water, water quality, demographics, and agricultural data.

- Develop the database to meet all future needs in governorate centers.
- Create software application to facilitate data entry and analysis.
- Use the geographic information system (GIS) to produce effectively various maps.
- Publish data records on various hydrological aspects e.g. climate, groundwater, surface, and water quality.

4.2.3.4 Other projects not listed above implemented for the benefit of the Ministry of Agriculture

- Implementation of the Technical Assistance in Jabal al-Hoss/ IFAD;
- Water Harvesting at the Farm Level in the Southern Region/ FAO;
- Integrated Management of Watershed/ UNDP-IDRC;
- Collective Management of Mechanized Water Harvesting /Vallerani- SDS/ICARDA;
- Rehabilitation of Kalb AL Arkoub, Al Nabek /SDS-CWANA;
- Implementation of the Technical Assistance in Idleb /IFAD;
- Developing Effective Irrigation Techniques and Extension within three stages in Syria/ funded by JICA;
- Spanish Grant Project for Collective Irrigation in Abu Fulful- Tel Isha – Tel Atieh Aleppo/ funded by Spanish Agency for International Cooperation;
- Palmyra oasis and orchards Irrigation/ funded by the Spanish Agency for International Cooperation;
- Improve the Use of Treated Sewage Water in Safe Irrigation Conditions (Ghota Damascus, Tertiary Treatment) / funded by the Greek Organization of Water for People and Peace; and
- Establishment of treatment plants for sewage in various parts of the country with a total number 189 station.

4.3. Lessons Learned

There are a number of lessons that could be drawn from the above collaboration with partners in development as well as from the national experience gained in implementing these projects. Also, these lessons are based on the national experience accumulated through managing the Government own development programmes and projects. The lessons particularly relevant to the NPFS include:

1. Decentralization in Syria has devolved several responsibilities to the lower levels of government. Many of the food insecurity and poverty reduction programmes are and will be implemented at governorate, locality/county and community levels. The delivery system at decentralised level will thus need to be strengthened and this will require a greater emphasis towards capacity building.
2. Institutional capacities at central and local level are a crucial problem for a sustained food security and market-based risk management policies and measures that needs to be addressed.
3. Undertaking food security activities with a long term perspective under a fluctuating world market prices and financial market crises is possible and desirable. This entails a greater attention to: the policy context, capacity building activities, building on local knowledge and a more integrated and sustainable approach to agricultural production development and rural people's livelihoods.
4. More consistency is necessary between the overall policy context and food security responses and analyses. Food security should be addressed taking into consideration the major dimensions of availability, stability, access, and utilization, nutrition and food safety. Self sufficiency without paying due considerations to the sustainable and rational utilization of scarce natural resources should be avoided for crops without comparative advantage.
5. The policy environment should be inductive to use and scale up the successful findings of developmental projects. The agricultural subsidies system need to be reformed to achieve its

desired objectives. The agricultural subsidies system could be a powerful instrument in achieving efficient management of the scarce natural resources while attaining food production and stability targets if properly re-adjusted to target the small holders and poor segment of the society.

6. In drought context, such of north-east region in Syria during the 2007-2010 period, a flexible mix of long-term (structural) and short term (transient) measures is necessary to address the different dimensions of food security under different timeframes. This should be complemented by food security information systems that could provide reliable indications on the relevant mix of interventions, according to the evolution of the context both at general and local level.
7. Syria is endowed with rich natural resources that constitute the main livelihoods basis of the rural poor. Management of natural resources calls for coordination of a variety of approaches to improve management of forests, grass land, soils and water resources, including policy reforms and decentralization, improved regulatory capacity, and strategies to increase participation and empowerment of communities.
8. More emphasis is needed on small scale holders requirements. Innovations that take into account farmers' knowledge and circumstances need to be introduced to increase smallholders' productivity. In such a context simple water control and harvesting techniques proved to be very effective in increasing yields substantially compared to traditional agricultural practices even under rainfall as low as 200 mms, whilst new soil management technologies such as zero tillage contributed to a substantial increasing of yields in the major sorghum producing soils.
9. The international and regional development partners provided valuable assistance to the Syrian Government to achieve its development goals over the years. For instance, the International Fund For Agricultural Development IFAD, Arab Fund for Economic and Social Development, Kuwait Fund for Arab Economic Development, Japanese Agency for International Cooperation, German Cooperation, and particularly the Food and Agricultural Organization (FAO) which plays a vital role in supporting food security through its various projects, especially the Food Security Programme mentioned above and the current NPFS.
10. Coordination and oversight varied from one programme/project to another. In several cases, too many organizations seem to have over-lapping responsibilities for food security (access, safety and nutrition). Moreover some previous programmes had too many objectives, sub-programmes and activities for efficient implementation. Oversight and coordination was generally weak for some programmes, resulting in unplanned programme implementation and a lack of accountability. Also, the quality and reliability of food and agriculture data collection and analysis needs to be improved to facilitate monitoring and evaluation and demand forecasting.
11. The GoS is committed to support and sustain agreed upon projects financed by regional and/or international partners in development. There were several examples of programmes and projects that continued their contribution in a sustainable way after the financial withdrawal of the regional/international partners.
12. The dwindling water resource is arguably the key factor for boosting food production, as well as for human use. A twin-track water investment approach is needed for providing: (i) access to clean drinking water and sanitary latrines for all urban and rural households (ii) water harvesting and irrigation systems that are economically viable and environmentally sustainable, i.e. responsive to the economic and environmental realities faced by new crop producers, large and small, and the growing number of household gardens.
13. The previous experience with projects related to food safety management and control indicates that the future interventions should target:
 - Food Standards: there is a need to accelerate the review and updating process to bring in line with international standards

- Food production and processing: begin the step by step process to introduce: (i) GAPs (Good Agricultural Practices) at primary producer level, (ii) GMPs (Good Manufacturing Practices) at processing and distribution level, (iii) GHPs (Good Hygienic Practices) throughout the food chain, (iv) then to move on to introducing HACCP (Hazard Analysis Critical Control Point) safety management systems.
- Food inspection and certification: there is a need to focus more on: (i) covering the entire farm (or first entry point for imports) to consumer food chain, not just finished products, (ii) rationalizing food inspection and certification systems, (iii) upgrading laboratories to cover primary food control and safety hazards along entire food chain, (iv) building human capacity and improve food control coordination and management.

14. Nutrition and public health: intervention should now target: Improvements required:

- (i) to improve year-round availability of staple foods in rural areas,
- (ii) to improve awareness and knowledge about the importance of healthy diets for children and breast milk for infants until 6 months old,
- (iii) to deal with under-nutrition and micro-nutrient deficiency by further improving dietary intake of children and other vulnerable groups and
- (iv) reducing transmission of non-communicable food borne diseases.

15. Food stability: there have been many improvements, but much more is needed related to intensifying activities, including:

- Streamline the coordination of drought mitigation efforts in northeast region.
- Improving the ability of poorer urban families and other vulnerable groups to cope with higher food prices
- Considering more innovative food access schemes for vulnerable groups, e.g. food for education, conditional direct income payments based on participation in medical programmes tailored to local situation.
- Improve targeting of the existing agricultural subsidies system.

V. National Programme for Food Security: Objectives and Strategic Framework

5.1 Rational

Based on the above assessment of the food security situation, the current policy and institutional framework as well as the ongoing programmes and projects to face one or more challenges of the food security, there seem to be yet a great need for a coherent, time and cost bounded programme for food security in Syria.

Based on the above analysis in previous chapters, there are major areas with respect to food security interventions that can be identified as gaps requiring specific attention in the NPFS. These key areas that are relevant to food security and have received only limited investments or attention so far include:

- a. The development of a coherent strategic framework for sustainable agricultural and rural development taking into consideration natural resources and water aspects that could constitute the policy environment needed for the implementation of the NPFS.
- b. The wider adoption of modern irrigation system to contribute to sustainable development in agriculture.
- c. The development of food safety including standards and prevention of transboundary diseases.
- d. The development of market oriented risk management measures to contribute to food stability.
- e. The development and enhancement of women empowerment.
- f. The development of technological packages appropriate to smallholder to enhance productivity and diversify on and off-farm income.
- g. The limited statistics on poverty and food insecurity.
- h. The promotion of appropriate policies and research initiatives to tackle the long term effects of climate change that seems to affect food availability and stability.
- i. The enhancement of technical and institutional capacities that have become even more pressing under the current decentralized and social market economy framework.

The envisaged NPFS need to capture all the above elements and build on the existing efforts by national institutes to provide a comprehensive package for tackling the multi-dimensions of food security in Syria.

The national strategies and five-year plans highlighted the priority of achieving food security. Until the mid-eighties of the last century emphases has been made on realizing food self-sufficiency and generating production surplus for export. Later on, however, food security concept with all its aspects has developed, and food security became a major objective for the subsequent Syrian Governments.

Since food security is a major objective for the Syrian Government, it is essential that all parties and sectors take part in achieving this objective by the provision of sufficient and safe food in a sustainable manner. Concerning food provision (the supply side), the agriculture sector is responsible for food supply. However, this sector is facing many challenges such as agricultural policies, over exploitation of natural resources, environmental conditions, and insufficient financial resources for investment in addition to other challenges that are associated with the changing social environment. However, on the demand side,

food accessibility can be realized by improving the standard of living for poor households and empowering vulnerable households. Agriculture can in this aspect, play a dominant role in providing job opportunities especially in poor regions (where agricultural sector employ one fifth of the labor force in Syria).

All relevant Ministries have contributed to achieving food security. In fact, many other

The Ministry of Agriculture and Agrarian Reform intensified its efforts with the objective of increasing productivity, stability and access, while the Ministry of Irrigation endeavored to increase irrigated areas by establishing large and medium irrigation schemes and enhance efficiency of water resources management. Ministries of Local Administration, Electricity, Housing, and Health worked on promoting infrastructure to facilitate achieving food security. Ministry of Social Affairs and Labor plays important role in achieving food security through enhancing food access, employment opportunities and reduce poverty. Several parties play an active role on health and safety considerations. For example, some controlling authorities are responsible for food safety, while other ministries such as ministries of, economy and trade, local administration, health, and ministry of agriculture are responsible for general safety and individuals' safety. In addition to other functions, the Ministry of Economy and Trade manages the strategic stocks for major food items to ensure food stability in the market. As a result, the programme will pursue adopting a double approach (supply and demand). On supply side, the programme will exert efforts on enhancing agricultural production quantitatively and qualitatively by introducing appropriate techniques that exploit natural resources in most efficient way, and expand vertically (increasing productivity) and horizontally by increasing grown areas. The programme will also promote demand side by enhancing market stability, promote income diversification and facilitating the role of social safety nets for small producers and people incapable of working.

The added value of the NPFS is that the previous National Plans and Strategic Framework did not address priority food security issues and dimensions within a coordinated and actionable investment framework. The NPFS is intended to provide a strategic programme framework with a set of prioritized actions, implementation modalities and indicative investment costs that will be funded by the government, private sector and donors/International Financial Institutions (IFIs).

Consequently, efforts from different parties need to be concerted, combined under one umbrella and linked to one body whose ultimate objective is achieving food security. A comprehensive programme has been formulated in order to concert efforts and place them under one authority that would monitor the implementation and make adjustment when necessary, and tackles obstacles that face the programme by communicating with leadership in the country.

5.2 Overall Impact and Outcome

The NPFS is a comprehensive programme targeting the entire food insecure population. It proposes actions oriented towards developing a broader based approach to food security, targeting directly poor people, small farmers, the most vulnerable groups and the food insecure. It puts in place activities to enhance productivity, diversify livelihoods and build the capacities of food insecure people to achieve sustainable food security, while simultaneously assisting those in immediate need, through safety net programmes

The NPFS in Syria is contributing to the overall impact of achieving “*sustainable agricultural and rural development and reducing poverty*”. The overall expected outcome of the NPFS is “*to achieve and enhance food security in Syria*”. This outcome will be achieved through realizing the following specific objectives.

5.3 Specific Objectives

The specific objectives of the programme are:

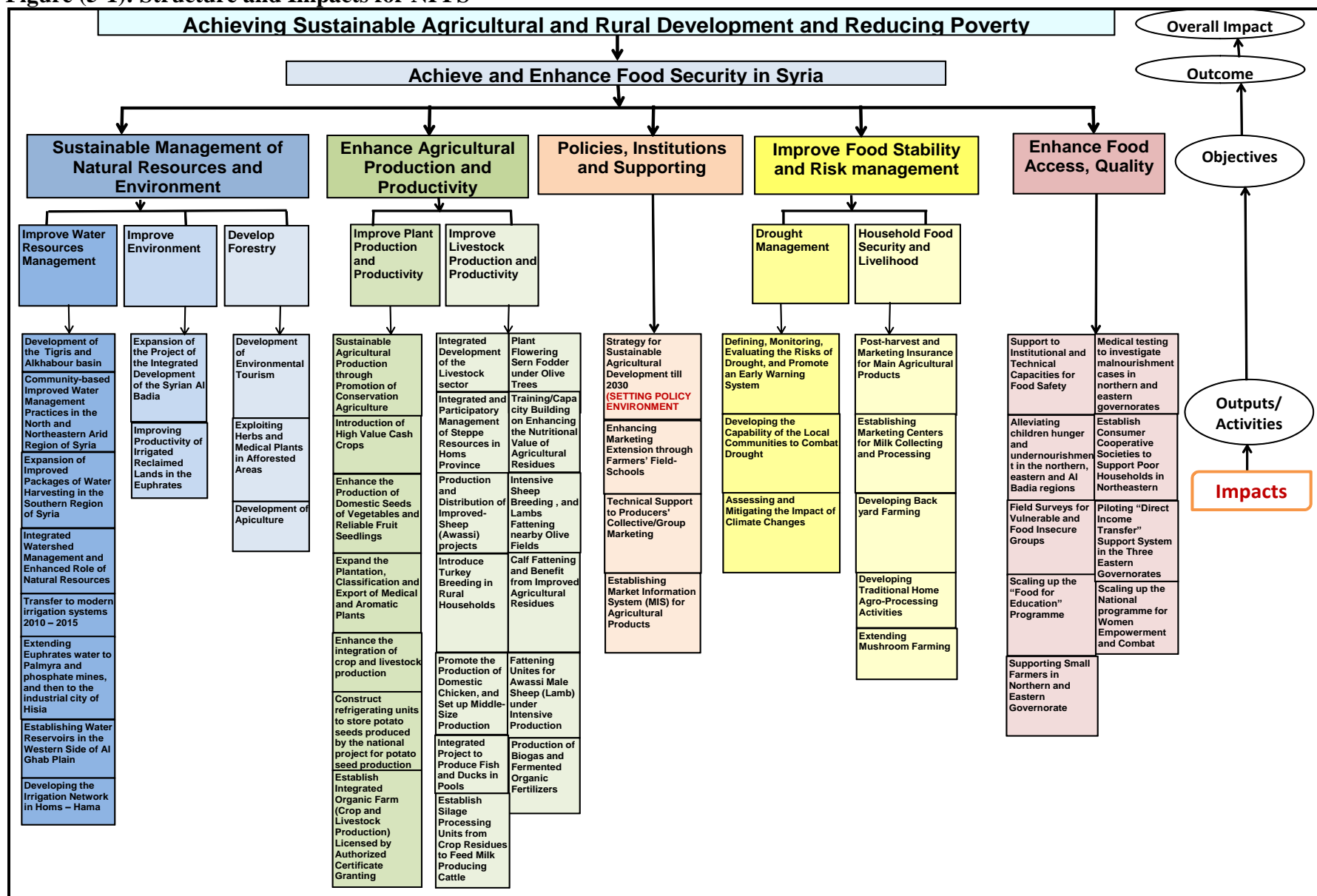
1. Improve the sustainable management of natural resources ;
2. Enhance agricultural production and productivity;
3. Promote agricultural policies, institutional capacities and supporting services;
4. Enhance food stability and risk management capabilities; and
5. Improve food access, quality and safety.

Accordingly, the coherent NPFS includes 5 major outputs/components/pillars to achieve the objectives stated above. The five outputs will be achieved/implemented through 54 specific, well defined and complementary priority projects that were selected based on specific criterion. The NPFS major outputs/components/pillars and projects are:

- 1) Sustainable management of natural resources and environment:
 - 1-1 Water Management (8 projects)
 - 1-2 Environment (2 projects)
 - 1-3 Forestry Development. (3 projects)
- 2) Agricultural production and productivity
 - 2-1 Plant Production (7 projects)
 - 2-2 Livestock Production (13 projects)
- 3) Policies, Institutions and Supporting Services. (4 projects)
- 4) Food Stability and Risk management
 - 4-1 Drought Management (3 projects)
 - 4-2 Household Food Security and Livelihood (5 projects)
- 5) Food Access, Quality and Safety (9 projects)

Figure 5-1, depicts the NPFS structure and direction of impacts. Details of these projects are presented in the next Chapter.

Figure (5-1): Structure and Impacts for NPFS



5.4 Beneficiaries

The NPFS targets the food insecure population in Syria with special emphasis on the poor people, small farmers and other most vulnerable groups.

The total number of beneficiaries for the NPFS reaches about 2.24 million households. There are overlapping in the estimated numbers since several projects are implemented in the same geographical area for complementary and integrated effects. However, the number of beneficiaries households for specific cross-cutting projects could not be specified and was not included. For example, projects such as the establishment of the Market Information System (project 6.3.4), the post-harvest insurance (project 6.4.2.1), the food safety related project (project 6.5.1) and the preparation of the strategy for sustainable agricultural development till 2030 (project 6.3.1) will benefit millions of economic agencies in the agriculture and rural sectors but the number of beneficiaries could not be specified due to the nature of the projects and their wide-spread impact. Accordingly, the estimated number of approximately 2.24 million households could be considered as an acceptable floor estimate for beneficiaries for the NPFS in Syria.

5.5 Link to other Major Food Security related Initiatives

Close considerations were given to related initiatives in Syria while formulating the NPFS. All attempts were made to link the NPFS to the on-going initiatives to ensure complementarity. The NPFS has been linked to the global MDGs and the WFS goals. Reducing poverty and food insecurity constitute the overall envisaged impact of the programme and reducing the number of poor and insecure population is among the principle performance indicator for monitoring the implementation of the programme. The on-going efforts with the World Bank, FAO and other partners in development concerning the assessment of the climate change at the national and regional levels were closely considered in formulating the projects aiming at improving the sustainable management of the scarce natural resources as well as in proposing the safety net and support projects to enhance the livelihood of the poor and the vulnerable groups including those affected by climate change. Also, the NPFS benefited from the existing efforts of the one UN system and the UNDAF. Several projects are proposed to scale-up the successful experiences gained from projects implemented earlier at a pilot phase by UN partners and other agencies. The NPFS also benefited from on-going experiences related to supporting the vulnerable groups with special reference to children and women. Several projects were identified improving the livelihood and nutritional status for these vulnerable groups and for women empowerment.

Finally, the strategic orientation of the GoS in adopting the principles of the social market economy and gradual reform was among the guiding principles governing the formulation of the NPFS. The priority given by the GoS for improving the management of natural resources with special consideration to water, land, forests and environment was also closely considered. Above all, the attention given by the political leadership of the country to agricultural development and supporting the small farmers and poor segment of the society necessitated linking the NPFS to the improving the ongoing social and economic array of social safety nets provided to poor and vulnerable groups in rural and urban areas. Accordingly, the NPFS is consistent with the guidance provided by the directives of the 10th FYNP (2006-2010) and the 11th FYNP (2011-2015).

5.6 Cost Estimates for the NPFS

The approximate cost of the NPFS is about US\$ 4.07 billion, table 5-1. The coherent programme will cover most of geographical areas of Syria, and takes into account the sustainable management of natural and economic resources. The management unit and the involved organizations will set a definite applicable timetable for programme implementation. The allocated budget for monitoring and evaluation for the programme represented about 2% of total cost for the components and reached about US\$ 80 million. The established unit within the State Planning Commission (SPC) to manage the implementation of the NPFS may provide in kind contribution to cover the bulk of the needed funds for the M&E.

The GoS is collaborating with the Kuwait Fund for Arab Economic Development (KFAED) and the Arab Fund for Economic and Social Development (AFESD) and Kuwait Fund for Arab Economic Development (KFAED) to fund the rehabilitation and development of the Tigris and Alkhabour basin area (project 6.1.1.1) which may cost about US\$ 2.173 billion. The project has a clear developmental and food security implication and will serve small holders, contribute to conserving the environment, and to food security. In addition, the funds of US\$1.086 billion needed for the transformation from the traditional irrigation practices to modern irrigation systems during the period 2010-2015 (project 6.1.1.5) are allocated through the Modern Irrigation Transfer Fund (MITF). Accordingly, nearly US\$ 3.26 billion or about 80% of the NPFS estimated budget is committed by the Government. The foreign currency component needed to implement the NPFS represents only 6% while the local currency component represents about 94% of the total estimated budget of the programme. About 58% of the total cost of the NPFS will be disbursed during the 11th FYNP (2011-2015), while 42% will be spent during the 12th FYNP (2016-2020). The GoS has agreed to include the NPFS within the 11th FYNP. This is an indication of the Government commitment to support the implementation of the NPFS and to seek the needed funding. Given the above mentioned government commitment to the suggested water related projects, the remaining required funds reaches about US\$ 369 million for the whole programme consisting of US\$ 291 million for the period 2011-2015, and about US\$ 78 million is needed during the 2016-2020. The suggested contribution of the GoS in the implementation of all projects averaged about 25% of total cost. Accordingly, the required funding by partners in development to implement the coherent NPFS reaches about US\$ 277 million consisting of US\$ 218 million during the period 2011-2015 and about US\$ 59 million during the period 2016-2020. The support needed from partners in development represents less than 7% from the total cost of the programme. The Government seeks the support of FAO and other partners in development to identify potential funding for the remaining elements of the coherent NPFS.

Based on the above estimates for the potential number of beneficiaries, the average cost/investment within the NPFS is about US\$ 1815 per household.

Table (5-1): Total Estimated Cost of the National Program for Food Security

Component	Foreign Component	Local Component	Total Cost 000 US\$
	US\$ 1000	1000 S.P.	
1. Improving Sustainable Management of Natural Resources and Environment	20,831	170,015,917	3,716,830
<i>1.1 Water Management</i>	7,579	170,015,917	3,703,578
<i>1.2 Environment</i>	13,000	0	13,000
<i>1.3 Forestry Development</i>	252	0	252
2. Enhancing Agricultural Production and Productivity	75,444	2,138,180	121,926
<i>2.1 Crop Production</i>	5,583	295,000	11,996
<i>2.2 Livestock Production</i>	69,861	1,843,180	109,930
3. Promoting Policies, Institutional and Supporting Services	300	39,300	1,154
4. Food Stability and Risk Management	63,473	5,000	63,582
<i>4.1 Drought Management</i>	17,000	0	17,000
<i>4.2 Household Food Security and Livelihood</i>	46,473	5,000	46,582
5. Food Access, Quality and Safety	85,883	22,672	86,376
Total Cost of Components	245,931	172,221,069	3,989,868
Monitoring and Evaluation Cost (2%)	4,919	3,444,421	79,797
Total Cost of National Program for Food Security	250,850	175,665,490	4,069,665

VI. Programme Components

Specific sub-components and projects were identified to achieve the objectives of the NPFS. The projects constituting the programme elements were selected among a wider set of projects and actions through the methodology stated earlier (Chapter 1). The selected projects to achieve the objectives of the NPFS represent priority investment and technical proposals. The following criterion were used in selecting the priority projects of the NPFS:

1. Multiple Effect on Identified Objectives and Expected Outputs
2. Clarity of Institutional Responsibility
3. Human Absorption Capacities
4. Sequencing Pre-requisites for other projects (satisfying pre-conditions for other projects)
5. Continuation of on-going programmes/projects
6. Availability of Funds

The selected priority projects contribute to achieving the specific objectives of the NPFS. Although each project has its own objectives, expected output, activities, and implementing responsible unit/agent, these projects are complementary and add to the achievement of the expected outcome of the NPFS. The selected priority projects are characterized by diversification in nature and timing, i.e. some projects require long implementation period, while others require only a short time. In order to ease implementation and monitoring of the project, they were classified into five main components as the following:

1. Improving Sustainable Management of Natural Resources and Environment

- 1-1 Water Management
- 1-2 Environment
- 1-3 Forestry Development

2. Enhancing Agricultural Production and Productivity

- 2-1 Crop Production
- 2-2 Livestock Production

3. Promoting Policies, Institutional and Supporting Services

4. Food Stability and Risk Management

- 4-1 Drought Management
- 4-2 Household Food Security and Livelihood

5. Food Access, Quality and Safety

Table, 6-1 shows the expected implementation cost and disbursement during the period 2011-2020, and the expected number of beneficiaries for each component. To ensure integrated effect and impact, most of the projects will be initiated and implemented during the 2011-2015. The current human and institutional capacities within the agriculture sector in Syria seem to be capable of shouldering this responsibility, as the NPFS is already considered and approved for the 11th FYNP (2011-2015).

The following is a summary presentation of the priority projects of the NPFS³.

³ More details on each project are available with the National Formulation Team. More detailed project documents will be provided, upon requested.

Table 6-1: Distribution of Total Cost of the NPFS and Number of Beneficiaries

Component	Cost US\$ 000			Beneficiaries (Households)
	Total Cost	11th FYNP (2011-2015)	12th FYNP (2016-2020)	
1. Improving Sustainable Management of Natural Resources and Environment	3,716,830	2,161,327	1,555,503	823,026.00
1.1 Water Management	3,703,578	2,148,075.24	1,555,503	717981
1.2 Environment	13,000	13,000	0	105,000
1.3 Forestry Development	252	252	0	135
2. Enhancing Agricultural Production and Productivity	121,926	70,717	51,209	516,680
2.1 Crop Production	11,996	6,958	5,038	131,950
2.2 Livestock Production	109,930	63,759	46,171	384,730
3. Promoting Policies, Institutional and Supporting Services	1,154	1,154	0	6,500
4. Food Stability and Risk Management	63,577	63,582	0	366,567
4.1 Drought Management	17,000	17,000	0	204,317
4.2 Household Food Security and Livelihood	46,577	46,582	0	162,250
5. Food Access, Quality and Safety	86,376	86,376	0	526,250
Total Cost of Components	3,989,863	2,383,156	1,606,712	
Monitoring and Evaluation Cost (2%)	79,797	47,663	32,134	
Total Cost of NPFS	4,069,660	2,430,820	1,638,846	2,239,113
% of Cost Disbursement between FYNPs	100	58%	42%	

6.1 Improving Sustainable Management of Natural Resources and Environment

The objective of this pillar is to increase the efficiency and productivity of land and water utilization.

There are several elements and projects proposed to implement this pillar. Based on priority criterion related to prerequisites, impacts on achieving more than one of the strategic objectives, implementation capacities and possible availability of funds, thirteen major projects were selected as priorities for this pillar under the following three sub-components. In addition to the selected projects there are several relevant projects that may be considered at a later stage. These additional projects include: (1) Project on the expansion of collective management of water harvest for the small water flows, and establish a mechanism to combat desertification (valirani); (2) Optimal management of water resources in different regions in Syria like Al Badia (water harvest), and irrigated regions (adopting modern techniques); (3) Use unconventional water sources for irrigation such as (agriculture drainage, sewage water) on the farm level; (4) Establish water desalination units on drinking water wells; (5) Continue establishing swage water treatment units all over Syria, and complete the establishment of the planned 189 units including: 23 units under construction, 35 under contraction, 31 under tender renovation, and 80 units are being studies; (6) About 38 units in Damascus countryside will be implemented with a treatment capacity amount 289,000 m³/day, where the treated water will be used for irrigation.

Historically, the agriculture in the Khabour area was based on irrigated farming and the majority were small farmers with about 2-3 hectares. Due to un-rational over utilization of water resources, the whole area has been shifted from irrigated agriculture to semi-rainfed system. This has affected the income of small farmers and resulted in several economic and social problems. The suggested project aims at rehabilitating the area, enhancing the sustainable agricultural development, and supporting small farmers and poor households. Due to its direct implication for the food security situation in these region, this project although has a component for infrastructure was retained as a priority project contributing to the goals of food security and poverty alleviation.

The importance of environmental considerations in natural resources management in Syria is reflected through the two selected priority projects. Three priority projects related to forest development and reflecting the concept of multi-sectoral linkage and integrated development. Some of the priority projects combined environmental consideration with maintenance of forest and promoting tourism.

The selected priority projects to achieve the objectives of this pillar/component are:

6.1.1 Water Management

6.1.1.1 Development of the Tigris and Alkhabour basin areas

Title	<i>Development of the Tigris and Alkhabour basin areas</i>		
Location	Alhassakeh Governorate		
Implementing Period	50% 11 th FYNP (2011-2015); 50% 12 th FYNP (2016-2020)		
Duration	10 years		
Justification	<p>The basin of Tigris and Alkhabour are among the highest water depleting basins, especially for underground water. Water over-exploitation of this basin mainly from underground water is inevitable, as the river is the only water resource available to secure domestic water. Most fertile areas in the upper-Jazeera are in a pressing need for irrigation projects.</p> <p>The current water situation in Al Hassakeh has negatively affected state and private agricultural projects especially those depending on Al Khabour River and its tributaries. Water shortage, zero flow of the river, and the increasing annual water deficit amounting to 2 billion m³, brought an end to the implementation of government irrigation projects. This rehabilitation project is developmental and directly affect food security in the country. The average holding for farmers supported by the project is about 2-3 hectares.</p>		
Objective	<ul style="list-style-type: none"> - Exploit some quantities of Syria's quota of Tigris water. - Provide drinking water for cities and villages nearby the project. - Supply additional water to Aljaghjah River to reduce its contamination rate. - Provide irrigation for extra areas of 154000 ha in the governorate. - Secure considerable share of Syria's food security requirement. - Reduce current overexploitation of underground water for the purpose of irrigation. 		
Expected Outputs	<ul style="list-style-type: none"> - Exploiting Syria's quota of Tigris River; - Increasing irrigated areas and enhancing economic and social development and re-settling. - Inducing industrial and agricultural activities 		
Activities	Currently, the period of implementation and the location of pumping station in Ain Diwar are being studied. During 2010 the following will be carried out: the establishment of the main pumping station, tap, and pushing lines will be carried out.		
Main Beneficiaries	About 40,000 households around the project area		
Implementing Agencies	<p>Government/ Kuwait Fund for Arab Economic Development and other donors.</p> <p>The project may be funded partly by the Kuwait Fund for Arab Economic and Social Development, based in Kuwait. The Kuwait Fund already provided a technical fund of 300,000 Kuwaiti Dinar to fund consulting services required to prepare a feasibility study. Other parties may also fund the project.</p>		
Budget US\$/million	Government	25%	
	Donors and NGOS	75%	
	Total	2,173.913	

6.1.1.2 Community-based improved water management practices in the north and northeastern arid region

Title	<i>Community-based improved water management practices in the north and northeastern arid region</i>		
Location	AlHasakeh, Deir Ezzor and AlRaqqa provinces		
Implementing Period	11 th FYNP (2011-2015)		
Duration	4 years		
Justification	<p>More than half of the Syrian land area extending from arid to semi-arid climatic zones, is susceptible to periodic droughts spanning over 2-3 years. Large agro-climatic zones (III, IV and V) are becoming ecologically sensitive and vulnerable to water deficit and desertification; and degradation covers over 55 % of their land area especially in lieu of limited efforts for sustainable management. The hardest hit area is the steppe land in the north and northeastern regions including AlHasakeh, Deir Ezzor and AlRaqqa provinces. They are the main producer of irrigated and rain-fed cereals in the country (60 %) plus significant number of livestock. The region is experiencing lower yields and loss of animals due to droughts and desertification and decline in groundwater levels. Crop and rangeland productivity are declining and hence food insecurity and wide spread poverty in the agro-pastoralist areas became wide spread. These constraints have serious social and economic implications, such as struggle over the shrinkage resources, migration, drop-out from schools, and dependence on food assistance from government and NGOs.</p>		
Objective	<p>The overall goal is to increase and sustaining the agricultural production and improving livelihood of rural population, and environmental protection for reducing vulnerability to drought in the north and northeast regions. An attempt will be made to benefit from the positive results achieved under the previous SPFS and scale up the results into the agro-pastoralist rain-fed area in the north and northeastern regions.</p>		
Expected Outputs	<p>The main outcome of the project will be community-based improved technological packages of water control and efficient use, natural resources conservation and crop management, related benefits of increased crop and animal yields, improved rangeland productivity, water and soil conservation as well as strengthened technical skills and capacity for extension agents and the community of agro-pastoralists</p>		
Activities	<p>The pilot project will have a strong emphasis on training of staff at district, provincial, national levels and abroad; and community intensive on-field training for operation and maintenance, monitoring and participation in decision-making. There will also be training of women's groups in alternative crop diversification income generating activities.</p>		
Main Beneficiaries	About 100.000 households around the project area		
Implementing Agencies	Ministry of Agriculture and Agrarian Reform (MAAR), Al Badia Development and Administration General Authority (BDGA)		
Budget US\$/million	Government	25%	
	Donors and NGOS	75%	
	Total	2.5	

6.1.1.3 Expansion of improved packages of water harvesting in the southern region

Title	<i>Expansion of improved packages of water harvesting in the southern region</i>		
Location	Southern region		
Implementing Period	11 th FYNP (2011-2015)		
Duration	3 years		
Justification	A water harvesting pilot project, funded under FAO Technical Cooperation Programme, has been implemented in the southern region of Syria during the period September 2007 to August 2009. The region is under arid to semi-arid conditions and relies largely on rain-fed agriculture. Significant crop yield and soil and water conservation improvement have been achieved under the pilot project. Owing to the topographic nature and soil conditions of the southern region, the on-farm micro-catchments water harvesting technique was found appropriate and participants are fully responsive to adoption of the technology. The project will benefit from the positive results obtains under the previous SPFS into rain-fed areas, through expansion of a pilot phase of water harvesting for increasing and sustaining the agricultural production and resources conservation.		
Objective	The project focuses on adapted packages and enhancement of water harvesting technologies, especially these related to cereals production, by harnessing of scarce surface water resources with which the arid and semi-arid regions are endowed.		
Expected Outputs	<ul style="list-style-type: none"> - Adoption of micro-catchment water harvesting techniques which suit the physical and climatic conditions in the southern region and integrated with crop diversification and plant intensification pattern; - Simultaneous demonstration of benefits and promotion of adapted technological production packages for large-scale application to interested farmers. 		
Activities	<ul style="list-style-type: none"> - Management and implementation of the project activities based on partnership between the existing agricultural institutions, FAO and the beneficiaries; - Scaling up the introduction of the on-farm micro-catchments water harvesting technique - Dissemination of simple, low cost, appropriate and accessible technologies; backed-up by community-based extension services, WUGs and participation of beneficiaries; and - Building the capacity of partisans 		
Main Beneficiaries	2520 households around the project area		
Implementing Agencies	MAAR, Southern Region Agricultural Development Project		
Budget US\$/million	Government	25%	
	Donors and NGOS	75%	
	Private sector/civil society		
	Total	1.4	

6.1.1.4 *Integrated watershed management and enhanced role of natural resources in food security in Coastal Area*

Title	<i>Integrated watershed management and enhanced role of natural resources in food security in Coastal Area</i>		
Location	Coastal Area of Syria		
Implementing Period	11 th FYNP (2011-2015)		
Duration	3 years		
Justification	The coastal basin is the entire geographical area drained by the coastal rivers and their tributaries. A watershed, with its drainage patterns and different soil land types, is therefore the most natural unit for planning and managing agriculture, forestry and land use. If the upland portion is being damaged by a wildfire and following soil degradation, the stability and productivity of the lowlands may be disrupted as well. Moreover, mal management or maintenance of watersheds will lead to the disturbance of their environmental and hydrological functions. Thus, leading to severe water erosion and frequent floods with negative effect on food security.		
Objective	<ul style="list-style-type: none"> - Assist the Government of Syria to improve watershed and forest management - Enhance food security for rural population in Lattakia - Protect the natural resources base and environment in mountains and lowland Areas of Lattakia 		
Expected Outputs	Best practice in strategic planning for mountains and watershed regions proper management that provide for sustained land and natural resources development and conservation.		
Activities	<ul style="list-style-type: none"> - Small scale afforestation projects and develop community based eco-tourism activities; - Develop appropriate forest and watershed management; - Develop water harvesting schemes through the construction of small dams and terraces in hilly and mountains areas; - Introduction of appropriate soil ploughing practices in the terrace farming. - Develop forest-related income generating interventions;; - Improve terrace farming, including water and soil management, crops intensification and diversification; - Introduce non-traditional cash crops with higher economic returns in lowlands; - Develop fish breeding in small dams and water reservoirs. - Reorganize farming communities to facilitate their sustainable development. - Expand IPM and organic agriculture in both mountains and lowlands; - Promotion of public awareness on environmental topics and intensify community involvement in the whole programme. 		
Main Beneficiaries	5461 households around the project area		
Implementing Agencies	MAAR		
Budget US\$/million	Government	23%	
	Donors and NGOS	77%	
	Total	3.039	

6.1.1.5 Transfer to modern irrigation systems 2010 – 2015

Title	<i>Transfer to modern irrigation systems 2010 – 2015</i>		
Location	All Syrian Governorates		
Implementing Period	70% 11 th FYNP (2011-2015); 30% 12 th FYNP (2016-2020)		
Duration	6 years		
Justification	<p>The major challenge facing the agriculture sector in Syria is the increasing over utilization and inefficient use of the scarce water resources. Rationalization of the scarce water resources utilization is a major priority for the GoS. The farmers are encouraged to enhance the efficiency of water utilization at the farm level through the adoption of modern irrigation systems. The GoS has established a Modern Irrigation Transfer Fund (Decision No. 91 dated 29/9/2005) to achieve this objective during the period 2006-2015. The implementation of the plan was delayed due to technical reasons, and the GoS has already taken several actions to expedite the process. It was established that drip irrigation could save up to 55% of the crop irrigation requirements and sprinkling irrigation up to 35 %. The overall objective is to maintain a total area of 1.2 million hectares of irrigated agriculture, notwithstanding the reduction in total water availability. Given that this endeavor will have a great impact on water utilization, sustainable agricultural and rural development, productivity and diversification of farming activities, the GoS has decided to include this project within the NPFS.</p>		
Objective	<p>Continue the transfer from conventional/traditional irrigation practices applied in about 1200 thousand ha, to modern irrigation systems during the remaining period of the project duration.</p> <p>Renovate government irrigation networks and convert it to pressurized system with a pressure not less than 3 bars, during 5 years to enable these networks to work using modern water saving techniques.</p>		
Expected Outputs	Converting about 1200 thousand ha to irrigation techniques		
Activities	Gradual introduction of the modern systems through incentives and strict follow up including results-based M & E.		
Main Beneficiaries	450,000 households in Irrigated area		
Implementing Agencies	MAAR, Ministry of irrigation, and Ministry of Finance		
Budget US\$/million	Government	25%	
	Donors and NGOS	75%	
	Private sector/civil society		
	Total	1086.957	

6.1.1.6 Extending Euphrates water to Palmyra and phosphate mines, and then to the industrial city of Hisia

Title	<i>Extending Euphrates water to Palmyra and phosphate mines, and then to the industrial city of Hisia</i>		
Location	Euphrates river – Palmyra – phosphate mines – Hisia		
Implementing Period	50% 11 th FYNP (2011-2015) and 50% 12 th FYNP (2016-2020)		
Duration	6 years		
Justification	Securing water needs to the region extending from Deir Ezzor to Palmyra, including the needs of phosphate fertilizer factory and the industrial city of Hisia.		
Objective	Supply water to the residents in the area, oil refinery, phosphate washing factory, in addition to, tourist facilities, and drinking water for cattle.		
Expected Outputs	<ul style="list-style-type: none"> - Increase agricultural production and productivity for small farmers - Increase income and reduce poverty - Stability of Agricultural production enhanced 		
Activities	Prepare needed project document and carry out technical and economic studies based on the Memorandum of Understanding signed with the Arab Fund for Economic and Social Development (AFESD).		
Main Beneficiaries	60,000 households in communities situated in the region between Deir Ezzor, Palmyra, and ministries involved in eastern area development.		
Implementing Agencies	Ministry of Irrigation (MoI)		
Budget US\$/million	Government	25%	Funding for the project may be requested from the Arab Fund or any other funding organization.
	Donors and NGOS	75%	
	Private sector/civil society		
	Total	434.783	

6.1.1.7 Establishing water reservoirs in the western side of Al Ghab plain

Title	<i>Establishing water reservoirs on the western side of Al Ghab plain</i>		
Location	Al Ghab plain in Hama Governorate		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1 year		
Justification	Storing rainwater in reservoirs and using it in irrigating summer crops. On the other hand, other dams may benefit from these reservoirs such		
Objective	To store water that goes uselessly through Qarfo gates in winter.		
Expected Outputs	Exploiting rainwater in summer for irrigation.		
Activities	Conduct a comprehensive assessment for establishing water reservoirs in western side of Al Ghab plain		
Main Beneficiaries	About 30,000 households		
Implementing Agencies	Ministry of irrigation		
Budget US\$/million	Government	25%	the cost of the implementation is not yet defined
	Donors and NGOS	75%	
	Private sector/civil society		
	Total	515	

6.1.1.8 Developing the irrigation network in Homs – Hama

Title	<i>Developing the irrigation network in Homs – Hama</i>		
Location	Homs governorate – Hama Governorate		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1 year		
Justification	<ul style="list-style-type: none"> - Shortage in water resources - massive loses in the irrigation network - Using out-of-date irrigation techniques in the field . 		
Objective	Develop the out-dated irrigation network in Homs – Hama by introducing modern irrigation techniques on the field level, in addition to transforming disclosed irrigation networks to pressed tubes to reduce water wastage		
Expected Outputs	<ul style="list-style-type: none"> - Developing irrigation network - Reducing water wastage in the network - Reducing water wastage in general 		
Activities	Conducting a comprehensive assessment for the development of Homs-Hama irrigation network		
Main Beneficiaries	About 30,000 farmers in the project area		
Implementing Agencies	Ministry of irrigation		
Budget US\$/million	Government	25%	
	Donors and NGOS	75%	
	Private sector/civil society		
	Total	593	the cost of the implementation is not yet defined

Table (6-2): Projects of the Water Management

Project Title	Cost			Financing Sources (%)			Implementation Period (year)	Potential Source of Funding
	Foreign Component 1000 USD	Local Component 1000 SP	Total cost in 000 US\$	Government	Foreign	Private		
1.1.1. Development of the Tigris and Alkhabour Basin Areas		100,000,000	2,173,913	25%	75%		10	Kuwait Fund for Arabic Economic Development and other donors
1.1.2. Community-based Improved Water Management Practices in the North and Northeastern Arid Region	2,375		2,375	25%	75%		4	To be identified with the support of FAO
1.1.3. Expansion of Improved Packages of Water Harvesting in the Southern Region	1,403		1,403	25%	75%		3	To be identified with the support of FAO
1.1.4. Integrated Watershed Management and Enhanced Role of Natural Resources in Food Security in Coastal Area	3,039		3,039	23%	77%		3	To be identified with the support of FAO
1.1.5. Transfer to Modern Irrigation Systems 2010 – 2015		50,000,000	1,086,957	25%	75%		6	To be identified with the support of FAO
1.1.6. Extending Euphrates Water to Palmyra, and Phosphate Mines, and then to the Industrial City of Hisia		20,000,000	434,783	25%	75%		6	Arab Fund For Economic And Social Development and other donors
1.1.7. Establishing Water Reservoirs in the Western Side of ALGhab Plain	515		515	25%	75%		1	To be identified with the support of FAO
1.1.8. Developing the Irrigation Network in Homs – Hama	247	15,917	593	25%	75%		1	to be identified with the support of FAO
All Water Projects	7,579	170,015,917	3,703,578					

6.1.2 Environment

6.1.2.1 Expansion of the project of the integrated development of the Syrian Al Badia

Title	<i>Expansion of the project of the integrated development of the Syrian Al Badia</i>		
Location	Al-Badia of Al Raqqa, Deir Ezzor, Al Hassakeh , and Rural Damascus		
Implementing Period	11 th FYNP (2011-2015)		
Duration	5 years		
Justification	<p>In order to achieve food security for local communities in the whole area of Al Badia, it is suggested to expand the project of Integrated Development For Albadia to cover Al-Badia of Al Raqqa, Deir Ezzor, Al Hassakeh , and Rural Damascus. The area of Al Badia is about 10 million ha comprising 55% of total land area. There are 1.5 million people in Al Badia of whom 850,000 are nomads. Most of Al Badia is located in the center and eastern parts of the country, where annual rainfall does not exceed 200 mm. The ecological system in Al Badia is very fragile. The Syrian Al Badia has been negatively affected by improper agricultural practices since the beginning of the sixties. Furthermore, long waves of drought accelerated desertification process. Al Badia contribution in providing fodder to sheep cattle slumped from 70% to less than 20% during the period 1982 – 2003, while sheep herd increased from 10 to more than 15 million.</p>		
Objective	<ul style="list-style-type: none"> - Develop the economic and social conditions for the targeted groups. - Combat desertification of drought-struck areas and rehabilitate land. - Improve the productivity of the livestock unit and, consequently the livestock sector. - Promote and activate the role of women in various activities, enhance their empowerment; - Develop service roads, boost telecommunications, and transport, and enhance accessibility - Raise awareness on issues of combating drought and desertification. - Establish a database on natural resources. - Build capacity of staff and local communities. 		
Expected Outputs	<ul style="list-style-type: none"> - Integrated Development of the Al Badia region - Conservation of natural resources and environment - Increase and diversified income for rural inhabitants - Enhance women empowerment 		
Activities	<p>The programme includes 6 subsidiary programmes as follows:</p> <ul style="list-style-type: none"> - Integrated development of the pasture: this is to be accomplished by planting 10,000 ha with pastoral seeds and seedling. In addition, organize grazing in planted area in coordination and cooperation with cooperatives. - Integrated development for cattle - Develop local communities in Al Badia. - Enhance road network. - Enhance management of water being a vital resource for human and livestock - Using Renewable Power 		
Main Beneficiaries	About 90,000 households		
Implementing Agencies	MAAR, and General Commission for Management and Development of Al-Badia		
Budget US\$/million	Government	25%	
	Donors and NGOS	75%	
	Total	10	

6.1.2.2 Improving productivity of irrigated reclaimed lands in the Euphrates basin

Title	<i>Improving productivity of irrigated reclaimed lands in the Euphrates basin</i>		
Location	Governorates of Al Raqqa, Al Hassakeh, and Deir Ezzor.		
Implementing Period	11 th FYNP (2011-2015)		
Duration	5 years		
Justification	<p>Salinity is a major problem facing Syrian irrigated agriculture. Salinity problem became more serious due to the large expansion of irrigation projects during the last few decades, when newly irrigated lands were exploited in unsustainable way; excessive irrigation, using salty underground water for irrigation, and the non-existence of effective drainage network, made 3 -5 thousand hectares go out of the exploitation because of salinity.</p> <p>In this context, more emphasis should be placed on integrated management of production factors; soil, plant, inputs, and their environmental, social, and economical implications. The final findings of this proposed project will be generalized to all land reclamation projects in all the country.</p>		
Objective	<ul style="list-style-type: none"> - Long-term objectives include: <ul style="list-style-type: none"> ▪ Improve the productivity of reclaimed irrigated lands through integrated managing for production factors. ▪ Optimal utilization of land and water resources with the objective of enhancing the quantity and quality of production. ▪ Rational use of land, water and fertilizers in order to achieve sustainable agricultural production. - Direct objectives <ul style="list-style-type: none"> ▪ Train the staff of the project. ▪ Provide agricultural guidance to farmers on how to best invest the reclaimed land, and offer loans to this effect. ▪ Prepare a guidebook on evaluation of land reclamation projects and its investments, which include also related data, and disseminate it to interested stockholders. 		
Expected Outputs	<ul style="list-style-type: none"> - Higher yield per hectare of reclaimed land - Efficient use of scarce water and land resources - Well trained technical staff and well informed farmers 		
Activities	<ul style="list-style-type: none"> - Promote scientific research in field of land reclamation and efficient cultivation. - Conduct training courses for the technical staff and for the farmers. - Offer loans for farmers to help them reclaim and cultivate their lands. - Establish pilot extension fields in the arena of land reclamation, cultivation, and exploitation. - Set up an information database and experience exchange. 		
Main Beneficiaries	About 15,000 households		
Implementing Agencies	MAAR		
Budget US\$/million	Government	%25	
	Donors and NGOS	%75	
	Private sector/civil society		
	Total	3	

Table (6-3): Projects of Environment

Project Title	Cost			Financing Sources (%)			Implementation Period (year)	Potential Source of Funding
	Foreign Component \$1000	Local Component SP 1000	Total Cost in 000US\$	Government	Foreign	Private		
1.2.1. Expansion of the Project of the Integrated Development of the Syrian Al Badia	10000		10000	25%	65%	10%	5	To be identified with the support of FAO
1.2.2. Improving Productivity of Irrigated Reclaimed Lands in Euphrates Basin	3000		3000	25%	75%		5	To be identified with the support of FAO
Total Environment Projects	13,000	0	13,000					

6.1.3 Forestry Development

Afforested regions play an important role in achieving food security, if utilized in a rational and sustainable way. The following projects aim at enhancing households' income in afforested regions and reduce exploiting this important resource. The suggested priority projects are:

6.1.3.1 Development of environmental tourism

Title	<i>Development of environmental tourism</i>		
Location	Afforested regions		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1 year		
Justification	<ul style="list-style-type: none"> - The existence of important forest areas that can be conserved and invested sustainably. - The necessity to maintain afforested areas, protect them and develop the environmental, biological and bio-diversity dimension in these areas. - These areas can be developed in a way that it can be used for hygiene reasons as well as. 		
Objective	Conserve and Develop forest and Encouraging domestic and foreign environmental tourism and qualifying areas that may be one advantage of Syrian tourism's sector.		
Expected Outputs	<ul style="list-style-type: none"> • Conserved and developed forest areas • Increased investment in environmental tourism • Higher and diversified source of income for inhabitants 		
Activities	<ul style="list-style-type: none"> - In-depth assess the social, economical and environmental impact of the project - Establish two locations of higher potential impact and return 		
Main Beneficiaries	15 households of the inhabitants of forest areas as direct beneficiaries with a wide spread effect to inhabitants in the region and the economy		
Implementing Agencies	MAAR and MoENV		
Budget US\$/million	Government	25%	<i>The total costs needed to establish two locations is estimated at US\$ 140,000 (for each location US\$ 70,000) consists of US\$ 50,000 as establishment cost and US\$ 20,000 as operating cost.</i>
	Donors and NGOS	65%	
	Private sector/civil society	10%	
	Total	0.140	

6.1.3.2 Exploiting herbs and medical plants in afforested areas

Title	<i>Exploiting herbs and medical plants in afforested areas</i>		
Location	Afforested regions		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1 year		
Justification and objective	Growing medical and pharmaceutical plants that are in afforested areas and taking care of them can be encouraged. A step can be taken towards utilizing the value-added of these plants through growing, drying and extracting them. The environment suitable for thyme, garland, mint, basil and other plants can be utilized also.		
Expected Outputs	Developed medical and pharmaceutical cultivation and processing facilities Diversified source of income to farmers		
Activities	<ul style="list-style-type: none"> • Assess comparative advantage of different species of medical and pharmaceutical cultivation by region • Assess processing and other needs along the whole value chain of the selected crops • Introduce pilot processing facilities 		
Main Beneficiaries	About 100 households from the inhabitants of afforested areas		
Implementing Agencies	MAAR		
Budget US\$/million	Government	25%	
	Donors and NGOS	60%	
	Private sector/civil society	15%	
	Total	0.100	

6.1.3.3 Development of Apiculture

Title	6.1.3.3 Development of Apiculture		
Location	Afforested regions		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1 year		
Justification and objective	The existence of proper environment for bees growing in afforested areas, beside the existence of required labor force.		
Expected Outputs	Improved Apiculture sub-sector Clean and safe high quality honey production		
Activities	The project consists of three units in different afforested areas. Each unit contains 20 beehives and some small tools and equipments.		
Main Beneficiaries	About 20 apiculture farmers; in addition to overall benefit to rural households; and Syrian consumers		
Implementing Agencies	MAAR		
Budget US\$/million	Government	10%	
	Donors and NGOS	10%	
	Private sector/civil society	80%	
	Total	0.12	

Table (6-4): Forestry Development

Project Title	Costs			Financing Sources (%)			Implementation Period (year)	Potential Source of Funding
	Foreign Component \$1000	Local Currency Component S.P. 1000	Total Cost in 000 US\$	Gov.	Foreign	Private Sector		
1.3.1. Development of Environmental Tourism	140		140	25%	65%	10%	1	AOAD, Arabic and Regional Funding Agencies; IFAD and others
1.3.2. Exploiting Herbs and Medical Plants in Afforested Areas	100		100	25%	60%	15%	1	AOAD, Arabic and Regional Funding Agencies; IFAD and others
1.3.3. Development of Apiculture	12		12	10%	10%	80%	1	AOAD, Arabic and Regional Funding Agencies; IFAD and others
Total Forestry Projects	252	0	252					

6.2 Enhancing Agricultural Production and Productivity

This component aims at enhanced food availability. Production will be intensified and diversified using alternative crops, livestock and fish production taking into consideration the scarcity of water and land resources. This component will benefit from the above component related to the natural resources management including the rehabilitation of irrigation systems and reconstruction of drainage networks will lead to enhancing small farmer productivity and income. For streamlining envisaged monitoring and evaluation, this component will be implemented through two sub-components one for crops and the other for livestock. Each sub-component will be presented separately, and will be implemented through specific targeted projects. The priority projects to achieve this component objectives are defined as follows:

6.2.1 Crop Production

This component aims at promoting crop production and productivity as a major contributor to food security. Crop production in Syria needs to be intensified and diversified. This component stresses on increasing productivity through technological transfer and availing needed modern and high quality inputs. The component stresses also on enhancing the production efficiency of small farmers through increasing productivity and/or reducing production unit cost. In both cases farmers benefit from the extra income generated.

6.2.1.1 Sustainable agricultural production through promotion of conservation agriculture

Title	<i>Sustainable agricultural production through promotion of conservation agriculture</i>		
Location	Governorates of Syria		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	The prevailing agricultural production systems in Syria are not sustainable. Scarce rain and irrigation water and the lack of restoration of organic matter combined with intensive tillage has resulted in low organic matter content, destruction of soil structure and a decrease of incursion and water storage capacity. Without a drastic change of the prevailing production systems food security is threatened. The Syrian government is concerned about the degradation of agricultural lands by unsustainable farming practices, and by the impact of droughts on agricultural production and food security, and aims at introducing Conservation Agriculture (CA) as a pathway towards sustainable agriculture.		
Objective	The proposed project aims at introducing direct planting practices and cover/forage crops, increasing water use-efficiency (rain or irrigation water) and building the capacity of the national agricultural research and extension services for the promotion of conservation agriculture practices. This includes participatory research and extension approaches. At the end of the project, conservation agriculture systems should be adapted to conditions in different parts of Syria and applied by an increasing number of farmers.		
Expected Outputs	<ul style="list-style-type: none"> - Potential technological options tested and validated on-farm; - Farmers and extension staff trained in workshops and on-farm demonstration trials; - Awareness of CA is increased; and - (4) CA services are offered by private sector (farm service providers). 		
Activities	The project will be implemented and coordinated by the Directorate of Extension of the MAAR, GCSAR and drawing on technical capacity of ACSAD, national, regional and international experts for the provision of the required technical expertise. The required materials, namely direct seeders and seeds of forage/cover crops are purchased with project means.		
Main Beneficiaries	250 households as direct beneficiaries. Stakeholders directly involved in the project are: the National Agricultural Extension Service; the General Commission for Scientific Agricultural Research; ; Farmers Unions; and Farm Service Providers.		
Implementing Agencies	MAAR, Agricultural Extension Directorate, in collaboration with General Commission of Scientific Agricultural Research (GCSAR),		
Budget US\$/million	Government		<i>Possible Technical support from FAO</i>
	Donors and NGOS	100%	
	Private sector/civil society		
	Total	0.350	

6.2.1.2 Introduction of high value cash crops

Title	<i>Introduction of high value cash crops</i>		
Location	Northern eastern governorates		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	Syria is facing serious challenge due to scarcity of water resources. In order to pursue the optimum use of the water resources the justification and competitiveness of the current traditional and sometimes “strategic” irrigated crops is questioned. Historically, Syria has been growing irrigated cotton, sugar beet and even wheat. The water requirements for these crops range between 12 to 16 000 m ³ . The diversification of Syrian agriculture is crucial due to the recent developments in the global food and capital markets.		
Objectives	<ul style="list-style-type: none"> - Diversifying Syrian Agriculture and enhance its competitiveness - Rationalize scarce water resources use - Increase farmers and rural inhabitants income 		
Expected Outputs	<ul style="list-style-type: none"> - Selection of species and new promising crops and varieties suitable for Syrian conditions - Provide extension services to promote the cultivation of the selected promising crops - Efficient institutional set-up to monitoring the introduction of the suggested crops to farmers and support its development along the whole value chain 		
Activities	<ul style="list-style-type: none"> - Testing cultivation in different agro-ecological conditions to assess their adaptation and agro-economic performances. - Strengthen the role and capacity if the Chambers of Agriculture as a leading partner for the “high value cash crops process”, - Establish “expert panel” to serve as technical advisory body - Facilitate “expert meetings” to review the “value chain” of “promising” high value cash crops”. - Adequate “refresher training” to extension workers/officers in the field. - Establish “expert system”, databases and tools like “Crop and cultivar climograms”, HORTIVAR and alternative crop simulators. - Establish and revive “Advisory Committees” with representatives of different ministries and private sector who are stakeholders of the alternative crop programme. 		
Main Beneficiaries	200 farmers at selected regions. Also, all agencies involved in the value chain of the selected commodities; Syrian consumers and economy will benefit.		
Implementing Agencies	GCSAR and extension services of the MAAR		
Budget US\$/million	Government		<i>Possible FAO, TCP/project</i>
	Donors and NGOS	100%	
	Private sector/civil society		
	Total	0.382	

6.2.1.3 Enhance the production of domestic seeds of vegetables and reliable fruit seedlings

Title	<i>Enhance the production of domestic seeds of vegetables and reliable fruit seedlings</i>		
Location	All governorates		
Implementing Period	20% 11 th FYNP (2011-2015); 80% 12 th FYNP (2016-2020)		
Duration	20 years		
Justification	The quality of seeds for several crops and varieties in Syria have been deteriorating in recent years due to lack of facilities and reduced investment. Meanwhile, the cost of producing certified seeds and seedlings have been increasing drastically constituting a burden of Government budget.		
Objective	<ul style="list-style-type: none"> • Increase the economic return and reduce cost. • Preserve domestic seeds (high productivity, distinguished flavor) which are adapted to local environment. • Control virus diseases by deriving resistant species. • Ban the entry of dangerous stony viral diseases in to the county. • Produce seedlings from fruitful trees seeds, grafted seedling, and grafts which is identical to the variety. • Export production surplus. 		
Expected Outputs	<ul style="list-style-type: none"> • Availability of high quality and low price seeds and seedlings • Increase areas and productivity for several strategic crops • Efficient and Safe agriculture with elements of a coherent plant protection system in place 		
Activities	<ul style="list-style-type: none"> • Produce seedling free of viral diseases. • Economic impacts: increase production, reduce cost, increase export opportunities, and boost farm income. • Impacts on human development: positive results on health due to controlling viral diseases. Set up qualified staff to test and examine seeds and seedlings. • Impacts on environment: positive effect on quality of air, water, and soil. 		
Main Beneficiaries	100,000 vegetables and fruit farmers		
Implementing Agencies	MAAR		
Budget US\$/million	Government	70%	
	Donors and NGOS	30%	
	Private sector/civil society		
	Total	6.4	

6.2.1.4 Expand the plantation, classification and export of medical and aromatic plants

Title	<i>Expand the plantation, classification and export of medical and aromatic plants</i>		
Location	All governorates with emphasis on north eastern regions.		
Implementing Period	11 th FYNP (2011-2015)		
Duration	3 years		
Justification	There is a great need to diversity Syrian agriculture. The demand for medical and aromatic plants in EU and the world market is expanding. Meanwhile, the climate in Syria is favorable to the protection of high quality and off season products that would enjoy high degree of competitiveness. Meanwhile, cultivation and preparation of medical and aromatic plants could be suitable for small holders and household processing under extension services and contracts with larger farms and to ensure availability of marketing outlets.		
Objective	<ul style="list-style-type: none"> - Define and classify medical and aromatic plants spread in Syria. - Define active elements and their concentration in each plant. - Develop laboratories for extracting and analyzing active ingredients. - Enact regulations and instructions, and define techniques to plant, handle, and collect medical and aromatic plants. - Encourage investment in this field. - Create new job opportunities. - Support small farmers and rural households to expand involvement under the technical supervision of the Government and private sector. 		
Expected Outputs	<ul style="list-style-type: none"> - Defined and classified medical and aromatic plants spread in Syria. - Streamlined legislation and regulation for handling medical and aromatic plants. - Higher and diversified income for farmers with emphasis on small farmers - Developed facilities and improved technical capacities for analyzing active ingredients 		
Activities	<ul style="list-style-type: none"> - Defined active elements and their concentration in each plant. - Developed laboratories for extraction and analysis. - Enact regulations and instructions, and define techniques to plant, handle, and collect medical and aromatic plants. - Assess incentives to encourage plantations by small farmers and encourage private/industrial sector to invest in this field. 		
Main Beneficiaries	1,000 farmers especially small holders and processing factories owners.		
Implementing Agencies	MAAR		
Budget US\$/million	Government	50%	
	Donors and NGOS	50%	
	Private sector/civil society		
	Total	2	

6.2.1.5 Enhance the integration of crop and livestock production

Title	<i>Enhance the integration of crop and livestock production</i>		
Location	All governorates with emphasis on north eastern region		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	<ul style="list-style-type: none"> • Low standard of living of farmers who depend only on one type of agricultural production (crop, or livestock); • Fluctuation of production due to unstable weather conditions; • Low crop productivity because of poor fertilization mainly of organic matter; • Availability of large quantities of crop residues that can be used as feed for farm livestock. 		
Objective	<ul style="list-style-type: none"> • Improve farmers' income by diversifying sources of income. • Develop level of nutrition of the poor rural households. • Insure reasonable stability for farmers' income and standard of living. • Enhance and stabilize livestock production due to availability of constant supply of feed from the same farm. • Boost the utilization efficiency of crop residues and farm livestock. • Raise crops' productivity as a result for using livestock excretion as an organic fertilization 		
Expected Outputs	<ul style="list-style-type: none"> • Boost the utilization efficiency of agricultural land. • Increase land productivity. • Improve utilization of farm residues as feed for livestock or organic fertilization. • Enhance the standard of living for poor farmers. 		
Activities	<ul style="list-style-type: none"> • Feasibility study for several patterns of crop-livestock integration; • Technical studies on crop rotations and integration patterns; • Enact regulations to enhance joint investment for land resources; • Purchase machinery and equipments required for such farms. 		
Main Beneficiaries	Rural households of small holdings and cooperatives in all country.		
Implementing Agencies	MAAR		
Budget US\$/million	Government	20%	<i>Cost of each producing unit of 100 ha</i>
	Donors and NGOS	80%	
	Private sector/civil society		
	Total	0.150	

6.2.1.6 Construct refrigerating units to store potato seeds produced by the national project for potato seed production (Aleppo and Hama)

Title	<i>Construct refrigerating units to store potato seeds produced by the national project for potato seed production (Aleppo and Hama)</i>		
Location	Aleppo and Hama		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	The country witnessed unstable potatoes cultivation due to shortage in and deteriorating quality of imported seeds. The market stability necessitate establishing refrigerating capacities for use by Government and potentially by the private sector. The Government is assessing the possibility of providing incentives to the private sector to invest in this important activity.		
Objective	Preserve produced potato seeds to be supplied in the spring and autumn season to avoid infections.		
Expected Outputs	Preserve seeds produced in the National Programme for Potato Production, and save money paid for refrigeration in private sector facilities		
Activities	<ul style="list-style-type: none"> - Assess the optimum size, location and number of the required refrigerating units - Provide incentives to the private sector to invest in the activity - Regulations to stabilize the market and ensure high quality and standards 		
Main Beneficiaries	30,000 potato farmers; Syrian consumers		
Implementing Agencies	MAAR and General Establishment for seed Multiplication		
Budget US\$/million	Government	100%	
	Donors and NGOS		
	Private sector/civil society		
	Total	2.5	

6.2.1.7 Establish integrated organic farm (crop and livestock production) licensed by authorized certificate granting organization

Title	<i>Establishing integrated organic farm (crop and livestock production) licensed by authorized certificate granting organization</i>		
Location	Damascus		
Implementing Period	11 th FYNP (2011-2015)		
Duration	5 years		
Justification	Syria doesn't have a center for organic farming that could be considered as pilot project for farmers and producers willing to shift to organic farming. Such proposed farm could be a scientific, research, extension center that may affiliate to MAAR and work under the supervision of the General Commission for Agricultural Scientific Research.		
Objective	<ul style="list-style-type: none"> - Enhance the awareness of farmers about organic farming. - Practically apply organic farming techniques. - Issue a license for this farm from an approved certification body. The will be after certain procedures such as registration, inspection, then offering certificates. - Organize one-day extension field courses, seminars, specialized field training courses on certain crops, in addition to organic farming introducing lectures. 		
Expected Outputs	Extend the culture of organic farming among producers, farmers, and other classes of society through TV shows, advertisements, and media coverage. This promotion will help spread the organic farming and will induce farmers to start on licensing process.		
Activities	Organize one-day extension field courses covered by media, in addition to agricultural fairs and other fairs, so that a video show is presented about the pilot organic farm. Some leaflet on organic products may be distributed. Later on, production of this organic farm may be supplied to the market as certified organic products, which will encourage farmers to start their licensing procedures. Furthermore, a web site for this farm may be released on the net to promote its activities and production.		
Main Beneficiaries	500 farmers; researchers, under graduate students		
Implementing Agencies	MAAR and , General commission for agricultural research		
Budget US\$/million	Government	20%	
	Donors and NGOS	70%	
	Private sector/civil society	10%	
	Total	0.200	

Table (6-5): Projects of Crop Production

Project Title	Cost			Financing Sources (%)			Implementation Period (year)	Potential Source of Funding
	Foreign Currency Component US\$ 1000	Local Currency Component SP 1000	Total cost in 000 US\$	Government	Foreign	Private		
2.1.1. Sustainable Agricultural Production through Promotion of Conservation Agriculture	350		350		100%		2	Possible FAO TCP Project
2.1.2. Introduction of High Value Cash Crops	383		383		100%		2	Possible FAO TCP Project
2.1.3. Enhance Production of Domestic Seeds of Vegetables and Reliable Fruit Seedlings		295,000	6,413	70%	30%		20	To be identified with the support of FAO
2.1.4. Expand the Plantation, Classification and Export of Medical and Aromatic Plants	2,000		2,000	50%	50%		3	To be identified with the support of FAO
2.1.5. Enhance the Integration Crop and Livestock Production	150		150	20%	80%		2	To be identified with the support of FAO
2.1.6. Construct Refrigerating Units to Store Potato Seeds Produced by the National Project for Potato Seed Production	2,500		2,500	100%			2	To be identified with the support of FAO
2.1.7. Establish Integrated Organic Farm (Crop And Livestock Production) Licensed By Authorized Certificate Granting Organization	200		200	20%	70%	10%	5	To be identified with the support of FAO
Total Crop Production Projects	5,583	295,000	11,996					

6.2.2 Livestock Production

The livestock sector is of significant importance to food security in Syria. It contributes to 35% of the GDP and supplies 80 % of total consumption of red meat (2.5 million fattened males are being exported annually generating foreign currency). In addition, it provides 85% of Syria's consumption of milk, and achieves surplus in the production of eggs and poultry meat.

There is a great potential for developing livestock sector to meet the increasing demand for livestock products due to the increase in population and the real income of the more affluent population in Syria. There is an equal potential of developing the production and productivity of Feed in Syria.

The livestock production component in the NPFS stresses on enhancing productivity through an integrated and coherent approach. For the programme to achieve its goals the following policy issues need to be considered: (1) Improve the nutritious value of low-value crop residues (wheat and barley straw), before it is fed to animals, depending on the existing encouraging research results; (2) Supply residues generated from processing of fruit and vegetable (wet residues) to livestock, after processing it to make silage; and (3) Develop the use of abundantly available olive pruning residues to be used as feed especially in dry seasons when straw of wheat and barley become insufficient.

The development of livestock production and productivity depends also of providing efficient veterinary services. Special care is given to controlling the trans-boundary animal diseases. This necessitates the existence of efficient boarder quarantine services.

Developing poultry sector requires government attention to health and insuring smooth flow of imported feed. The most important issue is that the specialized government sector should be able to produce grandparents required to produce parentstocks and broilers, with no need to be engaged in the production process and compete with private sector producers. This public-private sectors' integration would help stabilize poultry sector and, thus contribute to food security for the Syrian people. On the other hand, promoting domestic poultry breeding in poor areas and breeding of turkey would help in this endeavor.

Also, there is a considerable potential to better exploit fresh or salty natural lakes. In Syria, there are many natural, human and environmental factors, which would support fish farming and developing production of fish and fish products. Consequently, this aspiration with the finical support would be enough to create the opportunity for developing fish production in fresh water. For sea fish and because of the short of the Syrian cost (183 km), and the existence of large number of fish men who use small boat. This makes that the real expansion in fish industry would be by establishing fishing companies, which use modern techniques in the high seas.

Other potential projects that may be considered at a later stage include: Promote and disseminate intensive fish reproduction in floating cages (fresh water); Promote and disseminate intensive fish reproduction in floating cages (salt water); Promote and disseminate agricultural fish-rotation in the salty lands; Biological control of aquatic weeds in irrigation and drainage canals, In addition to controlling weeds in water pools and making use of it by fish breeding; Setup processing units to manufacture integrated feed-packets using olive tree pruning residues, cotton woods to feed sheep and cow; Introduce green feed plantation in some irrigated area; Calf Breeding and make use of agricultural residues; Establishing fattening units for Awassi Lamb in Intensive breeding system; Develop animal sector and human food safety; Strategic stocks and storage of feed; Assess the harmful residuals in foods; and Produce highly productive heifers by the general establishment of cows.

The priority projects proposed to enhance the performance of livestock sector and fishery to contribute to food security at this stage are:

6.2.2.1 *Integrated development of the livestock sector*

Title	<i>Integrated development of the livestock sector</i>		
Location	All governorates of the country grouped into five economic zones as follows: North-Eastern Region (Deir Ezzor, Al Hassakeh, and Al Raqqa) the North-West (Aleppo and Idleb), the Coastal and Central Regions (Homs, Hama, Latakia, and Tartous) and the Southern Region (Dara, Sweida, Quneitra, and Rural Damascus).		
Implementing Period	40% 11 th FYNP (2011-2015); 60% 12 th FYNP (2016-2020)		
Duration	8 years		
Justification	Livestock productivity is low and a balance need to be reached between availability of feed and the number of livestock in Syria. Due to the importance of livestock production in the Syrian agriculture, improve the efficiency of livestock production will have a direct impact on the income and well being of small holders and herders.		
Objective	The overall objective of the Project is to raise the income of the rural poor, whose livelihoods are dependent on livestock activities through enhancing livestock productivity and efficiency. The specific objectives are: 1) improvement of rangeland productivity and livestock integration in rainfed farming systems; 2) providing support to livestock production services; and 3) supporting the development enterprises along the value chain of livestock production, with focus on marketing and processing.		
Expected Outputs	<ul style="list-style-type: none"> - Enhanced Livestock Development <ul style="list-style-type: none"> ▪ supported to research for development; ▪ supported to animal production; ▪ supported the veterinary services; - Rangeland Development in the Al Badia (agricultural zone 5); and - Enterprise Development and Rural Finance 		
Activities	<ul style="list-style-type: none"> - develop an integrated livestock sector approach to assess the constraints and opportunities along the entire value chain of major animal products; - improve the productivity per animal unit by a series of interventions to enhance the quality of animal products along the value chain; - capacity building for relevant institutions and access by the rural poor to livestock development knowledge through training; - the effective participation of target groups in rangeland development; - 5) gender equality, women and youth empowerment, including access to microfinance as an integral part of project activities, with explicit costing and the budgeting. 		
Main Beneficiaries	150,000 farmers.		
Implementing Agencies	MAAR		
Budget US\$/million	Government	25%	<i>Possible funding by IFAD</i>
	Donors and NGOS	75%	
	Private sector/civil society		
	Total	65	

6.2.2.2 *Integrated and participatory management of steppe resources in Homs province*

Title	<i>Integrated and participatory and management of steppe resources in Homs province</i>		
Location	Homs Governorate		
Implementing Period	11 th FYNP (2011-2015)		
Duration	4 years		
Justification	Coordination and collaboration with national institutions, other projects, regional research centers and NGOs will be sought through the project Steering Committee, the Local Coordination Committee, informal discussion groups and by direct contacts and building of viable working relations.		
Objective	The project will seek to create an enabling environment for addressing Al-Badia natural resources degradation, promotion of an integrated participatory approach to sustainable natural resources management and improving livelihoods of Bedouin communities in Homs Governorate. The proposed project is intended to sustain and extend positive results and proven techniques to other parts of Al-Badia.		
Expected Outputs	<ul style="list-style-type: none"> - Enhanced integrated management of Al-Badia natural resources including biodiversity and wildlife; - Enhanced national institutions in range management and resource conservation capacity through training and capacity building; - Enhanced community participation in the management and conservation of resources, and - Enhanced economic situation of Bedouin communities through the diversification of incomes. 		
Activities	<ul style="list-style-type: none"> - Focus on increasing awareness, upgrading skills and imparting a sense of ownership to target groups. Participating communities will be assisted to lead project interventions, from training activities, credit facilities and income generation opportunities. - The project will give special attention to Bedouin women interests, socio-economic status and sources of income; and will introduce special activities and interventions to improve their status. It will also enhance national institutions and project staff planning abilities to develop new or sustain and extend proven adaptable technologies. - Additional emphasis will be given to biodiversity conservation and wildlife protection and management. 		
Main Beneficiaries	45,000 farmers and Bedouin community with emphasis on women		
Implementing Agencies	GCMDA, in collaboration with MAAR, Homs Governorate, the General Commission for Environmental Affairs and General Commission for Remote Sense (GCRS)		
Budget US\$/million	Government	20%	
	Donors and NGOS	80%	
	Private sector/civil society		
	Total	4.213	

6.2.2.3 Production and distribution of improved-sheep (Awassi)

Title	<i>Production and distribution of improved-sheep (Awassi)</i>		
Location	The marginal area surrounding Al Badia, or what is known as barley string		
Implementing Period	11 th FYNP (2011-2015)		
Duration	4 years		
Justification	<ul style="list-style-type: none"> - Relatively low productivity of sheep from milk and twins in the Syrian cattle. The average annual production of a ewe is 52-60 kg of milk and 31 -48 kg of meat; - Inadequate domestic feed resources needed to develop the animal sector, and inefficient crop rotation and under-utilization of residues from crops and agro-processing; - Low number of Awassi breeding cooperatives that takes the responsibility of preserving this breed; - the multiplicity of institutions involved in the livestock sector and the lack of coordination between them - The intimate connection between the Syrian Badia conditions and the wellbeing of sheep sector calls for the need to handle the problems facing AlBadia separately. 		
Objective	<ul style="list-style-type: none"> - Contribute in sustainable development in rural areas, eliminate poverty, and maintain stability for small breeders by developing the current conventional production system, and converting gradually to intensive or semi intensive production system. - Increase the number of improved sheep and offer it to breeders, cooperatives and development projects at cost prices, and use it in sheep production in different ecological areas. - Increase the income of breeders - Create additional job opportunities for rural women by processing sheep products. 		
Expected Outputs	<ul style="list-style-type: none"> - Raised income of the breeders of the improved male sheep. - Established intensive and semi-intensive production system. - Created job opportunities for rural women through increasing production of sheep milk and processing it at home. 		
Activities	<ul style="list-style-type: none"> - Set up network or union for Awassi sheep breeders, and sheep insurance systems. - Encourage local and Arab investment in sheep sector seeking to reach integrated industry - Improve milk productivity of Awassi sheep, and raise twins' incidence through improving breeding and improved productivity of sheep flocks. 		
Main Beneficiaries	150,000 small breeders, especially members of Awassi sheep network including breeders, members of cooperatives and members of Agricultural development projects		
Implementing Agencies	GCSAR, and ACSAD in collaboration with MAAR		
Budget US\$/million	Government	50%	<i>cost for a unit that consists of 1,500 – 2,000 heads</i>
	Donors and NGOS	50%	
	Private sector/civil society		
	Total	0.870	

6.2.2.4 Introduce turkey breeding in rural households

Title	<i>Introduce turkey breeding in rural households</i>		
Location	Marginal areas and ALBadia.(Deir Ezzor, Al Hassakeh, Al Raqqa, and Aleppo).		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1 year		
Justification	There is a need to increase and diversify income generating activities for rural household. Turkey raising proved to be profitable and demand for turkey meat is increasing.		
Objective	Increase and diversify income for poor rural household. Enhance productivity of turkey with potential for increasing exports		
Expected Outputs	-Improved standard of living for rural households and small breeders; -Export the surplus of meat and generating profit on the individual and government level; and - Providing healthy meat		
Activities	Each rural household can breed 20 heads of turkey. The cost of each bird is about SP 1,175, the breeding period 5-6 months, the average weight at the end of breeding time is 20 kg. The return from breeding is SP 500 for each bird, as the price of one kilo of living bird is SP 100 (based on 2009 prices).		
Main Beneficiaries	1,000 small holders, rural households, and the project may cover 1,000 households in the eastern governorates (Deir Ezzor, Al Hassakeh, Al Raqqa, and Aleppo).		
Implementing Agencies	MAAR		
Budget US\$/million	Government	10%	
	Donors and NGOS		
	Private sector/civil society	90%	
	Total	0.408	

6.2.2.5 Promote the production of domestic chicken, and set up middle-size production units

Title	<i>Promote the production of domestic chicken, and set up middle-size production units</i>		
Location	Rural areas		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	The income sources for poor rural households is not diversified and depending on few traditional crops and activities. The rural household used to be self-sufficient in poultry meat and selling surpluses to urban areas. This used to add to the overall food security of the country and generate income to poor rural households. Unfortunately this activities have disappeared and small households need assistance in restarting the activity within a reasonable unit size.		
Objective	<ul style="list-style-type: none"> - Promote the forgoing food self-sufficiency in rural areas, when rural household used to produce the eggs and the meat it needs and sell the extra production. - Provide additional income for rural households. - Develop domestic production at home or in the farm when supplied by high producing species. - Encourage establishing small sized production units of about 5,000 birds. - Promote the participatory approach and involve small breeders in the issues of feed provision, marketing, and slaughterhouses. - Devote attention to internal and external marketing through enhancing exports and generating good income for producers and country. - Enact regulations and instructions that regulate production, marketing, export and monitor implementation. - Produce grand-parents chicks by a specialized governmental sector, without evolving in egg and chicken production and competing with the small breeders. 		
Expected Outputs	<ul style="list-style-type: none"> - Improve the standard of living for the rural households - Improve the standard of living for small breeders - Export the production surplus and generate profit for both individuals and government - Encourage investment in poultry industry 		
Activities	The government provides chicks (broiler, layer), secures excellent species to the rural households or middle breeders, who then breed the chicks for the purpose of eggs or meat.		
Main Beneficiaries	800 small breeders, rural households, mainly women in a project area		
Implementing Agencies	MAAR		
Budget US\$/million	Government	10%	
	Donors and NGOS		
	Private sector/civil society	90%	
	Total	1.9	

6.2.2.6 *Integrated project to produce fish and ducks in pools*

Title	<i>Integrated project to produce fish and ducks in pools</i>		
Location	Al Hassakeh		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1 year		
Justification	<p>Most farmers who depend on wells for irrigation resort to collecting well-pumped water at night within an earth pools to use it for irrigation at daytime.</p> <p>The idea of this project is to make use of these irrigation pools by producing fish. In fact, Al Hassakeh alone can produce 10,000 tones of fish, about 68 % of the total Syrian production. The same can be applied to other governorates.</p>		
Objective	<ul style="list-style-type: none"> - Exploit the available natural resources, provide food and eliminate hunger. - Generate additional income. - Develop local community, especially small communities, improve food quality, and induce local people to generate income from unconventional methods. - Motivate rural people to remain in their land and not consider immigration. - Conserve environment by exploiting some pollutants in a productive environment-friendly way. 		
Expected Outputs	<ul style="list-style-type: none"> - Increased fish production - Diversified income opportunities for rural population - Conserved environment 		
Activities	<ul style="list-style-type: none"> - Recent statistics (year 2009) show that the total number of in-use wells in AlHassakeh governorate is about 27700 wells. - Each pool requires 1 donum area to collect the water within, consequently the area of all prospective pools is 27000 x 1 donum (the area of each pool) = 27000 donum 		
Main Beneficiaries	27,000 rural households in AlHassakeh governorate		
Implementing Agencies	MAAR		
Budget US\$/million	Government	10%	The total cost of a project of 27000 units
	Donors and NGOS		
	Private sector/civil society	90%	
	Total	15.6	

6.2.2.7 Establish silage processing units from crop residues to feed milk producing cattle

Title	<i>Establish silage processing units from crop residues to feed milk producing cattle</i>		
Location	Four governorates (Aleppo, Al Raqqa, Idleb, and Al Ghab in Hama)		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1 year		
Justification	Crop residues such as sugar beet, tomato pulp, etc. are not sufficiently utilized in Syria. High nutritional value feed could be produced from these residues/by-products. Milk production in Aleppo, Al Raqqa, Idleb and Al Ghab could benefit from the efficient utilization of these residues.		
Objective	Produce silage from residues of sugar beet, tomato pulp, and other residues resulting from food processing. These units aim at supplying unconventional low price feed for cows to increase their milk productivity.		
Expected Outputs	Four ideal silage processing units in Aleppo, Al Raqqa, Idleb, and Al Ghab in Hama		
Activities	<ul style="list-style-type: none"> - Assess location and size of envisaged units - Establish the 4 units - Provide training and capacity building to local extension workers and technicians. 		
Main Beneficiaries	4000 small holders and milk producing herders in Aleppo, Al Raqqa, Idleb, and Al Ghab in Hama		
Implementing Agencies	MAAR		
Budget US\$/million	Government	70%	<i>Each unit cost about SP 77 million, with a total cost of about SP 310 million (equal to US\$6.7 million).</i>
	Donors and NGOS		
	Private sector/civil society	30%	
	Total	6.7	

6.2.2.8 *Plant flowering sern fodder under olive trees*

Title	<i>Plant flowering sern fodder under olive trees</i>		
Location	Five governorates: Aleppo , Edleb, Homs, Lattakia, and Tartous.		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1 year		
Justification	The marginal and edge area surrounding olive field not efficiently used. Olive producers need to diversify their income activities.		
Objective	The area planted with olive in Syria is about 600 thousand ha. The project aims at planting initially 1% of this area (6000 ha), as pilot project, with the objective of benefiting sheep breeders, close to the project, or to induce olive farmers to breed sheep and make use of the flowering sern planted.		
Expected Outputs	<ul style="list-style-type: none"> - Increase feed production - Increased income to olive producers and sheep herders - Conservation and maintenance of natural resources 		
Activities	The area of the project, 6000 ha, is distributed between five governorates: Aleppo 1900 ha, Edleb 1200 ha, Homs 1100 ha, Lattakia 900 ha, and in Tartous 900 ha. The project will only provide the seeds, while farmers carry out planting and other services. One hectare of the project land consumes 100 Kg of the flowering sern fodder, with a cost of SP 100 per kilo.		
Main Beneficiaries	6000 sheep herders and olive producers entering into sheep raising activities for income diversification in Edlib, Homs, Lattakia and Tartous.		
Implementing Agencies	MAAR		
Budget US\$/million	Government		<i>The total cost is 100 X 40 = SP 4000 per hectare.</i>
	Donors and NGOS		
	Private sector/civil society	100%	<i>The cost of the four areas = 7600+4800+4400+3600+3600 = SP 24000 thousand (equal to US\$521thousand)</i>
	Total	0.521	

6.2.2.9 Training/Capacity Building on enhancing the nutritional value of agricultural residues

Title	<i>Training/Capacity Building on enhancing the nutritional value of agricultural residues</i>		
Location	Training to be conducted in the Center and the Governorates		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	There is a need to build the technical capacities in utilizing agricultural residues and increasing their nutritional values.		
Objective	Enhance and develop feed resources in Syria through utilization of advanced techniques and exploiting the vast amount of agricultural residues in Syria.		
Expected Outputs	<ul style="list-style-type: none"> - Well trained technicians and - improved and high value feed from agricultural residues 		
Activities	<ul style="list-style-type: none"> - 6 courses in Aleppo on Treatment of olive pruning residues, cotton wood, sugar pulp - 4 courses in Al Raqqa on Cotton wood, sugar beet pulp - 4 courses on Treatment of olive pruning residues, sugar beet pulp - 2 courses on Cotton wood, sugar beet pulp - 1 course in Al Ghab on Sugar beet pulp 		
Main Beneficiaries	680 sheep herders depending of agricultural residues in production areas nearby and on the edges of Al Badia		
Implementing Agencies	MAAR		
Budget US\$/million	Government	30%	<i>The total cost = SP 150000 x 17 training course = 2550 thousand Syrian pound (equal to US\$55.5 thousand)</i>
	Donors and NGOS	70%	
	Private sector/civil society		
	Total	.0555	

6.2.2.10 Intensive sheep breeding , and lambs fattening nearby olive fields

Title	<i>Intensive sheep breeding , and lambs fattening nearby olive fields</i>		
Location	Aleppo, Al Raqqa, Edleb, and Al Hassakeh		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	The potential of Al Awassi lamb meat and milk productivity is not fully realized.		
Objective	Make use of the good potential productivity in Al Awassi sheep, and induce more production of milk and meat for the newly weaned sheep by conducting the breeding in intensive breeding centers using economical feed that includes the usage of olive tree residues.		
Expected Outputs	<ul style="list-style-type: none"> - Increased milk and meat production with low cost feed - Increase income for small herders - Improve food security for the country 		
Activities	Establishment of five units as follows: 2 in Aleppo , 1 in Al Raqqa, 1 in Edleb, and 1 in Al Hassakeh		
Main Beneficiaries	50 sheep herders in Aleppo, Al Raqqa, Edleb, and Al Hassakeh; and meat consumers in Syria.		
Implementing Agencies	MAAR		
Budget US\$/million	Government	30%	The total cost of the barns and breeding cost
	Donors and NGOS		
	Private sector/civil society	70%	
	Total	6.2	

6.2.2.11 Calf fattening and benefit from improved agricultural residues

Title	<i>Calf fattening and benefit from improved agricultural residues</i>		
Location	Aleppo, Al Raqqa, Edlib, and Al Hassakeh		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	The meat productivity of cattle is considered low due to quality of the feed. Meat production could increase through high nutritional feed and better utilization of agricultural residues.		
Objective	Developing and increase calf's productivity through using concentrated feed from treated plant residues and getting more advantages of calf's fattening.		
Expected Outputs	<ul style="list-style-type: none"> - Increased meat production - Better use of agricultural residues - Increase farmers and herders income 		
Activities	The project involves the establishment of five barns as follows: 2 in Aleppo, 1 in Al Raqqa, 1 in Edlib, and 1 in Al Hassakeh. The barn capacity is 500 heads of calf should be devoted to provide the inhabitants' needs of meat in the project areas and nearby cities.		
Main Beneficiaries	50 small cattle herders and meat consumers		
Implementing Agencies	MAAR		
Budget US\$/million	Government	30%	The total cost for the five barns
	Donors and NGOS		
	Private sector/civil society	70%	
	Total	6.3	

6.2.2.12 Fattening unites for Awassi male sheep (lamb) under intensive production system

Title	<i>Fattening unites for Awassi male sheep (lamb) under intensive production system</i>		
Location	Deir Ezzor, Al Hassakeh, Al Raqqa, Al Badia, and Al Sekhneh		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	<ul style="list-style-type: none"> - Syria has 15.77 millions productive ewe and 8 million of male sheep delivered yearly, of which 2 millions (25 %) are devoted for breeding and 6 millions to be fattened for the domestic consumption or export. Thus, 3 millions sheep are available for fattening in Al Badia and the northeastern region, since 50% of the total number is raised in these areas. - The permitted quota of daily exported sheep is 4000 head that importantly contributes to provide the state with foreign currency. - The local and traditional way used for fattening sheep is not economical, as it wastes the potential capacity of sheep productivity - Monopolization of the external export advantages by small group of well-known traders and, thus depriving the small breeders, the majority of sheep production actors, from getting these advantages; - Poor production infrastructure and livelihood services lead to moving and instability. 		
Objective	<ul style="list-style-type: none"> - Developing the current conventional fattening system, and converting to new feeding sources e.g. residues of crops and agro food processing, In addition to optimally exploiting the productive capabilities of Awassi sheep. - Increase the income of breeders and limiting the interior migration by creating job opportunities for the rural families. 		
Expected Outputs	<ul style="list-style-type: none"> - Eased pressure on the steppe in the region and use of improved agricultural residues; - Available male awassi with high quality for export; - local demand for sheep meat is met; - Enhanced breeders capabilities in applying modern reproduction methods. 		
Activities	<ul style="list-style-type: none"> - Establishment of fattening center supported by the funding body; - Establishing a cooperative for awassi lamb fattening; - Different channels will contribute to supply the lamb for fattening; - Assessing the feasibility of the cooperative work after two years, the trial period of investment, to be applied in other regions, particularly in Der Ezzor and Al Hassaka. 		
Main Beneficiaries	50 small and medium sheep breeders in rural areas in agro-climatic zones 3, 4 and 5.		
Implementing Agencies	MAAR		
Budget US\$/million	Government		<i>The total cost for the five centers</i>
	Donors and NGOS		
	Private sector/civil society	100%	
	Total	1.630	

6.2.2.13 Production of biogas and fermented organic fertilizers (compost)

Title	<i>Production of biogas and fermented organic fertilizers (compost)</i>		
Location	Selected Rural areas		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	Biogas technology on sewage treatment units in rural areas is not used. Meanwhile, wood cutting and deforestation is spreading. Introducing biogas technology production of compost seems highly needed and timely.		
Objective	<ul style="list-style-type: none"> - Utilize biogas technology on sewage water treatment units in the rural areas, by establishing treatment units and make use of the generated biogas to operate water pumps. - Exploit biogas released from domestic fermentation units in cooking, warming and lighting. - Provide clean organic fertilizer. - Curb on the dissemination of insects and diseases and insure better environment in the countryside. - Reduce wooding to obtain wood. - Increase farmers income 		
Expected Outputs	<ul style="list-style-type: none"> - Clean source of energy - Clean and low cost organic fertilizers - Conservation of environment 		
Activities	<ul style="list-style-type: none"> - Establishment of 100 units for biogas production (capacity of 15m3) and 20 units of for household sewage water treatment (capacity 1.5 m3). - Disseminate biogas technology among farmers by establishing domestic fermentation units that is suitable for the Syrian countryside. The units will be as pilot projects to be disseminated later to the whole Syrian countryside. - Enhance awareness among farmers about the protection of environment, and making use of available natural resources. - Create a well-trained technical staff that is capable of designing, establishing, operating, maintaining, and disseminating biogas technologies in the countryside. 		
Main Beneficiaries	100 livestock breeders in the project area		
Implementing Agencies	MAAR and the Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD)		
Budget US\$/million	Government	20%	<i>The total cost for 100 Units</i>
	Donors and NGOS		
	Private sector/civil society	80%	
	Total	0.648	

Table (6-6): Livestock Production

Project Title	Cost			Financing Sources (%)			Implementation period (Year)	Potential Source of Funding
	Foreign Currency Component US\$ 1000	Local Currency Component SP 1000	Total cost in 000 US\$	Government	Foreign	Private		
2.2.1. Integrated Development of the Livestock Sector	65,000		65,000	25%	75%		8	IFAD
2.2.2. Integrated and Participatory Management of Steppe Resources in Homs Province	4,213		4,213	30%	70%		4	Local finance and Int. donors
2.2.3. Production and Distribution of Improved-Sheep (Awassi)		40,000	870	50%	50%		4	Local finance and Int. donors
2.2.4. Introduce Turkey Breeding in Rural Households		18,800	409	10%		90%	1	Local finance,
2.2.5. Promote the Production of Domestic Chicken, and Set up Middle-Size Production Units		86,480	1,880	10%		90%	2	Local finance,
2.2.6. Integrated Project to Produce Fish and Ducks in Pools		715,500	15,554	10%		90%	1	Local finance
2.2.7. Establish Silage Processing Units from Crop Residues to Feed Milking Cattle		310,000	6,739	70%		30%	1	Local finance,
2.2.8. Plant Flowering Sern Fodder under Olive Trees		24,000	522			100%	1	Local finance,
2.2.9. Training/Capacity Building on Enhancing the Nutritional Value of Agricultural Residues		2,550	55	30%	60%	10%	1	Local finance, , and Int. donors
2.2.10. Intensive Sheep Breeding , and Lambs' Fattening Nearby Olive Fields		281,550	6,121	30%		70%	2	Local finance,
2.2.11. Calf Fattening and Benefit from Improved Agricultural Residues		289,300	6,289	30%		70%	2	Local finance,
2.2.12. Fattening Units for Awassi Male Sheep (lamb) under Intensive System		75,000	1,630			100%	2	Local finance,
2.2.13. Production of Biogas and Fermented Organic Fertilizers (Compost)	648		648	20%		80%	2	Local finance
Total Animal production	69,861	1,843,180	109,930					

6.3 Promoting Policies, Institutional and Supporting Services

The objective of this component is to support the GoS to set up the proper policy environment needed for the implementation of the NPFS. The component will contribute to formulating and implementing a long term strategy for sustainable agricultural and rural development. Such strategy will provide a frame of reference to achieving sustainable development and food security in the future. The GoS is adopting several agricultural development policies , as discussed earlier, the envisage strategy will streamline all these technical, policy, institutional interventions into one comprehensive package. The component is also concerned with improving the institutional capacities and improving the priority supporting services needed for achieving food security.

The identified priority projects to contribute to the NPFS's goals are:

6.3.1 Strategy for sustainable agricultural development till 2030

Title	<i>Strategy for sustainable agricultural development till 2030</i>		
Location	All regions of Syria		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1 year		
Justification	Food security and sustainable agricultural development challenges along the whole value chain of food and agricultural products have been faced in a piece meal approach with a lack a coherent framework for better planning and prioritizing interventions and support needed. There is a need for strategic framework to constitute a frame of reference for longer term comprehensive and sustainable agricultural and rural development with emphasis on attaining food security for the Syrian population.		
Objective	The major objective is to prepare a Sustainable Agricultural Development Strategy for Syria till 2030, including recommendations for policy alternatives/options and an overall approach to promote agricultural development and food security. The Strategy will give due considerations for economic and technical efficiency, sustainability of natural resources with special emphasis on water resources management, and equity with social welfare. The overall recommendations will aim at achieving sustainable development for all sub-sectors including crops, livestock, forestry and fisheries. The strategy will constitute the policy environment under which the NPFS will be implemented.		
Expected Outputs	The major output of the project will be a strategy for sustainable agricultural development that could be used as the basis for future development and a policy framework for implementing the NPFS.		
Activities	The project will depend on the several studies available within the MARR, MoI, SPC, other related Ministries, Agencies, and Academic Institutes. The preparation of the strategy will benefit from the previous sub-sector and issue oriented policy analysis carried out by NAPC-MARR. The major ctivities will include: (1) Preparation of the comprehensive strategy document; and (2) Convening a National Policy Workshop is envisaged to present and discuss the strategic framework and the policy issues by all concerned officials, representatives of donors and partners in development and consultants before being finalized.		
Main Beneficiaries	All stakeholders involved in the agricultural activities; policy makers and planners; and Syrian citizens.		
Implementing Agencies	MAAR, MoI, SPC and all other related institute through a multidisciplinary team comprising of national and international experts.		
Budget US\$/million	Government	15%	
	Donors and NGOS	85%	
	Private sector/civil society		
	Total	0.343	

6.3.2 Enhancing marketing extension through farmers' field-schools

Title	<i>Enhancing marketing extension through farmers' field-schools</i>		
Location	Al- Sweidaa, Homs, Tartous, Latakia, Edlib, Aleppo, AlHassakeh, Al-Raqqa and Daraa governorates.		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	Marketing is a major constraint for several agricultural products. Although the Syria farmer is experienced in production techniques, his knowledge on modern and efficient marketing techniques need to be developed. The farmers lack knowledge about marketing services due to the unavailability of needed information about agricultural trade, local and foreign market requirements, taste of consumers and requirements for after-harvest processes.		
Objective	<ul style="list-style-type: none"> - Enhance the information systems that are available for producers and agricultural extension workers especially in terms of marketing extension and agricultural trade - Enhance capacities in financial management, farmers' participation in preparing and setting extension policies and decisions. - Achieving maximum utilization of available resources (rationalization the usage of water used for irrigation, pesticide usage, ...etc.), which would be reflected positively on farmers' income and consequently on national economy 		
Expected Outputs	<ul style="list-style-type: none"> - Activating extension role in terms of enhancing the products' quality in order to expand chances for agricultural exportations both in local and foreign markets - Creating an "information bank" for marketing and agro-manufacturing projects, which can easily and smoothly make the needed information available for all farmers and consumers - Creating a positive social impact between extension workers and farmers, beside the reflection of that impact on extension workers' behavior and efficiency 		
Activities	Establishing ideal schools for apple marketing extension (in Al- Sweidaa, Homs and Latakia governorates), grape marketing extension (in Daraa, Al-Sweidaa and Homs governorates), citrus marketing extension (in Latakia and Tartous governorates), olive and olive oil marketing extension (in Edlib and Aleppo governorates) and chickpea and lentil marketing extension (in AlHassakeh, Al-Raqqa and Daraa governorates).		
Main Beneficiaries	About 1,500 agricultural producers, particularly those working in extension and marketing, either in governmental departments or private sector (union of agricultural chambers, union of exporters,..)		
Implementing Agencies	MAAR		
Budget US\$/million	Government	50%	
	Donors and NGOS	50%	
	Private sector/civil society		
	Total	0.196	

6.3.3 Technical support to producers' collective/group marketing

Title	<i>Technical support to producers collective/group marketing</i>		
Location	Latakia, Tartous, Daraa and Sweidaa		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	<ul style="list-style-type: none"> - The huge difficulties that producers suffer since they transport their production to the wholesale markets in major cities' centers, particularly Damascus, and especially the marketing stages before wholesale markets. - The weak bargaining power of farmers against traders due to their little experience and their little marketed quantities for each. - The low level of post-harvest and marketing processes (segregation, packing, casing, preparing, transporting), provided that every producer works alone - Lack and dispersion of information about markets' situation, prices and needed quantities due to the individual work of producers 		
Objective	<ul style="list-style-type: none"> - Reducing costs and enhancing product's quality through joint segregation, grading and casing. - Increasing producers' capability to compete against traders and mediators, particularly in light of their high marginal profits. - Increasing producers capability to sell manufacturer through pre-harvest bonds. - Providing exporters with relevant products when needed. 		
Expected Outputs	<ul style="list-style-type: none"> - Increasing individual income for producers and their households, and consequently enhancing livelihood level, which contributes to their stability and increases their food security level - Promoting production's quality and quantity, enhancing post-harvest activities and reducing lost quantities - Securing products of good quality and less costs for consumer - Increasing producer income and reducing consumer costs 		
Activities	Provide technical, logistic and legal support to producers with a priority given to the homogenous production areas in Latakia and Tartous governorates (citrus), Daraa (tomato) and Sweidaa (apple)		
Main Beneficiaries	About 5,000 agricultural producers will be among the largest beneficiaries through getting good prices for their crops and reducing the costs of marketing chain, which increase their chance to compete.		
Implementing Agencies	MAAR		
Budget US\$/million	Government	50%	<i>The cost of three units</i>
	Donors and NGOS	50%	
	Private sector/civil society		
	Total	0.333	

6.3.4 Establishing market information system (MIS) for agricultural products

Title	<i>Establishing market information system (MIS) for agricultural products</i>		
Location	MAAR and the related directorates in the governorates concerned, wholesale markets in 12 governorates and the quarantine units on borders, through Plant Protection Directorate and Animal Health Directorate.		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	<ul style="list-style-type: none"> - Lack of marketing information (production, quality, prices, exports, imports) for producers, traders, exporters, policymakers and decision makers; - The delay in reaching available information, while it can't be utilized at the proper time; - Information scarcity about foreign markets and their requirements, and consumers needs, particularly for firms. 		
Objective	<ul style="list-style-type: none"> - Increasing market transparency by offering market information accurately and quickly to the farmers, producers, traders and others, including the tradable commodities' prices and quantities, through a "central and sub-central" communications' network, which includes administrative units, "Souk Al-Hal's" and the producers. - Helping reducing seasonal prices' volatility to decrease market risks by publishing prices electronically and in the media. - Helping balancing between demand and supply through restricting agricultural products' movement. - Promoting farmers' bargaining power in order to increase their income; this would be achieved by announcing domestic and foreign prices' movements 		
Expected Outputs	<ul style="list-style-type: none"> - Limiting the impacts of prices volatility, and consequently, mitigating these impacts on producers, traders and consumers. - Assisting production and marketing policymaking by providing the needed information. - Securing the commodities for consumer with adequate, declared and monitored prices. 		
Activities	<ul style="list-style-type: none"> - Assessing the institutional and technical needs for establishing the system - Implement the MIS based on available data bases and field surveys, etc. - Train staff on running and maintaining the system. 		
Main Beneficiaries	Administrative units (MARR and its directorates in the governorates), agricultural producers, wholesale and retail traders, researchers who are interested in market's situation, in universities and research centers, as well as policymakers		
Implementing Agencies	MAAR in collaboration with other Institutes		
Budget US\$/million	Government	50%	
	Donors and NGOS	50%	
	Private sector/civil society		
	Total	0.283	

Table (6-7): Promoting Policies, Institutional and Supporting Services

Project Title	Costs			Financing Sources (%)			Implementation Period (year)	Potential Source of Finance
	Foreign Currency Component \$1000	Local Currency Component S.P. 1000	Total Cost in 000 US\$	Gov.	Foreign	Private		
3.1. Strategy for Sustainable Agricultural Development till 2030	300	2,000	343	15%	85%		1	To be identified through support from FAO
3.2. Enhancing Marketing Extension through Farmers' Field-Schools.		9,000	195.7	50%	50%		2	To be identified through support from FAO
3.3. Technical Support to Producers Collective/ Group Marketing		15,300	332.7	50%	50%		2	To be identified through support from FAO
3.4. Establishing market Information System (MIS) for Agricultural Products		13,000	282.7	50%	50%		2	To be identified through support from FAO
Total Policies-Institutions-Supporting Services Projects	300	39,300	1,154.1					

6.4 Food Stability and Risk Management

Farmers are exposed to a variety of risks, both market-related (e.g, price variations) and non-market-related (e.g, unfavorable weather, pests, and diseases). These risks render agricultural production unstable from year to year, affecting the income and welfare of agricultural producers. Improving food market stability is an important pillar related to ensuring food security. Syria has adequate institutional, legislative and infrastructural requirements needed to manage strategic/emergency food reserves. Stability also entails ensuring a steady flow of food to the market place as well as in farmers and rural households ability to produce and earn income. There is a need to enhance the implementation of market-based risk management measures to ensure stability in the market and cost-effective food availability at all times for the population.

Maintenance of **strategic/emergency stocks/reserves** with efficient and cost-effective rules and guidelines represents one of a series of strategic measures which can be used to promote price stability and deal with emergency situations in the international food market. As the establishment of an efficient food reserve system requires a modern infrastructure management system that meets complex storage requirements, the GoS is devoting attention to improving the storage capacities in the country. While, the Government of Syria (Gos) recognizes the vital importance of improving the management of strategic stocks for major food and feed crops and commodities, it reflected desire to include this element at a later stage.

Another element of food stability relates to market based low-cost **risk management** measures including the purchase of grain delivery options-based contracts and/or grain futures; and weather-based insurance products. These measures need to be introduced to reduce farmer exposure to commodity price and weather-related risks. In several developing countries, using one, or a combination of these measures, on a broader scale are practiced. The socio-economic implications of agricultural insurance schemes, in the current institutional context, was assessed earlier in Syria with technical support from FAO (Chapter 4). Agricultural insurance is a financial tool used to minimize the adverse effects of agricultural risks and has been devised to address agricultural production or yield risks that are mainly due to adverse climatological factors. However, the GoS expressed interest to include this element as a priority project dealing with post-harvest activities, while keeping the insurance system related to weather and yield to a later stage.

This output/pillar will be implemented through priority projects related to the following drought and climate change mitigation/management and strengthening household production capacities and livelihood to reduce risks.

6.4.1 Drought Management

6.4.1.1 Defining, monitoring, evaluating the risks of drought, and promote an early warning system

Title	<i>Defining, monitoring, evaluating the risks of drought, and promote an early warning system</i>		
Location	All governorates		
Implementing Period	11 th FYNP (2011-2015)		
Duration	5 years		
Justification	Understanding the risks confronting communities and the structural, social, economical, and environmental risks, and how to control these risks on the short and long run, is the starting point for controlling the harmful effects of these risks. In this context, enhancing the capability to control risks and the actions taken to cope with risks depend directly on this comprehension.		
Objective	The two systems of Risk Assessment and Early Warning represent the base to protect human lives, material belongings, and livelihoods, in addition to sustaining development. Actually, they are more cost-effective in enhancing the mechanism of combating disasters than to after crises response and rehabilitation.		
Expected Outputs	<ul style="list-style-type: none"> - Updated drought maps and indexes at a regional bases for decision makers use - Updated and reliable advanced information to the public and researchers - An updated Early Warning System - Trained staff in risk management 		
Activities	<ul style="list-style-type: none"> - Evaluate risks on national and local levels by: Prepare drought maps; Create index system on drought threats and most vulnerable spots on the national and local level; and Record, analyze, summarize, and disseminate statistical data on the frequency of drought incidence, effects, and losses endured. - Establish an Early warning system and information systems that provide updated maintained periodical information as an ingredient of the early warning system; - Technical and Institutional capacity building: - Evaluation of regional risks: Integrate and unify information and statistical data on drought threat and its effects and losses endured on the regional level; Enhance regional and global cooperation; and Conduct research and analysis, and report one long-term changes and emerging issues. 		
Main Beneficiaries	150,000 households; in addition indirect beneficiaries such as traders, decision makers and planners		
Implementing Agencies	MAAR		
Budget US\$/million	Government	25%	
	Donors and NGOS	75%	
	Private sector/civil society		
	Total	7	

6.4.1.2 *Developing the capability of the local communities to combat drought*

Title	<i>Developing the capability of the local communities to combat drought</i>		
Location	Rief Damashek, Aleppo, Homs, Hama, Edleb, Al-Raqqa, Deir Ezzor, Al-Hassakeh, Dara'a, and Al-Swaida.		
Implementing Period	11 th FYNP (2011-2015)		
Duration	5 years		
Justification	Promoting the culture of disaster prevention by mobilizing sufficient resources and taking proper actions to combat disasters are considered a future investment that holds considerable returns that support sustainable development. The project includes preventive measures that curb the drought threat, especially in regions characterized for relatively high poverty incidence, high food insecurity, underdeveloped social setting, and deterioration for the natural resources. The project targets poor farmers in marginal areas and sheep breeders below poverty line..		
Objective	<ul style="list-style-type: none"> - Build national capacity on institutional framework of coping with droughts. - Build capacity of local communities on most affected areas - Protect most vulnerable households, and empower them to cope with drought and natural calamities. 		
Expected Outputs	- Better informed and aware technical staff and rural population to deal with risks generated from frequent droughts		
Activities	<ul style="list-style-type: none"> - Raise local community awareness on the drought phenomena and improve lands in the dry areas. - Support households of small farmers and herders in the marginal areas to convert to sustainable agricultural activities and other coping strategies - Hold literacy courses and encourage participants by providing incentives. - Raise awareness on the drought threats and how to combat it - Hold training courses to develop ability and empowerment of rural women - Train rural women on establishing income generating projects, and assess possibilities of offer loans to this effect. 		
Main Beneficiaries	30340 households		
Implementing Agencies	MAAR; MoINV and Ministry of Irrigation (MoI)		
Budget US\$/million	Government	25%	
	Donors and NGOS	65%	
	Private sector/civil society	10%	
	Total	3	

6.4.1.3 Assessing and mitigating the impact of climate changes

Title	<i>Assessing and mitigating the impact of climate changes (CC)</i>		
Location	National level with emphasis on northeastern areas including Aleppo, Homs, Al Raqqa, Deir Ezzor, Al Hassakeh		
Implementing Period	11 th FYNP (2011-2015)		
Duration	5 years		
Justification	Due to climate changes, the drought frequency in the northeast area has increased during the last decade. The livelihood of the inhabitants have been negatively affected and migration to other regions were noted. The link between climate changes, poverty and food insecurity is becoming evidenced in several parts of the World and the Near East Region.		
Objective	- To assist GoS to build and maintain a knowledge base, adapt to CC impacts, contribute to mitigating its causes and achieve food security, focusing on sustainability dimension;		
Expected Outputs	<ul style="list-style-type: none"> - Conservation of natural resources - Diversified income generating activities - Settlement and community development - Effective information and awareness-raising networks 		
Activities	<ul style="list-style-type: none"> - Assess long-term patterns of climate change and their likely impacts on the vulnerability of the agriculture, sector including livestock, rangeland, forests, fisheries. - Assess possibilities for a synergies between mitigation and adaptation in the sector. - Mainstreaming policy responses to climate change into poverty reduction strategies and into other national development policies and programmes - Enhance awareness on the culture of climate changes and mitigation; - Rehabilitate climate changes affected lands and maintain natural resources. - Support local communities in establishing income-generating activities to improve their standard of living. - Public Communication and Awareness Programmes 		
Main Beneficiaries	23,977 households		
Implementing Agencies	MAAR, Ministry of Local Administration, Ministry of State for Environment Affairs		
Budget US\$/million	Government	65%	
	Donors and NGOS	25%	
	Private sector/civil society	10%	
	Total	7	

Table (6-8): Drought Management

Project Title	Costs			Financing Sources (%)			Implementation Period (year)	Potential Source of Funding
	Foreign Currency Component \$1000	Local Currency Component S.P. 1000	Total Cost in 000 US\$	Gov.	Foreign	Private		
4.1.1. Defining, Monitoring, Evaluating the Risks of Drought, and Promote an Early Warning System	7000		7000	25%	75%		5	To be Identified through support from FAO
4.1.2. Developing the Capability of the Local Communities to Combat Drought	3000		3000	25%	65%	10%	5	To be Identified through support from FAO
4.1.3. Assessing and Mitigating the Impact of Climate Changes	7000		7000	65%	25%	10%	5	Possibly WB, FAO and other Int. Partners
Total Drought Projects	17,000	0	17,000					

6.4.2 Household Food Security and Livelihood

Food security can be achieved when all people are guaranteed to have the material and economic capability at any time to consume sufficient quantities of safe and nourishing food that meets their needs and preferences, so they can enjoy healthy life. Accordingly, this component aims to launch initiatives that enhance stability of household income to enhance the ability to reduce negative impacts of risk factors. The household food security will be more stabilized through post-harvest insurance schemes, and priority activities dealing with small scale production units and nutrition problems found in vulnerable groups (women and children particularly) due to the inability to reach food in different areas. This would be done through promoting the ability to reduce risks through diversifying livelihood strategies. The component also emphasizes on availing nutritious food through tackling the lack of minor nutrients.

6.4.2.1 Post-harvest and marketing insurance for main agricultural products

Title	<i>Post-harvest and marketing insurance for main agricultural products</i>		
Location	Latakia, Homs, and Daraa		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	<ul style="list-style-type: none"> - The importance of insurance in agriculture and agricultural trade, considering the uncertainties or unexpected harms that may affect this sector - Agricultural insurance is needed by farmers and traders, and would enhance settlements in the land and stability of income. The insurance is considered transfer of risk among sectors, among participants and among time periods. 		
Objective	<ul style="list-style-type: none"> - Support food stability and risk management depending on market-based measures - Helping farmers' settlement in their land and sustaining their agricultural work, as a result of guaranteeing the marketing of future production. - Contributing in achieving national food security. - Promoting agricultural production in terms of quantity and quality. 		
Expected Outputs	Market oriented risk management measure to provide insurance for post-harvest activities for citrus, apple and tomatoes		
Activities	Latakia (citrus), Homs (apple), Daraa (Tomato – other than plastic tomato)		
Main Beneficiaries	Pilot phase beneficiaries will be assessed. After extending the experience, all agricultural producers in all governorates would benefit from it; the total number of insured agricultural products and insurers would increase.		
Implementing Agencies	MAAR; MoF		
Budget US\$/million	Government	50%	
	Donors and NGOS	50%	
	Private sector/civil society		
	Total	0.409	

6.4.2.2 Establishing marketing centers for milk collecting and processing project

Title	<i>Establishing marketing centers for milk collecting and processing project</i>		
Location	Poor milk producing villages		
Implementing Period	11 th FYNP (2011-2015)		
Duration	5 years		
Justification	Small milk producers face several constraints in marketing their production. There is a great need to benefit from a larger economy of scale base on collective action from milk producers.		
Objective	The project aims to provide milk producers with the requirements, equipments and technical expertise, consultations and training in order to help them benefit from the value added of milk processing.		
Expected Outputs	Collective milk collection and processing capacities		
Activities	Assisting 114 villages in enhancing their livelihood and nutrition's situations through 16 milk collection and processing units, where each units serve 10 villages		
Main Beneficiaries	About 54,000 households in 144 villages that are under study.		
Implementing Agencies	MAAR and MoET		
Budget US\$/million	Government	10%	
	Donors and NGOS	40	
	Private sector/civil society	50%	
	Total	6.292	

6.4.2.3 Developing back yard farming

Title	<i>Developing back yard farming</i>		
Location	Poor households all-over the country.		
Implementing Period	11 th FYNP (2011-2015)		
Duration	5 years		
Justification	Poverty exists more in rural areas due to lack of income generating activities and inability to access food from the market due to low income. Backyard farming could be a crucial activity for providing poor households with basic needed food and income to access food from the market.		
Objective	Offering needed requirements such as inputs and equipment to develop farming in house-gardens, and offering consultations, technical expertise and training to promote income and diversify nutrition sources.		
Expected Outputs	<ul style="list-style-type: none"> - Enhance livelihood for large number of poor and vulnerable groups in rural areas - Diversified and higher level of income for poor and vulnerable rural households - Improve nutritional status for targeted children and women groups 		
Activities	Introduce backyard production activities in about 114 villages		
Main Beneficiaries	About 54,000 households		
Implementing Agencies	MAAR		
Budget US\$/million	Government	10%	<i>FAO, UNICEF, IFAD and AOAD</i>
	Donors and NGOS	40	
	Private sector/civil society	50%	
	Total	34.7	

6.4.2.4 Developing traditional home agro-processing activities

Title	<i>Developing traditional home agro-processing activities</i>		
Location	Poor Households allover the country		
Implementing Period	11 th FYNP (2011-2015)		
Duration	5 years		
Justification	There is a great need to tackle poverty and food security in rural areas through enhancing capacities of rural population is pursuing small scale income generating activities. Poverty exists more in rural areas due to lack of income generating activities and inability to access food from the market due to low income. Traditional home agro-processing income generating activities could be a crucial activity for providing poor households with income to access food.		
Objective	Offering the requirements, equipment, technical expertise, consultations and training to promote income sources through launching income-generating micro projects and enhancing the quality of traditional home-made products.		
Expected Outputs	Small scale income generating activities for poor and vulnerable groups in rural areas.		
Activities	<ul style="list-style-type: none"> - Assess feasibility of the different sizes and types of activities - Establish 16 units as model for future dissemination, where each unit serves 10 villages 		
Main Beneficiaries	About 54.000 households in 144 villages that are under study		
Implementing Agencies	MAAR		
Budget US\$/million	Government	10%	
	Donors and NGOS	40%	
	Private sector/civil society	50%	
	Total	4.7	

6.4.2.5 Extending mushroom farming

Title	<i>Extending mushroom farming</i>		
Location	North eastern region's governorates and Aleppo		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1-2 years		
Justification	The Northeast region is considered a poor and dray area. Income generating activities are highly needed to raise and diversify income. Assisting in enhancing their livelihood and nutrition's position		
Objective	<ul style="list-style-type: none"> - Qualifying agronomists working in extension units, and offering them the needed expertise in terms of mushroom production, so they in turn train farmers later on. - Bringing in new plantations that lead to increasing farmers' income, particularly small land-owners, and at the same time they don't exhaust land or water. - creating new opportunities for work. 		
Expected Outputs	<ul style="list-style-type: none"> -offering farmers the expertise in terms of mushroom production. -enhancing small land-owners' income. 		
Activities	Establishing 16 units, where each unit serves 10 villages		
Main Beneficiaries	250 households from the inhabitants of 114 poor villages; Agronomists working in extension units, and small farmers.		
Implementing Agencies	MAAR		
Budget US\$/million	Government	30%	
	Donors and NGOS	20%	
	Private sector/civil society	50%	
	Total	0.500	

Table (6-9): Household Food Security and Livelihood

Project Title	Costs			Financing Sources (%)			Implementation Period (year)	Potential Source of Funding
	Foreign Currency Component \$1000	Local Currency Component S.P. 1000	Total Cost in 000 US\$	Gov.	Foreign	Private		
4.2.1. Post-Harvest and Marketing Insurance for Main Agricultural Products	300	5,000	409	50%	50%		2	To be identified through support from FAO
4.2.2. Establishing Marketing Centers for Milk Collecting and Processing	6,292		6,292	10%	40%	50%	5	AOAD, Arabic and Regional Financing Agencies, IFAD and others
4.2.3. Developing Back Yard Farming	34,691		34,691	10%	40%	50%	5	WHO, UNICIF, AOAD, Arabic, and Regional Financing Agencies IFAD and others
4.2.4. Developing Traditional Home Agro-Processing Activities	4,690		4,690	10%	40%	50%	5	AOAD, Arabic, and Regional Financing Agencies IFAD and others
4.2.5. Extending Mushroom Farming	500		500	30%	20%	50%	1	FAO, AOAD, Arabic, and Regional Financing Agencies; IFAD and others
Total Household Food Security Projects	46,473	5,000	46,582					

6.5 Food Access, Quality and Safety

The activities under this component promote physical and economic access to access food. It supports the development and implementation of quality control systems and mechanisms in all stages of the food chain. The priority projects to be implemented under this sub-programme will lead to supporting the poor and vulnerable targeted groups.

The sub-programme will focus on harmonization of food safety/quality standards with GHP, IPPC, and *Codex Alimentarius* principles with developing the physical, institutional and technical capacities in plant and animal quarantine/facilities at border stations and at the regional level. The technical, human and institutional capacities of the Sanitary-Epidemiology Service and veterinary services should be improved and the privatization of specific activities supported. Project 6.5.1 represents a multidimensional project with interrelated components to deal with the issue of food quality and safety in a comprehensive manner.

The economic access to food varies by income level across social groups and geographic areas. Accordingly, specific activities target specific regions and segments of the population are proposed within the priority projects. Social safety nets are important elements for supporting the poor and vulnerable groups in the society. Several projects are proposed to ensure that the poor segment of the society will have the right for food and having economic and physical access to food. Projects 6.5.2 to 6.5.9 constitute complementary elements for a comprehensive programme to support the poor and enhance their access to food and livelihood. These projects deal directly with food utilization, nutritional aspects and food access.

Accordingly, the following priority projects are identified to achieve the desired goal of enhancing food access, quality and safety:

6.5.1 Support to institutional and technical capacities for food safety

Title	<i>Support to institutional and technical capacities for food safety</i>		
Location	All Governorates		
Implementing Period	11 th FYNP (2011-2015)		
Duration	3 Years		
Justification	The responsibilities of food quality control and safety is scattered among several Ministries and Agencies. The risks of pests and diseases introduction have increased dramatically with the current trade liberalization initiatives and the ongoing reform for allowing private sector imports in increasing number of inputs and output products. Limited number of highly qualified facilities and qualified personnel (trained inspectors) increase this risk and result in the spread of pests and diseases. The quarantine facilities at the main ports, in particular, require urgent reinforcement of regulations. Also, there is a high need for strengthening the capability of the internal post harvest quality control and livestock slaughter houses. The application of Syria for accession to the WTO and the increasing trade with EU necessitate the modernization of food safety facilities,		
Objective	Strengthening national institutional and technical capacities in food quality and safety management including plant and animal quarantine and quality control services for effective pest and diseases exclusion and quality improvement.		
Expected Outputs	<ul style="list-style-type: none"> - The project is divided to 2 major components (animal and crop facilities and needs). - Strengthen national capabilities through internal and overseas training - Strengthening the national food inspection programme - Supporting all major ports and post entry, and plant and animal clinic facilities. - Modernize Livestock slaughter facilities at the center and governorates levels - Improved management of national food control programmes - Protecting consumer health and enhancing opportunities for trade. 		
Activities	<ul style="list-style-type: none"> • The project is divided to 2 major components, the first deals with animal health and meat safety issues, while the second deals with plant protection and food quality and safety issues. • Identify exact training needs in all related areas and implementing tailored training. • Rehabilitation of all major ports, existing support laboratories, post entry and plant and animal clinic facilities, and government quality control laboratories. • Asses and improve animal slaughter facilities. 		
Main Beneficiaries	Farmers, Consumers, Syria's economy including environment, biodiversity, public health, import/ export trade and several other related sectors.		
Implementing Agencies	MAAR (Directorate of Animal Health and Directorate of Plant Protection) in close collaboration with MoET, MoH, MoLAE.		
Budget US\$/million	Government	10%	
	Donors and NGOS	90%	
	Total	2.320	

6.5.2 Alleviating children hunger and undernourishment in the northern, eastern and Al Badia regions⁴

Title	<i>Alleviating children hunger and undernourishment in the northern, eastern and Al Badia regions</i>		
Location	Northern, Eastern and Al Badia regions		
Implementing Period	11 th FYNP (2011-2015)		
Duration	3 years		
Justification	Malnutrition continues to undermine Syria's human development and is one constraint to achieving the MDGs. Syria is classified among the worst MENA countries regarding children malnutrition.. The absence of a national nutrition strategy has resulted in weak collaboration with stakeholders. The rise in price of food is an aggravating factor. The achievement of MDGs could be at risk.		
Objective	Improving the nutrition status of children with innovative approaches as the rapid deployment of new technologies to eliminate micronutrient deficiency.		
Expected Outputs	<ul style="list-style-type: none"> - Alleviated children hunger and under-nutrition in the Northern, Eastern and Badia - Sustained favorable socioeconomic environment for better nutrition, and - Improved nutrition surveillance. 		
Activities	The Program activities are designed to target the three interlinked outcomes: By focusing on food and nutrition interventions, the program will serve as a catalyst for structural changes and as a base for further mobilization of co-financing from the international community, from the private sector as well as from the Government of Syria itself. The Joint Program will maintain a focus on achieving tangible, measurable results by (i) further strengthening monitoring and evaluation of all health and social sector activities, (ii) emphasizing health and nutrition interventions with strong evidence of effectiveness, (iii) improving the quality of nutrition surveillance, and (iv) improving monitoring of the MDG achievement.		
Main Beneficiaries	6250 households from the most vulnerable classes and food unsecured groups in the area under study.		
Implementing Agencies	UNICEF, WFP, WHO, UNDP in close cooperation with the Government Agencies, governorates and local partners in Northeastern region		
Budget US\$/million	Government	10%	<i>UN Participating Organizations US\$ 5,522,805 as follows:</i> <ul style="list-style-type: none"> • UNDP (\$318,325) • UNICEF (\$1,875,710) • WFP (\$2,604,380) • WHO (\$724,390)
	Donors and NGOS	90%	
	Private sector/civil society		
	Total	5.523	

⁴ This programme was prepared and reviewed by the national government and the UN Country Team.

6.5.3 *Field surveys for vulnerable and food insecure groups*

Title	<i>Field surveys for vulnerable and food insecure groups</i>		
Location	all Syrian governorates		
Implementing Period	11 th FYNP (2011-2015)		
Duration	3 years		
Justification	<ul style="list-style-type: none"> - Lack of information and reliable data about the number and status of vulnerable groups and food insecure segments at the local level (governorate), and on the national level where no precise information are available about their numbers and causes of poverty as well their coping strategies with economic situation and events. - Supplementing a national information system and maps of food security and vulnerability in Syria. 		
Objective	<ul style="list-style-type: none"> - Completing the information about food insecurity on Syrian governorates and regions' level in order to draw relevant policies and take adequate procedures to restrict food insecurity for fragile classes in Syria; - Benefiting from FAO project on "Food insecurity in Syria" in order to reach the most vulnerable classes in Syria; - Establishing a national system for information, vulnerability and food insecurity maps; - Contributing to social and economic development in Syria, and achieving the goal of World Food Summit and MDGs of reducing number of poor population and food insecure people; - Helping reducing internal migration and increasing farmers' sticking to their lands (farmers from fragile classes) by enhancing their social and economic situations in accordance with the results of this project's surveys. 		
Expected Outputs	Updated and reliable Poverty and Food Insecurity Map		
Activities	Carry out a survey to identify targeted poor, food insecure and vulnerable groups in rural and urban areas		
Main Beneficiaries	About 250,000 households. The most vulnerable groups and food insecure groups in area under study and other areas that may be discovered during surveys Government and policymakers by offering them the essential information needed for treating food insecurity cases.		
Implementing Agencies	MAAR and the State Planning Commission (SPC)		
Budget US\$/million	Government	10%	<i>Assisting of FAO /UNDP</i>
	Donors and NGOS	90%	
	Private sector/civil society		
	Total	0.261	

6.5.4 Scaling up the “food for education” programme

Title	<i>Scaling up the “food for education” programme</i>		
Location	Aleppo, Al Hassakeh, Al Raaqa, and Deir Ezzor governorates.		
Implementing Period	11 th FYNP (2011-2015)		
Duration	3 years		
Justification	<p>Northeastern regions suffer from high rates of school absence and dropout. The dropout rates increase in case of females due to other reasons, such as early marriage or families’ undervaluing of girl’s education. Besides, health indicators related to malnutrition are increasing in the north eastern region.</p> <p>GoS launched a programme in 1981 for distributing food coupons vis-à-vis children’s education. After extending the project for 3 times, it ended in 1997.</p> <p>A new project’s document was signed in 2008, Ministry of Education started in cooperation with WFP to implement project No. 10678, “education for food” in 145 schools in the 5 targeted governorates.</p> <p>The contribution of WFP in the programme will stop in the fourth year. Thus, there is a need for additional finance to cover further schools in north eastern governorates. It is therefore suggested that the programme finances 30% of provision portions after the finalization of the WFP contribution.</p>		
Objective	Scaling up the GoS/WFP project through providing food and enhance the nutritional/food security and health status for targeted students in their schools. The programme will encourage women to attend educational institutes, capacity building and practical courses. The programme will encourage poor households to send their children to schools and will reduce the seepage rate out of schools.		
Expected Outputs	Enhanced food security status and nutritional aspects for about 36,000 students and 21,000 women during the first three years. The programme will distribute in-kind food among the beneficiaries.		
Activities	<ul style="list-style-type: none"> - Evaluating the first stage of the project and deciding which one of the two methods was more efficient in delivering advantages, home portion and school portion. - Specifying schools in north eastern region that were not covered by the first stage - Setting the precise criteria for selecting schools Including: 1) rates of dropout and absence 2) gender gap 3) the school administration’s desire. - Launching a media campaign through public media. - Sorting provision portions and preparing them, and then start distributing them - Starting monitoring and evaluating activities in new comer schools to the second stage. 		
Main Beneficiaries	30,000 students in 150 schools		
Implementing Agencies	Ministry of Education, State Planning Commission (SPC), Ministry of Social Affairs and Labor		
Budget US\$/million	Government	20%	WFP
	Donors and NGOS	80%	
	Private sector/civil society		
	Total	4.318	

6.5.5 Supporting small farmers in northern and eastern governorate

Title	<i>Support small farmers in northern and eastern governorate</i>		
Location	Aleppo, Al Hassakeh, Al Raqqa and Deir Ezzor governorates.		
Implementing Period	11 th FYNP (2011-2015)		
Duration	4 year		
Justification	Poverty and relative food insecurity prevail more in the northern and eastern governorates. These regions are arid with low rainfall rates. Providing technical and other forms of support is highly needed. There is a need for increasing government investment in these areas and ensure that such investment is transferred to capital formation for these small holders.		
Objective	The project aims at directing technical and material support to small land holders, and it will head towards develop their estates and enhance their income, either through promoting production efficiency or through finding the best marketing channels for them.		
Expected Outputs	Enhance capacities of small holders and food insecure groups to access food in the economic and physical dimensions.		
Activities	<ul style="list-style-type: none"> - delivering technical support to the executive units. - listing down small land-owners' names and addresses. - specifying beneficiaries' requirements. - delivering technical support to the benefited households. - delivering material support to the benefited households. - following up benefited households' livelihood. 		
Main Beneficiaries	<ul style="list-style-type: none"> - 10,000 households. - Small landowners: who rely on their estates as a single source of income. - Small farmers: who own 0.2 Ha or less in irrigated areas and 1 Ha or less in rainfed areas. 		
Implementing Agencies	WFP and possibly FAO in close collaboration with Government Agencies and NGOs		
Budget US\$/million	Government	20%	<i>WFP/ assisting of FAO</i>
	Donors and NGOS	80%	
	Private sector/civil society		
	Total	2.470	

6.5.6 Medical testing to investigate malnourishment cases in northern and eastern governorates

Title	<i>Medical testing to investigate malnourishment cases in northern and eastern governorates</i>		
Location	Aleppo, Al Hassakeh, Al Raqqa and Deir Ezzor governorates		
Implementing Period	11 th FYNP (2011-2015)		
Duration	1.5 year		
Justification	Poverty and food insecurity lead to unhealthy and unproductive population. Poor health and widespread diseases are highly correlated with poverty and food insecurity. In addition to the material dimension and illiteracy, poverty reflects poor health and sickness. Probably, the basis of sickness is malnourishment, or more precisely undernourishment. Therefore, the indicator of malnutrition (expressed as the percentage of children under 5 years who suffer from weight loss) has been incorporated into a comprehensive poverty indicator e.g. "Human Poverty Indicator".		
Objective	The project aims at encouraging population to carry out the needed medical tests. It aims at improving and supporting the existing health unit to be qualified to shoulder this task in targeted governorates and securing mobile clinics for villages located in remote areas.		
Expected outputs	<ul style="list-style-type: none"> - Early identification and diagnosis of malnourishment and undernourishment cases among poor and vulnerable groups with emphasis on children. - Children supported through tackling malnourishment and undernourishment cases through delivering an in-kind food and medical packages. 		
Activities	<ul style="list-style-type: none"> - specifying health units spread in targeted governorates and specifying villages and areas located around them, then specifying villages that have no health units; - specifying health units' requirements; such as re-qualification, conservation, and providing with equipments; and then starting actions related to that; - specifying villages that need to be served by mobile health vehicles, and distributing them among 30 health vehicles; - starting training the health cadre in various areas, starting from how to deal with people and skills of communications with targeted citizens, and then training them on the new methods in making tests related to malnutrition; - launching a media campaign that particularly targets population who have under-five years children; - Carrying out needed medical tests; - Selecting and distributing coupons and other types of food baskets depending of health situation. 		
Main beneficiaries	<ul style="list-style-type: none"> - 400,000 citizens would benefit from the clinical test - 40,000 citizens would benefit from the in-kind basket 		
Implementing agencies	State Planning Commission (SPC) and Ministry of Health		
Budget US\$/million	Government	60%	<i>WHO</i>
	Donors and NGOS	40%	
	Total	31.655	

6.5.7 Establish Consumer Cooperative Societies to support poor households in northeastern governorates

Title	<i>Establish Consumer Cooperative Societies to supporting poor households in northeastern governorates</i>		
Location	Aleppo, Al Hassakeh, Deir Ezzor and Al Raqqa governorates		
Implementing Period	11 th FYNP (2011-2015)		
Duration	3 year		
Justification	Poor population could have effective negotiation power if work jointly. Nevertheless, poor population lacks the mean to organize themselves and start activities that improve their livelihood. Moreover, their fears from legal and executive actions keep them away from enjoying advantages and achievements of collective actions. Cooperation is a factor that encourage poor population for settlement and reduce the possibilities of migration to urban areas. It also strengthens social and economic links among the populations in targeted areas, and allows for a kind of “insurance” against risks and sudden shocks. They surely enhance their access to food.		
Objective	The project aims at encouraging the populations in close villages to establish Consumer Cooperative Societies, and assisting them to overcome legal and logistical barriers.		
Expected outputs	<ul style="list-style-type: none"> - Established Consumer Cooperative Societies. - Improve food physical and economic access to the poor and vulnerable groups - Ensured food quality and safety 		
Activities	<ul style="list-style-type: none"> - Defining targeted regions and villages and determine needs and priorities; - Starting legal, financial budget and marketing plans and logistic steps to establish these societies; - Identify a list of the neediest family group consisting of 25,000 households suffering from absolute poverty using the Social survey and data base of Ministry of Social Affairs and Labor (MoSAL); - Distributing coupons to these households to enable them get commodities they need for free under a ceiling of 500 S.P. per month. - Distributing monthly partial food baskets that include main nutritious components needed for human body; the basket’s value is 1000 S.P. 		
Main beneficiaries	<ul style="list-style-type: none"> - 400,000 citizens would benefit from societies - 25,000 would benefit from monthly aids. 		
Implementing agencies	Ministry of Social Affairs and Labor.		
Budget US\$/million	Government	40%	
	Donors and NGOS	60%	
	Private sector/civil society		
	Total	28.712	

6.5.8 Piloting “direct income transfer” support system in the three eastern governorates

Title	<i>Piloting “direct income transfer” support system in the three eastern governorates</i>		
Location	Al Hassakeh, Al Raqqa, Deir Ezzor and Aleppo governorates, as well as the coastal region.		
Implementing Period	11 th FYNP (2011-2015)		
Duration	2 years		
Justification	Targeting the poor segment of the society is still a problem. The other price distorting and blanket subsidies system has several disadvantages of not reaching the poor only and lots of resources are wasted for rich groups. Direct income transfer to the poor is a way to stop the crowding out of the well to do segment of the society to the poor segment in benefiting from the Government subsidies.		
Objective	Supporting “National Fund for Social Aid” in the three eastern governorates to ensure further targeting of poor segment of the society and provide direct income support on a pilot bases with special emphasis on People unable to work; elderly, disabled, people with special needs and lost their livelihood because of the drought		
Expected outputs	<ul style="list-style-type: none"> - Identified poor segment in the selected governorates with higher income and better position to access food and enhance their livelihood and welfare. - A support system that is not market distorting and in agreement with WTO regulations 		
Activities	<ul style="list-style-type: none"> - Conducting a comprehensive evaluation-study about the progress of “National Fund for Social Aid” in targeted governorates; and estimate the required number of centers, equipment and human resources. - Updating the Fund’s database in targeted governorates by conducting field-survey, - Training workers in the Fund’s branches - Promoting “targeting” within targeted governorates by dividing poor populations into two groups, poor and absolute poor, and issue social cards enabling them to enjoy specific advantages/services based on their needs and income level; - Evaluating the Fund’s progress in targeted governorates, and put efforts to enhance its performance and eliminate barriers that it faces. 		
Main beneficiaries	100,000 households People unable to work; elderly, disabled, and people with special needs. People who lost their livelihood because of the drought		
Implementing agencies	Ministry of Social Affairs and Labor		
Budget US\$/million	Government	40%	
	Donors and NGOS	60%	
	Private sector/civil society		
	Total	6.117	

6.5.9 Scaling up the national programme for women empowerment and combat poverty

Title	<i>Scaling up the national programme for women empowerment and combat poverty</i>		
Location	All Governorates with emphasis on Homs , Aleppo, Idleb, Lattakia, Al Raqqa, Deir Ezzor, Al Hassakeh		
Implementing Period	11 th FYNP (2011-2015)		
Duration	5 years		
Justification	<ul style="list-style-type: none"> - Ease poverty impact on most poor areas through women empowerment. - Enhance the contribution of local communities, mainly women on development plans formation. - Make use of the local human capacities and make the best use of them. - Build integrated database on poor regions and marginal groups in Syria in the context of this programme. - Insure the contribution of local authorities and leaders in setting the development priorities from the perspective of the beneficiaries themselves (social services). 		
Objective	Enhance women empowerment to reduce poverty and achieve the MDGs for poverty reduction and food security through mainstreaming women activities and empowerment in the major rural and agricultural development programmes. Reduce the percentage of poor under the upper poverty line from 30.13 to 22.65%,and reduce the percentage of poor under the lower poverty line from 11.39 to 8.75%.		
Expected Outputs	<ul style="list-style-type: none"> - Economic, social, and institutional empowerment of women through economic activities and increasing women contribution in decision making process. - Contribute to achieving the goals of MDGs, the tenth five-year plan in addition to the eleventh five -year plan regarding poverty and food security. 		
Activities	<ul style="list-style-type: none"> - Economic, social, and institutional empowerment of women through improving human development indexes; expanding investment in human development sectors; enhancing autonomous capabilities of poor, insure their self-reliance, and enhance their local organizations; improving infrastructure and indexes of standard of living for the targeted areas. - Introduce especial programmes designed for rural women to promote their contribution in income generating activities such as: conduct literacy courses; promote hand-made manufacturing; conduct sewing courses and providing sewing machines; train rural women, the corner stone for development process, to acquire income generating skills (handcraft, manual, swing, knitting traditional stuff, etc). - Contribute in achieving the MDGs and the tenth five-year plan, and eleventh five - year plan through ensuring easy access to training and extension programmes. 		
Main Beneficiaries	30.000 households.		
Implementing Agencies	Ministry of Social Affairs and Labor		
Budget US\$/million	Government	25%	
	Donors and NGOS	65%	
	Private sector/civil society	10%	
	Total	5	

Table (6-10): Food Access, Quality and Safety

Project Title	Cost			Financing Source (%)			Implementation Period (year)	Potential Source of Funding
	Foreign Currency Component \$1000	Local Currency Component S.P. 1000	Total Cost in 000 US\$	Gov.	Foreign	Private		
5.1. Support to Institutional and Technical Capacities for Food Safety	2,088	10,672	2,320	10%	90%		3	To be identified through support from FAO
5.2. Alleviating Children Hunger and Undernourishment In The Northern ,Eastern and AlBadia Regions Programme	5,523	0	5,523		100%		3	UNDP, UNICEF, WFP, WHO
5.3. Field Surveys for Vulnerable and Food Insecure Groups		12,000	261				3	To be identified through support from FAO
5.4. Scaling up the “Food for Education” Programme	4,318		4,318	20%	80%		3	WFP
5.5. Assisting Small Farmers in Northern and Eastern Governorates	2,470		2,470	20%	80%		4	WFP; assisting of FAO
5.6. Medical Testing to Investigate Malnourishment Cases in Northern and Eastern Governorates	31,655		31,655	40%	60%		1.5	WHO
5.7. Establish Consumer Cooperative Societies to Supporting Poor Households in Northeastern Governorates	28,712		28,712	40%	60%		3	To be identified through support from FAO
5.8. Piloting “Direct Income Transfer” Support System in the Three Eastern Governorates	6,117		6,117	40%	60%		2	UNDP, EU
5.9. Scaling up the National Programme for Women Empowerment and Combat Poverty	5,000		5,000	30%	65%	0.1	5	To be identified through support from FAO
Total Food Access, Quality and Safety Projects	85,883	22,672	86,376					

VII Implementation Arrangements

7.1 Implementation and Managerial Oversight

A high level meeting was held on 30/6/2010 to discuss the developments in the preparation of the NPFS. The meeting was chaired by the Deputy Prime Minister for Economic Affairs and attended by the Minister of Agriculture and Agrarian Reform, Deputy Chairman of State Planning Commission, General Director of Water Recourses, Chairperson of Commission of Family Affairs, Director of Decision Support Directorate, and Director of National Agricultural Policy Center,. The following decisions were reached:

1. Approving the NPFS and transmit it to the State Planning Commission (SPC) for inclusion in the 11th Five Years Development Plan (FYNP).
2. Appointing the SPC to establish an Administrative Unit to oversight and manage the NPFS in close coordination with other related Agencies.
3. Stressing the role of civil society and private sector in contributing to the implementation of the NPFS.
4. Agreement to hold a national workshop in collaboration with FAO. The aim of the workshop is to present and discuss the NPFS, and to be attended by food security related national and international agencies and donors.

Accordingly, the NPFS will be executed through a specialized administrative unit under the State Planning Commission (SPC). The Unit will shoulder the responsibility of preparing the annual plans for the programme, and following up their implementation. The SPC was selected to lead the implementation of the NPFS due to its mandate as the major actor in preparing the Five Year National Plans as well as annual plans, which allows it to follow up the implementation, in coordination with other concerned sectors.

It is suggested to follow up the programme's implementation through the following legislative and institutional adjustments:

1. Activating the role of the Supreme Council for Food Security in Syria and promoting its assignments so to include following-up the stages of programme implementation in collaboration with the SPC.
2. Establishing a national committee that includes deputy ministers of the concerned ministries, concerned directors and representatives of people's NGOs to prepare for the programme implementation requirements. The committee would be headed by the chief of SPC, and the newly established unit in SPC will act as its Secretariat.
3. Assign sections/divisions in concerned ministries and governorates to support the implementation of the programme.

7.2 Monitoring and Evaluation

A Monitoring and Evaluation Activity is an integrated part of the Programme's design. The proposed Unit within SPC overlooking the implementation of the NPFS would operate a 'Results-Based Monitoring and Evaluation System' (World Bank, 2004). A 'Results Based Monitoring and Evaluation System' is a powerful public management tool that can be used to help policymakers and decision makers

track progress and demonstrate the impact of a given project, program or policy. A 'Results-Based Monitoring and Evaluation System' that is well implemented and carried out, will greatly enhance the capacity to measure progress towards achieving the aims listed above. 'Monitoring and Evaluation' (M&E) will provide the Coordination Unit within the SPC with answers as to 'how to improve performance' of NPFS's operations.

Monitoring will be implemented through the SPC by regular tracking of the selected indicators using the criteria of measurability, adequacy, and cost effectiveness of data collection to answer the following questions:

- whether the planned activities within the NPFS were carried out;
- whether the forecasted intermediate indicators for food security have been achieved; and
- whether the intermediate results of the policy and institutional measures provided through the envisaged strategy for sustainable agricultural development till 2030 and other institutional activities satisfy the policy objectives.

The fundamental criteria that will be considered by the SPC for monitoring the NPFS are:

- i. Adherence to implementation schedules;
- ii. Consistency with market-based sustainable agricultural development and food availability principles;
- iii. Consistency with national development goals as stipulated in the constitution or relevant pieces of legislation;
- iv. Cohesiveness to ensure there is consistency between the priority areas in the programme and specific actions within each area; and
- v. Adherence by the various actors at the Governorates and district level to their mandate (i.e. executing their roles and responsibilities and measuring the effectiveness of their activities in delivering services and attaining the stated goals and objectives).

The SPC will be responsible for the monitoring and evaluation process using these criteria and others to monitor the progress made in implementing the NPFS as a whole, and for monitoring the implementation of the Programme by Region/Governorate. Each Ministry could be responsible for providing the major elements for monitoring activities within its mandate.

Many indicators only reveal their importance in comparison with a baseline. The overall monitoring of the programme should also draw on the monitoring frameworks established for specific activities.

Evaluation – An indicators system identifying the quantitative and qualitative conditions for sustainable agricultural development and food security in Syria will be developed and used in the monitoring process.

The system of indicators to be developed further by the SPC may include the following:

(a) National Indicators: The national indicators will be used to reveal specific changes, trends and problems related to food security, as well as to identify weaknesses, strengths, opportunities and threats. For example, indicators related to the current status of the food supply system could include:

- The ratio of actual food consumption per capita to recommended food consumption norms i.e. the food security coefficient or FSC;
- The ratio of food availability (production + import- export-production losses and expenses) per capita to recommended food consumption norms characterized i.e. the food availability coefficient or FAC;
- The ratio of local food production per capita to recommended food consumption norms i.e. food self sufficiency coefficient or FSSC;
- The ratio of food import to local consumption;
- The ratio of actual animal protein consumption to the minimum required norm;

- The ratio of actual caloric intake to minimum recommended levels (indices of minimum and recommended caloric intake values);
- The share of food expenditures in total consumption expenditures, %;
- The share of children 6-59-months with acute and chronic malnutrition, %;
- The share of children 6-59 months of age and women of childbearing age with an iodine deficit, %;
- The share of children 6-59 months of age and women of childbearing age with anaemia, %;
- The share of children 6-59 months with deficit of vitamin A.

In addition, other key indicators could be considered by the SPC such as:

- % of the rural population living in poverty;
- % of the rural population with access to financial services (possessing a bank account and/or a loan from a financial institution);
- km of rural roads built;
- number of service organizations registered in rural areas;
- number of dams rehabilitated;
- number of new dams constructed;
- number of registered water users' associations;
- km of irrigation canals rehabilitated/built;
- production and yield of major crops;
- average weight of live cattle at point of sale;
- incidence of critical livestock diseases.

(b) Impact Indicators: Impact indicators include qualitative and quantitative evaluation of the changes arising from programme activities that will be measured through the impact assessment; and will serve as an information base for decision making as well as for justifying, identifying and evaluating new priorities.

Data collection for the identified indicators will be implemented on a regular basis, and a systemic approach will be used for data collection processes. Most data, especially quantitative data will be provided by the Central Bureau of Statistics (CBS) and other ministries and agencies, thus the responsibility for data provision will be in accordance with program needs with the relevant public agencies.

Reports: Monitoring and evaluation results will be published on an annual basis (in conformity with Government/SPC rules) and provided to all stakeholders. This will provide necessary feedback at the decision making level, to direct program executors (ministries and agencies) and to the public at large (the final beneficiary group). The following will be considered:

- Administrative units in different regions report to the concerned directorates in the governorates.
- The units in concerned directorates in the governorates report periodically to the ministries each 3 months.
- The National Committee reports periodically to the National Council each 3 months. The costs of carrying out the M&E tasks including the base line surveys, periodical and end of the programme evaluation as well as reporting are accounted for in the NPFS estimated budget (Chapter 5).

VIII. Risks and Mitigating Measures

Risk analysis for factors that may hinder the proper and sequenced implementation of the identified programmes and projects is an integral part of the formulation of the NPFS in Syria and of the envisaged results-based management of the NPFS. The major risk factors were identified through systematic brainstorming sessions with the multidisciplinary formulation teams and stakeholders in the regions. Activities to mitigate the impact of the identified risk factors were proposed as activities within the programme elements. Some of the risk factors outside the control of the MAAR and the management unit of the SPC were identified as assumptions needed to be followed closely during M& E process. It is assumed that Syria is ready in committing to sustain a continuous effort to provide and enhance the needed domestic capacity to monitor all aspects of the NPFS and to study rapidly changing developments.

The SPC in charge of coordinating the implementation of the NPFS has demonstrated its commitment to the task at hand.

The main risks to programme implementation and achievement of its objectives are:

<i>RISKS</i>	<i>IMPACT*</i>	<i>RATING*</i>	<i>MITIGATION</i>
Delays in clearing and approving the NPFS from Administrative and Legislative Authorities	L	L	<ul style="list-style-type: none"> • Participation of stakeholders at all levels in formulating the Programme was ensured • An Action Plan with a clear implementation modality is suggested • The SPC has already agree to include the MPFS in the 11th FYNP (2011-2015)
In some Ministries and Regions/Governorates, limited institutional capacity could slow or constrain programme implementation	S	S	<ul style="list-style-type: none"> • Relevant institutional development needs are being addressed under a special Sub-component/Pillar • Technical Assistance support will be provided to targeted institutions
Lack of motivation of personnel to be selected for the Inter-Ministerial Committee to support the management unit within the SPC	S	S	Careful selection and training of personnel
Farmers and agro-industry stakeholders are poorly organized and will have difficulties forming cohesive, democratic organizations to represent their interests	M	M	On-going efforts to improve farmers' organizations and agro-industry continually building local capacity will promote enhanced support towards operationalize representative stakeholder organizations
The presence of contradicting priorities stemming from the availability of several strategic frameworks and plans for agricultural development with high relevance to food security	L	L	<ul style="list-style-type: none"> • Formulation of the NPFS followed a transparent stakeholders participation process; and took into consideration existing strategic framework and plans • One activity is proposed to prepare a strategy for sustainable agricultural development till 2030 to constitute the policy environment for the implementation of the NPFS
Benefits support to large farmers and processors and resource-poor small farmers are deprived of much needed support	M	M	Benefits of support are effectively targeted towards the poor at community and household levels through targeted programmes and Social Safety Nets
Lack of funds to finance the implementation of the Programme as planned through the FYNPs	S	S	<ul style="list-style-type: none"> • Government contribution is over 25% of needed investment. • Inclusion of the priority projects in the upcoming Government's 11th and 12th Five Year Plans
Delays and not committing expected contribution from partners in development	S	S	Donors meeting with the help of FAO is proposed upon the approval of the Programme
Size, complexity and variety of recommended measures and projects may contribute to misunderstandings between and amongst responsible line ministries about management and implementation issues	M	M	Programme management and implementation arrangements have been carefully thought through and conceived to mitigate against this risk. Nevertheless, the Inter-ministerial Committee (management unit) needs to be vigilant during execution to forestall potential problems
Overall Programme risks	M	M	

*Risk Impact and Probability Rating: S=Sever/Substantial, M=Moderate, L=Low

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ANNEXES

Annex 1

General Matrix of the National Programme for Food Security –NPFS- in Syria (the Logical Framework)

Summary of objectives and activities	Monitoring Indicators	Sources of verification	Assumptions
<p>Impact- Overall Objective: Achieving Sustainable Agricultural and Rural Development and Alleviate Poverty</p>	<ul style="list-style-type: none"> • Reducing the percentage of absolute poor people, from 11.4% to less than 5% within 10 years • Reducing the percentage of poor people from 34% to less than 20% within 10 years 	<p>Central Bureau of Statistics (CBS) MAAR and relevant Ministries</p>	<ul style="list-style-type: none"> • Macroeconomic policy reform continued through the implementation of the principles of Social Market economy • Social Safety Net Measures are timely and effectively implemented • Subsidies system becoming more targeted and efficient • Reform of agricultural and rural policies and institutions is progressing • Investment in agricultural and rural development is enhanced
<p>Outcome - General Objective: achieving and enhancing food security in Syrian Arab Republic</p>	<ul style="list-style-type: none"> • Increasing available food and promoting its stability and access, both quantitatively and qualitatively • Reducing migration from rural regions and Al Badia by at least 60% during 5 years • Increased ratio of actual caloric intake to minimum recommended levels (indices of minimum and recommended caloric intake values) by 2016; • Reduced % share of children 6-59- 	<ul style="list-style-type: none"> • The formal field survey on household expenditure and consumption, conducted by Central Bureau for Statistics • Special baseline and periodical surveys for the National Programme for Food Security 	<ul style="list-style-type: none"> • Full implementation of the envisaged role of other relevant Ministers and Agencies such as MoH, MoET, MoLDE, MoT, SPC, etc. • Enhanced Government expenditure in public goods such as investment in agriculture rural infrastructure, agricultural research and extension, etc. to support the competitiveness of agricultural products throughout the value chain

	<p>months with acute and chronic malnutrition by 2016;</p> <ul style="list-style-type: none"> • Percentage annual increase in yield of major crops higher than historical trend 		<ul style="list-style-type: none"> • Normal regional and international trade flow
<p>Specific Objectives:</p> <ol style="list-style-type: none"> 1. Sustainable Utilization of Natural Resources 2. Agricultural Production and Productivity are enhanced 3. Policies, Institutions and Supporting Services are promoted 4. Improved Food Stability and Risk Management are improved 5. Food Access, Quality and Safety are achieved 	<ul style="list-style-type: none"> • Increasing irrigated areas in targeted regions • Increasing agricultural production (both plant and animal productions) through promoting the productivity • Recovering the production capacity for 1 million hectares of al Badia and marginal region • Increasing herders' income by 50% 	<ul style="list-style-type: none"> • Baseline and periodical field survey • Base line and periodical questionnaires for beneficiary herders 	<ul style="list-style-type: none"> • Land rehabilitation • Applying modern irrigation techniques • Implementing the instructions of agricultural scientific research centers • Keeping targeted regions away from disasters based on efficient risk management • Institutions commitments to the achievement of the goals of the NPFS
Outputs/ Projects/Activities:			
1. Enhance Efficiency of Natural Resources Management			
1.1 Improved Water Resources Management	<p>- Extending irrigated areas by about 150,000 hectares by securing new water resources and increasing current productivity of irrigated land by about 30% due to using water harvesting techniques and shifting towards modern irrigation systems</p> <p>- Reducing the percentage of those unable to reach drinkable water by 50% within 5 years</p>		
1.1.1 Rehabilitating and Developing Tigris and Alkhabour basin		<ul style="list-style-type: none"> • Field surveys and reports submitted by concerned committees, such as committees on shifting towards modern irrigations systems, as well as regular reports from the programme managing units in the governorates 	<ul style="list-style-type: none"> • The collaboration with local community and the readiness of local leaders and individuals to apply the shifting towards modern irrigation
1.1.2 Promote community-based improved water management practices in the north and northeastern arid region		<ul style="list-style-type: none"> • Field surveys and reports submitted by concerned committees, and regular reports from the programme managing units in the governorates 	<ul style="list-style-type: none"> • The final agreement to be reached with neighboring countries on water quota allocation under international law.
1.1.3 Expansion of improved packages of water harvesting in the southern region			<ul style="list-style-type: none"> • Securing the required fund and the participation of local community in managing water distribution
1.1.4 Expanding Integrated watershed management and enhanced role of natural resources in food security in Coastal Area			

1.1.5 Promote the transfer to modern irrigation systems 2010 – 2015			
1.1.6 Extending Euphrates water to Palmyra and phosphate mines, and then to the industrial city of Hisia.			
1.1.7 Establishing water reservoirs on the western side of Al Ghab plain			
1.1.8 promote the development of Homs – Hama irrigation network by introducing modern irrigation techniques on the field level, in addition to transforming disclosed irrigation networks to pressed tubes			
1.2 Environment			
1.2.1 Expanding the project of the integrated development of the Syrian Al Badia	<ul style="list-style-type: none"> • Planting 10,000 hectares with seeds and pastoral shrubs, and distributing 500 heads of enhanced Awassi male sheep among herders 	<ul style="list-style-type: none"> • Field surveys and reports submitted by concerned committees as well as reports of the Programme Management Unit (SPC) and other committees at the governorates level. 	<ul style="list-style-type: none"> • The existence of database dedicated to pastures, local community's desire to work, and securing the needed funds and experience
1.2.2 Improving productivity of irrigated reclaimed lands in the Euphrates basin	<ul style="list-style-type: none"> • Establishing and founding 100 mobile units for processing and marketing milk • Establishing 10 veterinarian centers, and securing the establishment of 10 schools and 10 health centers, and securing their requirements • Supporting education and organizing courses for eliminating illiteracy • Qualifying 5000 bedouin woman for knitting, house economics and processing animal production • Offering women needed loans for establishing income-generator projects • Developing roads' network • Digging and equipping 100 artesian and superficial wells • Building 15 small dams and barrage for 	<ul style="list-style-type: none"> • Data from CBS, MAAR and other related ministries 	

	<p>water assembling</p> <ul style="list-style-type: none"> • 10. Using alternative energies (solar energy stations, and technique for producing biogas and organic fertilizers 120 units) within 10 years • Rehabilitating 3000 to 5000 hectares and establishing the networks within 5 years 		
1.3 Forestry	<p>- Preparing 2 locations for agricultural tourism (in 5 years); and establishing units for processing and stilling thyme, garland, mint and basil as well as other plants in the forest (5 years)</p>	<p>Field surveys and reports submitted by concerned committees as well as reports of the Programme Management Unit (SPC), related to the NPFS</p>	<p>The existence of a database, availability of funds and experience</p>
1.3.1 Supporting environmental tourism			
1.3.2 Promote the exploitation of herbs and medical plants in afforested areas			
1.3.3 Apiculture project			
2. Enhancing Agricultural Production and Productivity			
2.1 crop production	<p>- Planting about 6000 hectares in two years</p> <p>- Bringing in medical and pharmaceutical herbs to be planted on an area estimated at 10,000 hectares within 5 years</p>	<ul style="list-style-type: none"> • Field surveys and reports submitted by concerned committees as well as reports of the Programme Management Unit (SPC) and other committees at the governorates level. • Data from CBS, MAAR and other related ministries 	<ul style="list-style-type: none"> • The existence of a database, availability of funds and experience • Securing funds, experience and other requirements (laboratories and materials) in the proper time
2.1.1 Promoting Sustainable agricultural production through promotion of conservation agriculture in Syria			
2.1.2 Introduction and promotion of high value cash crops in Syria			
2.1.3 Promote the production of domestic seeds of vegetables, reliable fruit seedlings			
2.1.4 Expand the plantation of medical and aromatic plants, classify, and export			
2.1.5 Promote the integration of crop and livestock production			
2.1.6 Building refrigerating units to store potato seeds produced by the national project (Aleppo and Hama)			
2.1.7 Establishing integrated organic			

farm (crop and livestock production) licensed by authorized certificate granting organization			
2.2 livestock production	- Enhancing pastures and promoting household income for 250,000 households within 5 years	<ul style="list-style-type: none"> • Field surveys and reports submitted by concerned committees as well as reports of the Programme Management Unit (SPC) and other committees at the governorates level. • Data from CBS, MAAR and other related ministries 	<ul style="list-style-type: none"> • The existence of database, availability of fund and experience • Availability of fund and experience
2.2.1 Promote integrated development for livestock in Syria	- Establishing 4 units in two years		
2.2.2 Enhance Integrated and participatory recovery and management of steppe resources in Homs province	- Establishing 6 schools for extension in targeted regions		
2.2.3 Produce improved-sheep (Awassi) and provide it to breeders, cooperatives, and agricultural development projects at the cost price	- Creating an IMS in 2 years		
2.2.4 Introduce turkey breeding in rural Houses			
2.2.5 Promote the production of domestic chicken, and set up middle-size production units			
2.2.6 Promote integrated project to produce fish and ducks in pools			
2.2.7 Establishing silage processing units from crop residues (sugar beat, tomato pulp, and other residues resulting from food processing, to feed milking cow cattle			
2.2.8 Supporting flowering sern fodder under olive trees			
2.2.9 Enhance capacities on uplifting the nutritional value of agricultural residues			
2.2.10 Intensifying sheep breeding , and			

lambs fattening , nearby land planted with olive trees			
2.2.11 Calf fattening and benefit from improved agricultural remains			
2.2.12 Supporting the establishment unites for Awassi male sheep (lamb) fattening by the intensive production system			
2.2.13 Promoting production of biogas and fermented organic fertilizers (compost)			
3 Promoting Policies, Institutional and Supporting Services			
3.1 Preparing a strategy for Sustainable Agricultural Development till 2030		<ul style="list-style-type: none"> • Field surveys and reports submitted by concerned committees • Reports of the Management Unit (SPC) and other committees at the governorates level 	<ul style="list-style-type: none"> • The existence of a database, the fund and experience
3.2 Enhancing marketing extension through farmers' field-schools (establishing typical schools for marketing extension project)			
3.3 Providing technical support to marketing producers' units project			
3.4 Promote Post-harvest and marketing insurance for main agricultural products project (citrus, apple and tomato)			
3.5 Establishing market information system (MIS) for agricultural products project			
4. Food Stability and Risk Management			
4.1 Drought Management	- Producing the maps and setting the system within 2 years after starting the programme	Field survey and reports submitted by concerned committees, and reports of	<ul style="list-style-type: none"> • Securing the needed funds and experience

4.1.1 Defining, monitoring, evaluating the risks of drought, and promote an early warning system	- Rehabilitating lands and planting 50,000 hectares with seeds and pastoral shrubs within 5 years, and conserving deteriorated regions and rehabilitating them	the Programme Management Unit (SPC) and other committees at the governorates level.	<ul style="list-style-type: none"> • The existence of database dedicated to lands influenced by drought
4.1.2 Developing the capability of the local communities to combat drought			
4.1.3 Assessing and mitigating the impact of climate changes			
4.2 Household Food Security and Livelihood	- 16 units during 2 years - Benefiting 45,000 households in 5 years	<ul style="list-style-type: none"> • Field surveys and reports submitted by concerned committees at the governorates level as well as reports of the Programme Management Unit (SPC) • Base data from CBS 	Availability of funds and experience
4.2.1 Post-harvest and marketing insurance for main agricultural products			
4.2.2 Establishing marketing centers for milk collecting and processing project			
4.2.3 Developing back yard farming			
4.2.4 Developing traditional home agro-processing activities			
4.2.5 Extending mushroom farming			
5 Food Access, Quality and Safety	- 40,000 citizens will benefit from the clinical test; - 40,000 citizens would benefit from the in-kind basket within 2 years - 400,000 citizens to benefit from the communities - 25,000 citizens to benefit from monthly aids during three years Benefiting 3000 students from the programme (during 3 years) - Establishing income generator projects for	<ul style="list-style-type: none"> • Field surveys and reports submitted by concerned committees at the governorates level, and regular reports from the Programme Managing Unit (SPC) • Data from concerned ministries and CBS 	<ul style="list-style-type: none"> • Securing work requirements in adequate quality and proper time • Securing needed fund for presenting financial and in-kind aids on time • The existence of a database, the availability of funds and experience • Obtaining needed approvals for initiating the NPFS and full commitment from the Partners in Development
5.1 Support to Institutional and Technical Capacities for Food Safety			
5.2 Alleviating children hunger and undernourishment in the northern, eastern and Al Badia regions			
5.3 Field surveys for vulnerable and food insecure groups			

	poor households, as agreed in the project,		
5.4 Scaling up the “food for education” programme	for about 10,000 households in north eastern region, and 200 households in each of the other governorates, during 5 years		
5.5 Supporting small farmers in northern and eastern governorate	- Securing free health care for a portion of hospitals’ residents; the portion to be allocated for vulnerable people;		
5.6 Medical testing to investigate malnourishment cases in northern and eastern governorates	- Buying drugs with symbolic price, up to a specific ceiling; - School requirements for free, such as uniforms, school cases, stationery and books;		
5.7 Establish Consumer Cooperative Societies to support poor households in northeastern governorates	- Almost free access to public transportation; Almost free access to veterinary;		
5.8 Piloting “direct income transfer” support system in the three eastern governorates	- Getting relaxed loans with low interest rate;		
5.9 Scaling up the national programme for women empowerment and combat poverty	- Increasing the monetary support for 100,0000 households living in one of the three governorates		<ul style="list-style-type: none"> • Completing legislative procedures for the establishment of the designated unit in SPC to manage the NPFS and equip it with needed administrative and technical support.

Annexe 2

Table 1-1: GDP composition (by market fixed prices, 2000) by sectors, %.

Sectors	2000	2001	2002	2003	2004	2005	2006	2007
Agriculture	25	25	26	25	23	23	24	21
Industry and minerals	30	29	26	24	27	25	24	23
Building and construction	3	3	3	4	3	3	4	4
Wholesale and retailer trade	15	16	16	16	18	20	18	20
Transport, transportation and storing	13	13	13	14	11	11	11	12
Finance, insurance and real estates	4	3	4	4	4	5	5	5
Community and individual services	2	3	3	3	2	3	3	3
Governmental services	8	8	9	10	11	10	11	13
Custom fees and calculated interests	0	0	0	0	3	4	4	3

Source: statistical bulletin (Central Bureau for Statistics) 2008

Table 1-2: development of land use balance, 2000-2008, 1000Ha and %.

Index	2000	2005	2006	2007	2008
Cultivable lands	5906	5933	5950	6039	6023
Land in use	5353	5562	5587	5682	5666
Irrigated	1211	1426	1402	1396	1356
Rainfed	3336	3446	3340	3323	3254
Wasteland (fallow land)	806	690	845	963	1056
Actual planned areas	4547	4872	4743	4719	4610
Un-invested areas	553	371	362	357	357
Uncultivable lands	3697	3721	3677	3689	3683

Source: Ministry of Agriculture and Agrarian Reform (MAAR), statistics, 2008.

Table 1-3: production's development for main agricultural products, 1990-2008, 1000 tones.

Item	2000	2001	2002	2003	2005	2006	2007	2008	Index no 2007/2000 %
Wheat	3105	4745	4775	4913	4669	4932	4041	2139	130
Barley	212	1956	920	1079	767	1202	784	261	370
Lentil	73	177	133	168	154	181	109	34	149
Chickpea	65	60	89	87	65	52	50	27	77
Cotton	1082	1010	802	811	1022	686	711	698	66
Surgut	191	216	232	227	187	159	177	281	93
Sugar beet	1175	1215	1523	1205	1096	1438	1366	1105	116
Potato	485	453	513	487	608	603	570	721	118
Tomato	475	772	900	923	957	1036	1232	1200	259
Citrus	800	833	746	652	778	907	967	1046	121
Apple	287	263	216	307	296	374	280	361	98
Olives	866	490	941	552	612	1191	495	827	57
Read meat	236	216	173	207	242	255	279	257	118
Poultry	107	114	121	161	163	175	175	180	164
Milk	1672	1577	1765	1874	1577	1765	1874	2352	112
Eggs' production (1000,000 eggs)	2546	2671	3321	3449	3104	3781	4328	3028	170

- Source of data that covers from 2000 to 2008 is the Statistical Bulletin published by MAAR
- *2008 figures were not used considering the year's improper climatic conditions and the reduction in outputs to an unreasonable levels

Table 1-4: developments in agricultural animals' numbers in Syria, 1998-2007.

Year	Sheep	Goat	Cow	Camel	Buffalo	Horse	Donkey & mule
	1000,000 head			1000 head			
1998	15.4	1.1	0.9	8.94	1.28	25.64	244.0
1999	14.0	1.0	1.0	13.33	2.80	26.58	233.0
2000	13.5	1.1	1.0	13.37	2.82	27.12	229.3
2001	12.4	1.0	0.8	12.17	2.48	18.39	176.9
2002	13.5	0.9	0.9	12.48	2.79	16.84	136.9
2003	15.3	1.0	0.9	15.23	3.45	16.29	133.1
2004	17.6	1.1	1.0	20.39	4.07	15.29	128.7
2005	19.7	1.3	1.1	23.44	4.47	15.14	123.5
2006	21.4	1.4	1.1	26.71	5.04	13.97	117.4
2007	22.9	1.6	1.2	27.36	5.65	14.38	111.5

Source: MAAR statistics, 2008.

Table 1-5: developments in chickens and other poultry' numbers in Syria, 1998-2007.

Year	Chicken	Dove	Turkey	Goose	Duck	Rabbit
	1000,000 bird		1000 bird		1000	
1998	20.4	1735.7	265.2	52.4	46.5	179.8
1999	21.0	1757.3	254.8	52.3	53.7	171.2
2000	21.6	1732.1	251.8	50.9	50.0	166.1
2001	21.1	1496.5	229.6	47.8	45.8	139.7
2002	28.6	1500.1	235.9	51.6	47.3	136.2
2003	25.1	1614.0	232.3	49.1	43.7	127.0
2004	28.9	1581.3	239.1	51.8	45.6	129.0
2005	23.8	1466.3	222.7	49.8	44.0	134.5
2006	30.9	1756.9	215.5	48.5	46.8	136.9
2007	26.1	1787.5	234.3	49.0	45.3	144.8

Source: MAAR statistics, 2008.

Table 1-6: developments in meat, milk, and eggs production, 1998-2007.

Year	Milk	Red meat	Egg	White meat
	Million tone		Billion egg	100,000 tone
1998	1.78	0.20	2.23	0.97
1999	1.66	0.23	2.48	1.04
2000	1.67	0.24	2.55	1.07
2001	1.58	0.22	2.67	1.16
2002	1.77	0.17	3.32	1.25
2003	1.88	0.21	3.45	1.61
2004	2.13	0.22	4.00	1.72
2005	2.36	0.24	3.10	1.63
2006	2.53	0.26	3.78	1.75
2007	2.68	0.28	3.43	1.75

Source: MAAR statistics, 2008.

Table 1-7: developments of total and agricultural Syrian trade, 2000-2007, million S.P. and %.

Syrian trade	2000	2001	2002	2003	2004	2005	2006	2007	Annual growth rate %
Trade volume									
Total trade	403,725	463,923	537,307	501,807	735,172	926,669	1,036,335	1,263,591	18
Agricultural trade	74,989	78,686	109,429	102,818	116,544	127,938	125,304	164,835	12
Agricultural/total %	19	17	20	20	16	14	12	13	
Imports value (million S.P.)									
Total trade	187,535	220,744	235,754	236,768	389,006	502,369	531,323	684,557	20
Agricultural trade	38,813	40,810	48,098	50,505	64,683	72,174	64,191	95,528	14
Agricultural/total %	21	18	20	21	17	14	12	14	
Exports value (million S.P.)									
Total trade	216,190	243,179	301,553	265,039	346,166	424,300	505,012	579,034	15
Agricultural trade	36,177	37,876	61,331	52,313	51,861	55,764	61,114	69,307	10
Agricultural/total %	17	16	20	20	15	13	12	12	
Trade balance (million S.P.)									
Total trade	28,655	22,435	65,799	28,271	42,840-	78,069-	26,311-	105,523-	-
Agricultural trade	2,636-	2,934-	13,233	1,809	12,822-	16,411-	3,077-	26,221-	-

Table 2-1: Descriptive and statistical indicators for total available food, 1996-2006, 1000 tone.

Items	Average	Minimum level	Maximum level
Total cereals	6	4671	8403
<i>Food grains</i>	4007	2367	5256
<i>Feed grains</i>	2427	1790	3234
Total legume grains	189	32	276
<i>Food legume</i>	163	20*	240
<i>Feed legume</i>	26	12	40
Vegetables	2223	1708	2871
Fruits	2557	2030	3111
Red meat	189	98	255
White meat	148	94	211
Total milk	1860	1508	2540
Honey	2	1	3
Eggs (million egg)	2873	2153	3954
plant oils and fats	275	197	361
Sugar	550	105	896
Other products**	46	5*	143

Source: based on NAPC database and MAAR statistics. * Due to exporting stored quantities ** other products include sesame, cumin, anise, lupines.

Table 2-2: developments of available food for specific food products (groups and individuals), 2000-2006, 1000 tone.

Items	2000	2001	2002	2003	2004	2005	2006	Simple change *% 2006-2000	Average of change ** % 2006-2000	Simple annual growth rate *% 2006-2000	Average of annual growth rate **% 2006-2000
Total cereals	5350	7914	6742	6983	6307	7604	8403	57.1	11.5	7.8	5.6
Food grains	3285	5015	4404	4703	4218	4370	5256	60.0	9.0	8.2	4.4
Feed grains	2065	2899	2338	2280	2089	3234	3147	52.4	16.0	7.3	7.7
Total legume grains	146	276	257	246	152	191	216	48.1	17.7-	6.8	9.3-
Food legume	127	240	225	217	127	166	185	46.3	19.3-	6.6	10.1-
Feed legume	20	35	32	29	25	25	31	59.3	6.8-	8.1	3.5-
Vegetables	1708	1791	2453	2577	2871	2715	2665	56.0	38.6	7.7	17.7
Fruits	2745	2308	2689	2317	2860	2485	3111	13.3	9.2	2.1	4.5
Red meat	223	212	116	183	177	192	255	14.3	13.3	2.3	6.4
White meat	120	132	152	190	203	192	211	75.9	49.9	9.9	22.4
Total milk	1673	1576	1751	1878	2129	2357	2540	51.8	40.5	7.2	18.5
Honey	2500	2656	3311	3342	3954	3084	3751	50.0	27.4	7.0	12.9
Eggs (million egg)	288	263	332	234	352	286	361	25.3	13.1	3.8	6.4
plant oils and fats	463	647	805	737	896	743	737	59.2	24.1	8.1	11.4

Source: based on NAPC database and MAAR statistics. * calculated between the beginning and the end of period. **calculated between average of last three years and average of first three years.

Table 2-3: developments of available food for selected food products, 2000-2006 (1000 tone).

Items	2000	2001	2002	2003	2004	2005	2006	Simple change*% 2006-2000	Average of change % ** -2000 2006	Simple annual growth rate *% 2006-2000	Average of annual growth rate **% 2006-2000	Difference coefficient % 2006-2000
Wheat	3123	4733	4223	4510	3980	4104	4995	59.9	8.3	8.1	4.1	14.4
Barley	800	2301	1199	1134	958	1568	1617	102.0	3.7-	12.4	1.9-	37.1
Cotton-lints	177	166	26	156	246	201	165	6.9-	65.7	1.2-	28.7	41.6
Potato	467	452	512	507	457	629	569	21.9	15.7	3.4	7.5	12.7
Tomato	563	608	704	733	720	709	1036	83.9	31.5	10.7	14.7	20.9
Olives	866	497	941	552	1027	607	1176	35.8	22.0	5.2	10.4	32.2
Apples	272	245	200	293	330	228	243	10.5-	11.7	1.8-	5.7	16.8
Citrus	761	795	726	636	835	744	853	12.1	6.6	1.9	3.2	9.6
Lamb	171	165	68	128	124	126	187	9.4	8.3	1.5	4.0	28.8
Beef	47	42	47	52	53	59	61	29.8	26.6	4.4	12.5	13.0
Poultry	107	116	125	161	172	163	176	65.1	47.1	8.7	21.3	19.8
Fish	13	16	27	29	31	28	35	161.7	67.2	17.4	29.3	30.9

Source: based on NAPC database and MAAR statistics. * calculated between the beginning and the end of period. **calculated between average of last three years and average of first three years.

Note: barely was included considering its importance for livestock, and cotton was included in light of its importance for export as well as for plant oils industry.

Table 2-4: developments of available food per capita for selected food products, 2000-2006 (1000 tone).

Items	2000	2001	2002	2003	2004	2005	2006	Simple change*% 2006-2000	Average of change % ** 2006-2000	Simple annual growth rate *% 2006-2000	Average of annual growth rate **% 2006-2000	Difference coefficient % 2006-2000
Wheat	3123	4733	4223	4510	3980	4104	4995	59.9	8.3	8.1	4.1	14.4
Barley	800	2301	1199	1134	958	1568	1617	102.0	3.7-	12.4	1.9-	37.1
Cotton- lints	177	166	26	156	246	201	165	6.9-	65.7	1.2-	28.7	41.6
Potato	467	452	512	507	457	629	569	21.9	15.7	3.4	7.5	12.7
Tomato	563	608	704	733	720	709	1036	83.9	31.5	10.7	14.7	20.9
Olives	866	497	941	552	1027	607	1176	35.8	22.0	5.2	10.4	32.2
Apples	272	245	200	293	330	228	243	10.5-	11.7	1.8-	5.7	16.8
Citrus	761	795	726	636	835	744	853	12.1	6.6	1.9	3.2	9.6
lamb	171	165	68	128	124	126	187	9.4	8.3	1.5	4.0	28.8
Beef	47	42	47	52	53	59	61	29.8	26.6	4.4	12.5	13.0
Poultry	107	116	125	161	172	163	176	65.1	47.1	8.7	21.3	19.8
Fish	13	16	27	29	31	28	35	161.7	67.2	17.4	29.3	30.9

Source: based on NAPC database and MAAR statistics.

Table 2-5: self-sufficiency percentage and subordination of imports, 1996-2006 (%)

Item	Self-sufficiency %			Subordination of imports %			Self-sufficiency % 2006	Subordination of imports % 2006
	2006-1996			2006-1996				
	Ave.	Min. level	Max. level	Ave.	Min. level	Max. level		
Wheat	110.2	98.7	141.2	2.5	0.0	5.1	98.7	3.0
Barley	81.6	26.5	150.7	42.7	0.0	73.5	74.4	25.7
Lentil	240.4	118.1	972.5	0.7	0.0	1.6	174.0	1.6
Chickpea	125.9	90.9	218.7	8.0	0.0	15.1	104.0	0.0
Cotton-lints	257.7	105.2	1080.8	0.1	0.0	0.1	145.5	0.0
Tomato	128.2	100.0	136.1	1.0	0.0	7.1	100.0	0.0
Potato	103.2	96.1	124.6	3.2	0.0	7.0	106.0	3.1
Olives	100.2	100.0	101.3	0	0.0	0.0	101.3	0
Citrus	109.5	101.1	167.7	1.7	0.0	2.5	106.3	2.3
Red meat	120.2	97.0	207.0	2.1	0.0	3.4	100.0	0.0
Poultry	100.0	99.4	100.1	0.6	0.0	0.6	99.4	0.6
fish	78.4	48.6	100.0	26.4	0.0	51.4	48.6	51.4
Fresh-milk	100.1	99.8	100.8	0.5	0.0	0.6	99.8	0.4
eggs	101.6	100.3	103.5	0	0.0	0.0	100.8	0.0
Sugar	42.2	16.7	100.0	63.5	0.0	83.3	27.3	72.7

Source: based on NAPC database and MAAR statistics.

Table 2-6: developments of major food components' per capita, 2000-2005.

Item	Unit	2000	2001	2002	2003	2004	Standard index %
Total calories (energy)	kilocalorie	3052	3038	3038	3193	3390	111
Plant-based calories	kilocalorie	2635	2670	2625	2851	3004	114
Animal-based calories	kilocalorie	417	368	413	342	386	93
Plant-based calories per capita	%	86	88	86	89	89	103
Animal-based calories per capita	%	14	12	14	11	11	83
Total amount of protein	gram	74.8	74.7	77.0	86.0	86.7	116
Plant-based protein	gram	53.4	55.5	55.4	65.0	63.8	119
Animal-based protein	gram	21.4	19.2	21.6	21.0	22.9	107
Plant-based protein per capita	%	71.4	74.3	71.9	75.6	73.6	103
Animal-based protein per capita	%	28.6	25.7	28.1	24.4	26.4	92
Total amount of fats	gram	104.5	100.4	105.0	74.0	96.0	92
Plant-based fats	gram	71.8	71.2	72.8	54.0	73	102
Animal-based fats	gram	32.7	29.2	32.2	20.0	23	70
Plant-based fats per capita	%	68.7	70.9	69.3	73.0	76.0	111
Animal-based fats per capita	%	31.3	29.1	30.7	27.0	24.0	77

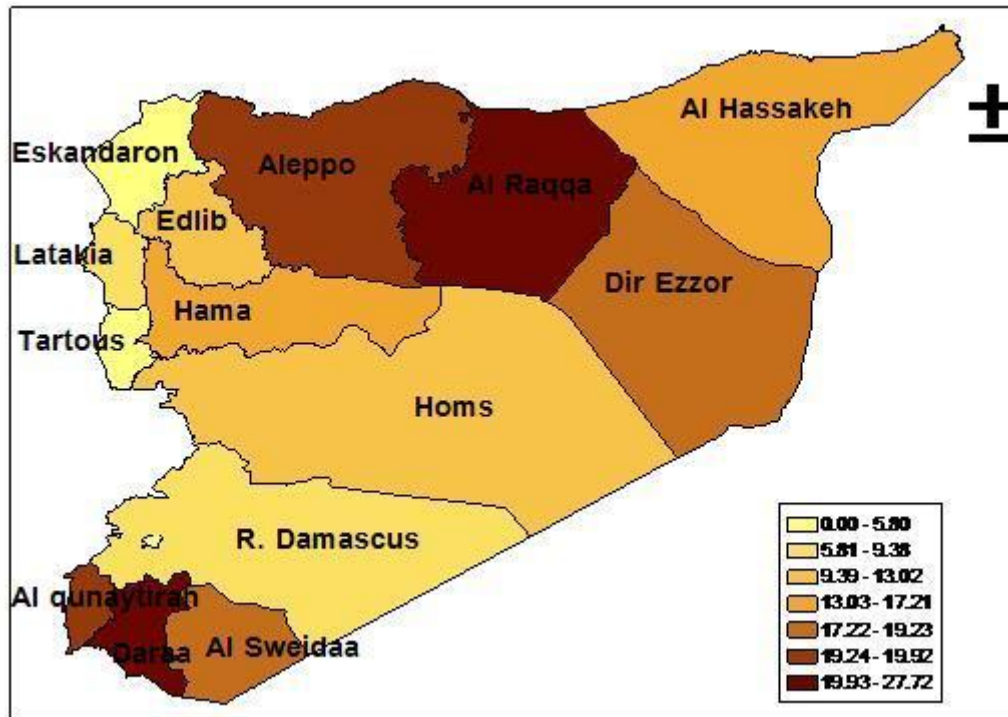
Source: FAO database and MAAR statistics (department of agricultural economy)

Table 2-7: Structure of expenditure on food, 1996-2007 (%)

Item	1997-1996				2004-2003				2007-2006			
	% Of Food expenditure		% Of total expenditure		% Of Food expenditure		% Of total expenditure		% Of Food expenditure		% Of total expenditure	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Cereals and their products	13.4	18.0	8.0	10.8	11.5	16.9	4.4	7.5	10.5	13.7	4.1	6.4
legumes	1.4	1.8	0.8	1.1	1.0	1.3	0.4	0.6	1.5	2.1	0.6	1.0
Meat, fish and eggs	21.6	16.9	12.9	10.2	19.8	17.8	7.6	7.9	22.2	18.5	8.7	8.7
Dairy	9.2	7.3	5.5	4.4	10.1	8.6	3.9	3.8	9.4	8.1	3.7	3.8
Oils and fats	9.6	13.1	5.7	7.9	9.6	11.6	3.7	5.1	7.8	11.6	3.1	5.5
Vegetables	16.0	16.6	9.5	10.0	16.6	16.7	6.3	7.4	15.8	17.0	6.2	8.0
Fruits and confectionaries	7.9	5.6	4.7	3.4	8.3	6.2	3.2	2.8	8.7	7.2	3.4	3.4
Other foods	20.9	20.7	12.3	12.4	23.1	20.9	9.6	9.0	24.1	21.8	9.3	10.1
Total expenditure on food	100.0	100.0	59.4	60.2	100.0	100.0	39.1	44.1	100.0	100.0	39.1	46.9

Source: based on NAPC database Central Bureau for statistics, family's expenditure survey, 2003-2004, 2006-2007.

Map of livelihoods' minimum level



Map of livelihoods' maximum level

