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Final Report
on

Agricultural Development Strategy for Syria

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- Opinions and judgments expressed are the authors' only. FAO proposes the text as basis for starting the discussion among scholars and policy makers on the issues related to the subject of the study.

Table of contents

Abbreviations

AA	Association Agreement
ACB	Agricultural Co-operative Bank
EU	European Union
GOCGM	General Organization of Cotton Ginning and Marketing
GOCPT	General Organization for Cereals Production and Trade
MAAR	Ministry of Agriculture and Agrarian Reform
SAC	Supreme Agricultural Council
SMP	State Ministry of Planning
WTO	World Trade Organization

EXECUTIVE SUMMARY

Past and Present Agricultural Strategy and Policies.

The major development paradigm, that has governed Syrian development policy in general and agricultural development in particular since 1970, has been that of state-led import substituting industrialisation. The consequences for agricultural strategy, of this overall development strategy were the following. First, a strategy of self-sufficiency in major food staples was adopted. Second the state undertook a major role in production and trade, especially with respect to the major products and inputs. Third, foreign trade became almost completely a state monopoly. Fourth, several publicly owned industrial plants were established for food and other agro-processing activities.

If the oil sector is exempted, it can be said that the economy of Syria is primarily agricultural based. The main long-term objectives of the current agricultural sector strategy are the following:

- *achieving a high level of self sufficiency in the main food staples*
- *optimal utilisation of the natural agricultural resources and improving their productivity*
- *securing the raw material requirements of the domestic processing plants*
- *increasing agricultural exports*
- *enhancing investments that are considered as one of the tools for comprehensive development*
- *improving the rural living standards and containing rural-urban migration*
- *generating employment for rural labour*
- *improving the food consumption in both rural and urban areas*

The basic instrument for implementing agricultural policies is the annual production plan for agriculture.

Agriculture and the Macroeconomy.

In 1999, agriculture was the largest productive sector, accounting for 27.3 percent of official GDP. Despite fast GDP growth in the early 1990s, in 1999, according to calculations based on official statistics, the real per capita GDP stood at a level 2.5 percent lower than that of 1980, having fallen by 4.4 percent from the previous year, because of the extended drought. Real per capita private consumption expenditures have exhibited stagnation since 1985, never having surpassed the level of that year during the last fifteen years. Real per capita public investment has increased considerably, while real per capita public consumption has declined almost steadily in the 1990s. The average annual growth rate of total real investment in agriculture during the period 1990-99 has been the lowest of all sectors and was negative for the recent period 1995-99.

The inflation in food prices, at 5.5 percent annually during 1990-99, has been much lower than that of non-food items, which was near 9 percent annually during the same period. Labour force employed in agriculture in 1999 amounted to 17.6 percent of the estimated active labour force. The recent drought affected negatively those poor households that depend of agricultural wages for part of their income.

Public enterprises receive more than two thirds of total bank credit. During 1994-99, ninety percent of credit to the public sector was allocated to the two largest public companies, which are both agriculture related, namely the General Organisation of Cotton Ginning and Marketing (GOCGM), and the General Organization for Cereals Production and Trade (GOCTP). The banking system offers meagre incentives for private formal savings. As real

interest rates have been negative for much of the last two decades, the private individuals have found other ways to utilise their savings. This has deprived valuable financial resources from the formal financial sector.

Syria's external position has improved substantially in the last few years. The major factor in this development was the increase in oil related exports, while private exports have remained steady. A number of incentives to stimulate private sector exports were introduced during 1996-99. Imports have gradually been liberalised. Syria has implemented a system of multiple fixed exchange rates. Recently considerable unification and liberalisation of the foreign exchange market has occurred, but considerable restrictions remain. The parallel market exchange rate has stayed nominally constant, for the last few years, and in real terms appreciated.

Structural Aspects of Syrian Agriculture Relevant for Policy Formulation

During the last two decades there has been a considerable increase in the total number of holders and a decline in the average size of each holding. More than a third of all holdings have an area of 2 ha or less. Among holders with land, 29 percent have another job than farming as a main occupation. Absentee holders include those holding large areas, who do not have time to cultivate their land, as well as those with small amounts of land that cannot earn enough income on that land to support a family. The educational status of holders is very low. More than 83 percent of all holders have education less than or equal to elementary, and a large share of those (44 percent) are illiterate.

The basic characteristic of the Syrian land tenure system is the co-existence of formalised systems of tenure side by side with customary institutions. About half of all cultivated land is registered state land. The bulk of pastures consist of unregistered state land. Since the late fifties 858 thousand ha of original and land reform land have been distributed to farmers with a possibility of redemption after 10 or 20 years. Another 947 thousand Ha have been rented out. A total of 99 thousand households have benefited from distribution of original and land-reform land, while another 69 thousand households currently rent a total of 969 thousand Ha of state land. All these areas are subject to restrictions on production and transfer. A considerable tenure problem involves squatters on both public and private land.

A large number of holders (23.4 percent of all holders with land) plant only fruit trees. This proportion is much larger among small size holdings.

Larger holdings are generally more capital intensive than smaller sized holdings. The higher capital intensity seems to hold for all capital types and for family labour, which is the prevalent type of labour in agriculture in Syria. The generally lower capital intensity of smaller farms implies that the opportunity cost of family labour is lower for smaller holdings, compared to large ones. This is consistent with excess supply of labour by smaller holdings.

Irrigated agriculture has increased steadily in Syria over the last decades.. The water resources of Syria are very limited compared to the needs of the country. The overall water balance for the country is currently negative, with only three out of the seven water basins of Syria having a positive annual water balance. The magnitude of the deficit of the Al Khabour basin is especially large. Most of the aquifers have been overexploited, and water tables have significantly declined. Half of the total farm holdings in Syria utilised some kind of irrigation in 1994. The bulk of the increase in irrigated areas has come from wells, most of which have been dug in the Al-Khabour basin. The larger holdings use disproportionately more wells as their main irrigation source, and irrigate the bulk of their area from them.

The Agricultural Co-operative Bank extends loans to all types of agricultural producers. Each farm household must have a crop license as a prerequisite for obtaining credit and even for cash purchase of inputs if credit is not needed. The emphasis has been mostly on short term lending. The interest rates are quite low, and until recently were negative in real terms, with the result that there has been an excess demand for credit. Loan recovery is tied to the sales of strategic crops to public agencies. The enforcement mechanism is effective and repayments are generally satisfactory except in times of poor rainfall and drought.

Despite considerable liberalisation in recent years, the state in Syria still heavily intervenes in the marketing of strategic agricultural products. Currently the state maintains the monopoly of purchasing for cotton, tobacco, and sugarbeet, and significant shares in the marketing of the other strategic crops. The remainder of production in these products is traded by private traders and brokers. Farmers, and private traders have to obtain certificates of origin to be able to transport their production to the nearest collection. The private sector has been always free to trade in fruit and vegetables as well as livestock and livestock products, at all levels of the market chain. Price monitoring and controls exist at the wholesale and retail level for most food products.

Performance of the Agricultural Sector

Agricultural Production increased constantly throughout the period 1981-99 except for drought years. The increases were both in plant as well as in animal output. However, the pattern of growth has been uneven. Fruit and industrial crop production have grown the most, while the production of vegetables has declined since 1985. Nevertheless, self-sufficiency has been achieved in terms of the strategic crops and exportable surpluses have been produced in some products. In the last ten years there have been significant average yield increases for barley, cotton, sugarbeet, and chickpeas, while there have been no major yield changes for wheat, and lentils.

Over the last ten years there have been substantial changes in the allocation of cultivated area among crops. Summer crops have increased their area, while summer vegetables have reduced it. Within summer crops the area increase has been almost totally in irrigated area. Similarly within winter crops, there has been a large increase in the area of irrigated crops, while there was a major decline in the area of rainfed crops. Also the area of fruit trees has expanded considerably. The major pattern has been a substantial increase in irrigated areas.

There have been substantial differences between the areas planned and the areas that have been ultimately planted. For all the strategic crops other than tobacco, the areas that are estimated to have been planted under irrigation are on average above those actually planned. Yields per hectare, on the other hand, have tended to be substantially over-estimated in annual plans in the period from 1989 to 1999 for all the strategic crops other than cotton and tobacco. Yields in irrigated areas have varied considerably from year to year, and their variation is similar to the yield variation in rainfed areas. This might be due to farmers reallocating the inputs received and their labour among crops.

***Food security,** has been one of the most consistent objectives of government policy. In earlier years, when there was a shortage of financial resources for food imports, food security was interpreted as food self sufficiency. Recently the concept has been redefined to mean increasing production of products that enjoy comparative advantage, so that exports of these products can be used to secure the currency needed to import other commodities. Nevertheless, when the economy is growing, both concepts imply increasing food consumption per capita. Estimates, based on official data, however, indicate that for many of the key food commodities, the per capita domestic apparent consumption has declined*

during the last decade. This holds for cereals, and in particular for wheat, for legumes, for fruit, and for milk, while per capita consumption has increased only marginally for red meat. The only commodities for which major increases are indicated within this short period are cotton, maize, and sugarbeet. None of these, however, constitute the major food consumption items.

The impact of exchange rate and price policies, can be measured by an index of the aggregate Market Price Support (MPS). Such aggregate estimates were made using three different exchange rates. The official exchange rate as well as the trade weighted exchange rate indicate that agriculture has been protected all throughout the decade of the 1990s, (at relatively constant rates when the official rate is used but at declining rates when the trade weighted exchange rate is used). The neighbouring market rate indicates a very different story. It suggests that until the mid-1990s, Syrian agriculture was effectively taxed. It is only in the last few years, namely since 1997, with the devaluation of the exchange rates that Syrian agriculture has been effectively subsidised. In 1999 the rate of support reached an average of 7 percent of the gross value of agricultural output, which implies a heavy load on the budget.

*Concerning **finance for agriculture**, the total amount of lending to agriculture, while increasing until 1995, has declined considerably since then. The bulk of the loans have been of short-term nature. The biggest share of loans disbursed to agricultural producers has been for production loans for wheat and cotton. Loan disbursements for capital investments have been very low. The number of beneficiaries of ACB loans in 1999 was only 54 % of the number in 1994, and one third of the total number of beneficiaries in 1989. The average size of loans has been increasing and is presently 1.32 times the size six years ago. The higher average size of loan is suggestive of a movement toward larger farmers. The formal credit system, in spite of subsidized interest and unrestricted fund availability at low cost may not currently be reaching out to smaller farmers.*

Review of the budgetary expenditures for agriculture, revealed that next to the operating costs for the MAAR, the expenditures for land reclamation, afforestation and forest improvement, along with expenditures for rural road maintenance were the most important. If the total expenditures of the Ministry of irrigation are added to those of the MAAR for land reclamation and irrigation, then the total expenditures of the two ministries devoted to irrigation activities amounted in year 2000 to 69 percent of all expenditures on agriculture. At the same time it is notable that the agricultural research and especially the extension system receive only very limited financial resources (10.7 percent of all non-operating costs of the MAAR in 1999-2000). However, in 2000 expenditures for both research and extension increased considerably.

The cost of agricultural producer price subsidies, as well as consumer subsidies is large. The estimated losses of the three public establishments involved in the markets for wheat and flour, cotton, and sugar, amounted in 1999 to about 4.5 percent of GDP. This is larger than the deficit of the Public Stabilisation Fund (PSF), which amounted in 1999 to 2.3 percent of GDP. However, the PSF estimates omit the cost of running the wheat reserve.

Surface irrigation is the prevailing irrigation system in Syria covering 95 percent of the irrigated area. Basin irrigation is the predominant technique used. Irrigation field efficiency is reportedly low, often below 60 percent. The average consumption per irrigated hectare for the whole of Syria is 12434 m3 per year, and in the Euphrates basin it is 16750 m3 per year. This is a huge quantity that necessitates a serious reconsideration of the current irrigation methods, and indicates the urgency of shifting to modern water saving irrigation systems.

Deterioration of the Syrian Steppe (al-Badia) has been documented in many reports. In addition changes in the composition and abundance of plants have been noted, particularly the increasing dominance of less palatable species and disappearance of the more desirable plants. These reports suggest that degradation is caused largely by overgrazing, but other causes of degradation include removal of shrubs and use of motor vehicles. The herdsmen have gradually been obliged over time to use more concentrate feeds, as substitutes for declining rangeland resources. The lack of property rights over the land in Al Baddia provides no incentive for long-term management and leads to a classic 'tragedy of the commons'. This situation is exacerbated firstly by the provision of increased numbers of wells which enable sheep to remain on the Baddia longer into the summer, and to return earlier, than was historically the case, and secondly by the provision of subsidised feed that enables the maintenance of stocking densities above that which could be supported by the natural environment alone.

The soils of Syria suffer from water and wind erosion, salinisation and chemical pollution. Wind erosion effects the greatest area, with 17.3 percent of Syria's land having been affected by some form of degradation. Problems of salinisation are accentuated by the insufficient and inefficient drainage that exists on most cultivated land. There is no specific policy for the soils of Syria. Soil degradation is occurring because of the impact of policies related to water use on cultivated areas, and resource management of the Badia. Soil conservation is an important long-term issue for Syria.

Syria, historically, was far more forested than it is presently. The causes of natural forest loss include extensive land clearing for human settlements and agriculture, grazing by goats, sheep and other animals, illicit felling, burning for charcoal production, fires and inappropriate agricultural practices. Substantial afforestation and reforestation programs have been launched in recent decades to increase forest areas. These measures have been sufficient to slow, but not arrest deforestation.

Issues Relevant to the Establishment of an Agricultural Sector Strategy

Of major importance to the design of agricultural sector strategy is a view concerning the question of whether the agricultural sector should be subsidised or taxed at this level of development of Syria. The design of the previous agricultural development strategy was influenced considerably by a closed economy mentality. This has considerably changed in recent years, and the efforts towards signing an Association Agreement (AA) with the European Union (EU) as well as signing regional trade agreements and joining the World Trade Organization (WTO) imply considerable trade liberalisation of the economy.

Current agricultural policies, despite the considerable support they have given to agricultural products, do not seem to have eliminated large income disparities, or poverty among rural households. Results from a farm household survey in year 2001 suggest that for about half of agricultural households their incomes are not enough even for the bare necessities of life, and another 38 percent feel that their incomes are only sufficient for these bare necessities. On the other hand, larger farmers cultivate larger areas in wheat and cotton, and also utilise larger irrigated areas. Hence the benefits of subsidies for strategic products, as well as for irrigation and inputs seem to accrue disproportionately on larger and wealthier farmers.

The survey revealed that a large number of farmers do not obtain licenses even though they cultivate land larger than 0.5 Ha, namely the size below which a license is not required. Furthermore, it was revealed that among farmers with large farm sizes, the proportion that obtain licenses is much larger than among farmers that cultivate small areas. As the license

entitles a farmer to obtain subsidized loans, and inputs, as well as to sell his strategic products at the government prices, which are highly supported, it appears that the licensing system tends to be utilised to a greater extent by those with larger cultivated areas. This is consistent with the notion that the various support measure of the government tend to confer the bulk of their benefits on the larger farmers.

Of the people that obtain a license, the survey indicated that only about half of those who obtained licenses complied with the terms of the license. This suggests that despite the punitive mechanisms in place for complying with the licenses, and the continuous surveillance of areas planted by extension agents, there is widespread non-compliance. The proportion not complying with the licenses is much larger among larger farmers. Hence, the larger farmers not only are the largest license recipients so as to take advantage of the government subsidies, but also that they are the largest violators of the licenses.

A major issue in the design of agricultural policies in Syria has been the notion of self-sufficiency in a number of so-called strategic food crops, like wheat, barley, lentils, sugarbeet and chickpeas, as well as in a number of other staples. The conclusion of GATT, and the current multiplicity of supplying countries in the world staple foods markets, imply that the conditions that dictated self-sufficiency in the past do not exist and will not exist in the foreseeable future.

Comparison of producer and international parity prices suggests that Syrian producers currently receive prices above those dictated by international markets, except for lentils and chickpeas. This makes these products not competitive in world markets. While current world prices for staples are low because of developed country domestic support policies, estimates suggest that the likely depression of world prices due to such policies is small (of the order of less than 10 percent) and do not justify the considerable degree of protection afforded to Syrian strategic agricultural products.

In Syria the government, via the planning mechanism and the direct monitoring of production at the farm level, tries to control area planted and production, while at the same time it also sets the prices at which it will purchase the strategic crops. This policy of setting both prices for producers, as well as quantities to be produced, is against fundamental economic laws, and produces inconsistencies that lead to non-compliance, as well as non-fulfilment of plans. One of the hidden costs of the planning system involves the enforcement mechanism through the extension agents. The bulk of extension agents' time is spend making sure the farmers conform to the plan, rather than for training farmers and other production enhancing activities.

Concerning water, because farmers are not charged for use, water has to be distributed between them administratively. The need for this indirect system of regulation of water usage is a major justification for the Government's current system of agricultural production planning. However, this system does not ensure efficient water use since it only controls each farmer's theoretical potential water requirement. In practice, farmers can utilise more than the amounts that the Government assumes to be optimal without penalty. For this reason, water table levels have been falling throughout Syria, and water from dams is not used as efficiently as it could be.

The policy of the MAAR to substitute traditional with modern water saving irrigation techniques is appropriate. However, the plan of the MAAR also envisions an expansion of irrigated areas. Projections of water balances under this scenario, indicate that, if the modernisation plan is effective, during the four initial years of the policy a large reduction of the deficit is obtained. However, from the 5th year onwards the deficit starts to increase due

to the development of the new irrigated areas. At the end of the planned period a water deficit still obtains, which is only 20 percent smaller than the initial value. This shows that in spite of the substantial impact that could be obtained with the modernisation programme the expansion of the irrigated area has a marked counterbalancing effect. Other scenaria simulated, that combine modernisation of irrigation systems but slower expansion of irrigated areas, show that it is only if modernisation is coupled with slower irrigation expansion, and especially so in critical basins, that there is a possibility of obtaining a positive water balance in the medium term.

Analysis of the Current "Orientations to the Agricultural Development Strategy" by the MAAR

Analysis of this recently (end of 2000) produced document of the MAAR, suggests that all the general objectives as well as the required modifications for modernisation are defined in very general and broad terms, and give considerable room for alternative policies.The most important underlying assumption of the proposed plan is that the current system of planning will be maintained, and that the MAAR has direct control over areas planted and yields.

Constraints and Opportunities

The report highlights several constraints to Syrian agricultural development. External constraints include the developments in the international relations of Syria, which imply considerable pressure to change the current agricultural policies, the evolution of the world markets for products of importance to Syrian agricultural trade, and the allocation of the water of the Euphrates basin between Turkey, Syria and Iraq.

Macroeconomic constraints include the developments in the domestic labour market, the availability of general investment funds, and the allocation to agriculture-related public investment activities.

Environmental constraints involve the physical loss of soils which appears to be the most urgent issue to be resolved, followed by depletion of groundwater, salinisation of soils and the loss of Steppe grazing.

Concerning allocation of land to strategic crops, while over the long term there is considerable scope for changing land use, in the short term a large proportion of the land under annual crops will need to continue to be planted to wheat, barley and cotton. This, in turn, means that the profitability of these crops, may need to be maintained artificially. The need to support wheat and cotton currently creates two distinct problems. First it has a high fiscal cost for the government; and second it requires a mechanism for delivering the support.

Savings mobilisation has been largely neglected in Syria, and poses a severe constraint in terms of available domestic investment funds. Also severe marketing constraints exist, given the current organisation of marketing infrastructure and markets in general.

The high rate of annual population increase, puts much pressure on natural resources. The high dependency ratio caused by the high ratio of younger age brackets puts much pressure on the heads of the family, but also results in large supply of young labour.

The average size of holdings is small and has been decreasing over time. 38 percent of all holdings with land were smaller than 2 ha in 1994. The partitioning of a large number of farms into a number of separate parcels bars the efficient utilisation of land resources and the efficient use of mechanical equipment. While this structure has been the result of lengthy

land reform policy, it nevertheless, is rigid, because of the legal environment that inhibits land exchange. The consequence is that much land remains fallow.

Apart from the various constraints mentioned above, there appear to be several areas of unexploited potential. Such areas are:

- *Considerable levels of technical expertise in the public sector in various aspects of agricultural administration, research, extension, irrigation, marketing, and planning.*
- *A large number of young entrants to the labour force.*
- *Some potential for intensifying land use under supplementary irrigation conditions in rainfed lands.*
- *Significant room for improving the efficiency of water use in currently irrigated areas, as well as in areas under supplementary irrigation.*
- *Climatic conditions that favour the production of high valued crops under irrigation (such as several fruits and vegetables).*
- *Potential for increasing yields of rainfed crops.*
- *Proximity to markets for products of comparative advantage to Syria. Such markets are the Arab countries, as well as other middle-East countries.*
- *An apparent capacity of private farmers to adapt quickly to changing conditions.*

The Basic Elements of a Proposed New Agricultural Development Strategy

The considerable and binding resource constraints suggest the following ***vision*** *for the future of Syrian agriculture.* ***Agricultural development in Syria should aim at an agricultural sector that is efficient and productive as well as sustainable in its use of resources, competitive in terms of external orientation, and providing adequate incomes to a large number of holders with equitable distribution of incomes and benefits.***

Given this vision, a new strategy should aim at an agricultural sector that satisfies the following ***objectives,*** *all of which are compatible with previously articulated objectives, as well as the directions of new policy initiatives.*

- *Promote self-reliance for the agricultural sector and the economy via greater reliance on comparative advantage;*
- *Utilise fully and improve productivity of natural agricultural resources, especially those of land and water;*
- *Increase labour productivity in agriculture;*
- *Achieve equitable levels of income distribution, satisfactory targets of poverty alleviation in rural areas, and contain rural-urban migration;*
- *Secure adequate levels of employment to the rural labour force;*
- *Securing adequate food consumption of low income urban and rural populations;*
- *Provide adequate supply of raw materials at reasonable prices to domestic processing plants;*
- *Increase the value of agricultural exports;*
- *Promote private investments as a major instrument for achieving economic development;*
- *Develop and expand economic relations with foreign countries, with a view to promoting exports, acquiring new technologies, and becoming a regular member of international organisations, such as the WTO;*
- *Achieve better utilisation of water resources for irrigation and other uses;*
- *Maintain environmental balance;*

The basic proposed ***strategic principles, namely the key ingredients or philosophy of the strategy,*** *on which Syrian agricultural development could develop in the near and medium term are the following:*

1. ***Agricultural development in Syria should be based on intensification of current production structures and methods, along lines of comparative advantage, coupled with more efficient, conservation minded, and labour intensive production methods.***
2. ***Any planning of production or resource use should be based on providing to farmers appropriate incentives, and not through coercive mechanisms.***
3. ***The orientation of agricultural and food production should be organised within a context of an open and export oriented agricultural sector.***
4. ***Agricultural development should be seen as part of an overall rural development, and labour employment strategy.***
5. ***The organisation of production, marketing and processing of agricultural products should allow in the short and medium term, both private as well as public agents to participate in a non-discriminatory way in all aspects of the agrofood chain.***
6. ***The role of the public sector should be gradually redefined to include correction of market failures, regulation (not control) of markets, and redistribution.***
7. ***The process of adaptation and transition to a more market oriented but regulated agricultural sector should proceed at a fast pace.***

Policies to Implement the Proposed Strategy

*Specific recommendations of policies to implement the above strat****egy*** *are based on a* ***fundamental principle of policy design****. This is that* ***the best effectiveness of policy instruments obtains when each policy instrument is designed to deal with only one policy objective****. A corollary to this principle is that* ***the government needs at least as many policy instruments as objectives.*** *In other words there could be more than one policy instrument that targets a given objective, but it is not possible to utilise one policy instrument to target two or more dissimilar objectives.* ***Another fundamental aspect of policy design is that a policy instrument should try to operate directly on the target that it seeks to affect, and not indirectly****.*

Given that it is of fundamental importance to the proposed strategy that the current system of area and price controls for strategic products is redesigned, the report examines several options for policy in this area for the near and medium term. It suggests ***a transformation of the current system of agricultural production, which is based on a license to produce, to a system of agricultural production based on a license to sell for the main strategic products****. The proposed system involves guaranteed prices for given amounts of production, tradable licenses, and allocation of the licenses on the basis of water and other environmental constraints. The proposed system is described in detail, including the gradual transition from the current to the proposed system. It is shown that the proposed system is both compatible with the current planning system, so that it can be used, after proper redefinition of tasks, in conjunction with existing planning practices, as well as that it has several advantages over the current system. It is shown that over time it could easily be utilised to evolve towards a more open and market oriented production and marketing system.*

The report also examines two additional alternative instruments for water control, in case the above system is deemed not sufficient. The first one involves ***introducing on non-metered irrigation systems, per-hectare water charges****, the rates of which are a function of the*

estimated water requirements of the crop grown, and which are also functions of the scarcity by water basin. The ***second option, which could be combined with the sale licensing system proposed above, is that for each region a water discount charge would be levied on the sale of products with a sale license issued in that region.***

It is shown that ***the sale licensing system proposed is very much like a contracting system between factories or marketing organisations and farmers****, and could easily evolve towards such a system.*

Concerning ***pricing policy for the strategic products****, it is recommended, that the government considers as a* ***benchmark for the setting of domestic supported prices a mixture of domestic cost of production estimates together with a moving average of international parity prices****. The domestic cost of production calculations, however, should be based on farm management field surveys of actual production practices and costs.* ***It is recommended that such a baseline survey is first done, so as to obtain a valid benchmark for one year, and then for every subsequent year, smaller surveys of actual costs are done in the various regions.***

Concerning non-strategic products, it is recommended that the government utilises only trade controls for indirect regulation of the markets*. Such controls could include tariffs, export taxes or subsidies, but not import or export bans.* ***It is recommended that all current quantity controls and price regulations for the marketing or pricing of these products are simplified and expressed in terms of one tariff equivalent or subsidy equivalent.***

The best ***strategy on inputs****, in the context of the proposed overall strategy, is to* ***allow private sector to import and distribute fertilisers and other inputs, alongside the public entities similarly engaged, and to abolish any import restriction on imports****. This policy can be implemented in the short term, and in fact should be adopted very soon.*

There are three major strategic suggestions that are made to improve the ***rural financial situation****. The first concerns the* ***development of micro-finance groups****. The second idea that can be promoted at the same time as the micro-finance groups, is the promotion of* ***rural savings and loans associations along the Raiffeisen model.*** *The third suggestion concerns* ***the restructuring of co-operatives to make them more like farmer marketing and input delivery associations.*** *Finally it is suggested that in order to improve savings mobilisation, the government institutes a* ***scheme for mobilising the gold that has been saved by rural and other households.***

Concerning the ***enhancement of foreign investments*** *the recommendations are the following:*

- *Create and implement an autonomous Syrian Agency for Private Investment (SAPI) instead of the current Investment Office.*
- *Simplify the application and authorisation process for investment projects under Law No.10.*
- *Investors should be given legal access to foreign currency, especially for input procurement, profit remittances and capital repatriation in case of projects producing for the domestic market.*
- *The current regime of time periods allotted for construction and for tax exemption should be replaced by a tax credit system, applicable to all investments made in the project at any time.*

- *Steps must be taken to simplify and made more clear and transparent the conditions to obtain State-owned land on lease or freehold for the purpose of building facilities for investment projects.*
- *Land for industrial investment projects should be pre-allocated in industrial zones near important cities, with provision of basic services (industrial-strength electricity, telephone, water, sanitation, roads or railways). Any project licensed under Law No.10 should be given easy access to industrial zones.*
- *Eliminate any requirement for private companies to request authorisation for changing the price of items that do not carry a fixed official price, or are not specifically regulated for some reason. 8.8 Export promotion*

*Concerning **export promotion**, the major macroeconomic constraint for exports is the **foreign exchange market**. This market **should be fully legalised and gradually liberalised**. An export strategy must be combined with a reasonable import policy. The aim should be to **establish a simple tariff system**, with relatively few categories of goods. **All quantitative or otherwise non-tariff restrictions should be converted into tariffs. Export licenses should be abolished,** and also most import licenses. It is also recommended, and of paramount importance, to establish a **reliable system of grading and standards**. It is further recommended to complete as soon as possible the Association Agreement with the EU.*

*A production organisational method that is conducive to increasing agroindustrial exports, that is deemed particularly applicable to Syria, and has been applied in several countries is for **a (generally multinational) company to organise a large number of small farmers to produce under contract on their own (the farmers') land specific qualities of a raw material (e.g. tomatoes, or asparagus, etc.), which in turn are processed or marketed to specific external markets. It is recommended to study the laws and institutions needed to facilitate such a system.***

*A final recommendation on export promotion concerns **the institution of a Syrian export promotion organisation.***

*The strategic areas for action in the **land sector** are the following:*

***Distribute the state land currently under rental agreement to farmers in the same fashion as before, namely with ownership like contracts. The land should be distributed in a way that after the farmers have paid for it they can obtain a full title, with full transfer rights**. **On public land rented out, or sold but not yet paid, allow more freedom of farmers to plant whatever they want, subject to the system of sale licensing proposed earlier**. Finally the government should **restore full ownership rights, including the right to transfer, of former state or land reform land that has been fully paid by the beneficiary**.*

*Concerning **marketing of agricultural products**, first, **the monopoly role of State marketing organisations for any agricultural products must be abolished**. **The role of the public marketing organisations should be on the one hand to guarantee prices for certain maximum amounts, as outlined earlier, and at the same time to act as buyers of last resort (at much lower prices) for unlicensed amounts**.*

*Another recommendation relevant to proper marketing, is to **design a system for collection, clearance and public dissemination of market information for agricultural and food products**, with the exception of those products where official mandatory pricing systems exist. It is also recommended, that **the MAAR, in conjunction with the Ministry of Supply and internal Trade work towards abolishing relatively soon all price controls at the retail and wholesale levels for all agricultural and food products.** As co-operatives can play an*

important role in agricultural marketing, ***it is recommended that a thorough study of the reorganization of the co-operatives, and the laws governing the operation of co-operatives is undertaken.***

Concerning ***food subsidies****, the key concept is* ***better targeting****.* ***It is recommended that a study of a new system of subsidy delivery, based on detailed national household surveys, is made before any changes to the existing system.***

A major part of the general strategy for agricultural development should be considerable emphasis on further technological improvement in agricultural production and practices, so as to improve yields and decrease production costs. Hence ***it is recommended that as a matter of priority for agricultural research as well as price policy the MAAR undertake a thorough study of comparative advantage of the currently produced products in Syria under different technologies and irrigation structures.*** *It is also recommended that* ***the current thrust of the government towards emphasising agricultural research is continued and enhanced****. In light of the recommended strategy, which advocates a much more export oriented agribusiness sector, it is further recommended that* ***a study on medium term agricultural research strategy be done in the near future****.*

It is also recommended that ***the recent increase in resources devoted to extension continues and is further enhanced.*** *Furthermore, in light of the proposed strategy of export promotion, it is recommended that* ***a study is done on the reorganisation of the extension functions, tasks, and training, with the objective of recommending a reorientation of the activities of extension agents towards more export oriented products, and water saving and cost reducing production techniques.***

Concerning rural development, the major strategy proposed, which has been tried successfully in many other developing countries, is to ***promote the establishment and operation of rural based non-agricultural small-scale companies****. In this context it is recommended that* ***a study is done on the possibilities, prospects, and institutional needs for the promotion of rural non-agricultural based small-scale activities.***

Finally concerning the allocation and overlap of responsibilities between the MAAR and other ministries, it is recommended that a study is carried out in the near future, focusing on the types of responsibilities of the MAAR in relation with other ministries, with a view of identifying areas where more efficient decision making can be pointed out. Such a study will be much more effective if the strategy and policies of the MAAR are clearly set out, and the areas where MAAR decisions affect sectors where other ministries have a voice are clear. It is, therefore, recommended that such a study is carried out only after the type of strategy and policies that are to be followed in the next ten years in the agricultural sector are identified and adopted.

A matrix for the actions needed for the implementation of the strategy in the next few years is indicated in the next pages.

Matrix for the Implementation of the Proposed Agricultural Sector Development Strategy for Syria

Vision. Agricultural development in Syria should aim at an agricultural sector that is efficient and productive as well as sustainable in its use of resources, competitive in terms of external orientation, and providing adequate incomes to a large number of holders with equitable distribution of incomes and benefits.

Objectives

- *Promote self-reliance for the agricultural sector and the economy via greater reliance on comparative advantage;*
- *Utilise fully and improve productivity of natural agricultural resources, especially those of land and water;*
- *Increase labour productivity in agriculture;*
- *Achieve equitable levels of income distribution, satisfactory targets of poverty alleviation in rural areas, and contain rural-urban migration;*
- *Secure adequate levels of employment to the rural labour force;*
- *Securing adequate food consumption of low income urban and rural populations;*
- *Provide adequate supply of raw materials at reasonable prices to domestic processing plants;*
- *Increase the value of agricultural exports;*
- *Promote private investments as a major instrument for achieving economic development;*
- *Develop and expand economic relations with foreign countries, with a view to promoting exports, acquiring new technologies, and becoming a regular member of international organisations, such as the WTO;*
- *Achieve better utilisation of water resources for irrigation and other uses;*
- *Maintain environmental balance;*

Principles and Philosophy of proposed strategy

1. *Agricultural development in Syria should be based on intensification of current production structures and methods, along lines of comparative advantage, coupled with more efficient, conservation minded, and labour intensive production methods.*
2. *Any planning of production or resource use should be based on providing to farmers appropriate incentives, and not through coercive mechanisms.*
3. *The orientation of agricultural and food production should be organised within a context of an open and export oriented agricultural sector.*
4. *Agricultural development should be seen as part of an overall rural development, and labour employment strategy.*
5. *The organisation of production, marketing and processing of agricultural products should allow in the short and medium term, both private as well as public agents to participate in a non-discriminatory way in all aspects of the agrofood chain.*

6. *The role of the public sector should be gradually redefined to include correction of market failures, regulation (not control) of markets, and redistribution.*
7. *The process of adaptation and transition to a more market oriented but regulated agricultural sector should proceed at a fast pace.*

Program	***Actions until end of 2003***	***Actions between 2003-2005***	***Actions between 2005-2010***
Introduce a system of licenses to sell for strategic products	*Complete study of the proposed system of sale licensing, with design of the types of licenses that are to be issued, the regional differentials, water charges, and all administrative details. Design of a monitoring and evaluation system*	*Pilot implementation of the proposed system in one or two water basins. Implementation of the monitoring and evaluation system in the same regions. Study of the outcomes, and adaptations and corrections as needed.*	*Implementation of the full licensing system, as well as the monitoring and evaluation systems, on a national basis.*
Introduce on non-metered irrigation systems per-hectare water charges	*Complete study of region and basin specific opportunity costs of water. Design and propose alternative pricing formulas*	*Pilot implementation of per-hectare water charges in certain regions. Monitor and evaluate, in order to adapt.*	*Implementation of full system*
Revise formulas for setting domestic support prices for strategic products.	*Design and conduct baseline farm management survey in all producing regions. Determine actual costs for each product under different agroecological and technological production systems. Implement study of border prices*	*Implement mixed system of pricing*	
Price policy for non-strategic products	*Conduct product-specific studies to estimate the tariff equivalent of all current policy interventions.*	*Substitute a tariff as the single instrument for pricing policy of each agricultural product, and abolish the other interventions.*	*Adjust tariffs towards a unified overall tariff rate.*
Export promotion	*Fully legalize the holding of foreign exchange.* *Abolish export taxes and export*	*Gradually liberalize foreign exchange market, by allowing freer convertibility of domestic currency.* *Implement system of grading and*	

	licenses. *Design system of grading and standards* *Conclude Syria-EU trade agreement.* *Design and pass law to allow multinational or national firms to produce under contract with farmers.*	*standards* *Organize and start and export promotion organization.*	
Development of microfinance groups	*Create on pilot basis rural savings and loan associations. Also implement pilot project on microfinance groups.*	*Adopt savings and loan association model on a large scale. Same with microfinance groups.*	
Restructure co-operatives towards marketing and input delivery.	*Implement study on co-operative restructuring, and propose and adopt new law.*	*Pilot restructuring of some co-operatives.*	*Restructuring of co-operatives on large scale*
Establishment of more transparent agricultural land rights	*Restore full ownership rights, including right to transfer, of former state or land reform lands that have been distributed to farmers and have been fully paid.*	*Introduce system of licenses to sell on all these lands.* *Distribute state land currently under rental agreement to farmers, with ownership like contracts.* *Establish in each Mohafaza center of legal land related information.*	
Marketing of agricultural products	*Abolish monopoly marketing of public organizations.* *Design a system of collection, organization, and public dissemination of market information*	*Institute role of public organizations as buyers of last resort.* *Abolish all import bans, and liberalize both imports and exports, subject only to tariffs.*	

	for agricultural and food products. *Abolish all price controls at the retail and wholesale level for all agricultural and food products*		
Consumer subsidies	*Conduct national household survey of expenditures, and incomes.*	*Design targeting mechanisms for the poor*	*Implement targeted subsidies through food coupons*
Technological improvement	*Conduct thorough study of comparative advantage of all Syrian agricultural products, under different technologies and irrigation structures.* *Conduct study of medium term agricultural research strategy.*	*Implement results of agricultural research strategy.* *Redefine role of extension, and reorganize in light of transition from the current state planning mechanism to a sale licensing system.*	
Allocate responsibilities between relevant ministries	*Conduct study of responsibilities of ministries, in light on new strategy*		

I. INTRODUCTION

This report is written within the framework and objectives of FAO project GCP/SYR/006/ITA "Assistance in Institutional Strengthening and Agricultural Policy in Syria". The Terms of Reference (TOR) for this part of the project are exhibited in Annex 1. The project for this consultant envisioned six visits to Syria. The first visit took place in the two-week period from September 10, 2000 until September 24, 2000. The second visit took place during the period October 24 to November 4, 2000. The third visit took place from January 26 to February 8, 2001. The fourth visit took place from April 3, 2001 to April 10, 2001. The fifth visit took place between September 13 and September 17, 2001.

During these missions, the consultant had extensive discussions with the Deputy Minister of Agriculture, the National Project Director (NPD), the Chief Technical Advisor (CTA), and the national project co-ordinator (NPC). He also had extensive discussions with personnel from the Ministry of Agriculture and Agrarian Reform (MAAR), other ministries, private sector entities, and farmers. In addition, the consultant met and had extensive discussions with most of the FAO consultants who worked on various topics relevant for the agricultural sector strategy. As part of the project, the consultant made field visits to several regions in Syria. During these field visits the consultant had many discussions with the staff of the MAAR, agricultural and irrigation research centers, farmers, and private sector operators. In addition the consultant collected and reviewed several studies relevant to the agricultural sector in Syria, as well as appropriate data. Finally, the consultant organised a small survey of 100 farm households that was conducted by 10 trainees of the National Agricultural Policy Center in Damascus. The lists of the many people met throughout the project have been attached in the appendices of the first four mission reports.

The consultant would like to thank the many people who have helped the work underlying this report. In particular the consultant would like to thank Mr. Arfan Alloush, the Deputy Minister of Agriculture, Mr. Atieh El-Hindi, the National Project Director (NPD), Mr. Emad El-Hawary, the Chief Technical Adviser (CTA), Mr. Ciro Fiorillo, the project agricultural economist and current CTA, Mr. Nassouh Keilani, the computer specialist, and the project trainees who conducted the survey (Widad Shehadeh, Almuhannad Melhim, Yihia Dehesh, Bashar Nahas, Samir Jrad, Hajar Baghasa, Akram Shhaideh, Mayyada Hammoud, Majd Abdullah, and Rola Diab). He is grateful to the other FAO consultants who worked on the various reports, on the results of which much of this report is based. He is also very grateful to the two project translators Ms. Rola Diab and Ms. Asma Mattar. He would also like to thank the two project drivers Mazen Boukai and Suhail Maila. Finally the consultant is grateful to the many Ministry of Agriculture specialists and employees, as well as the many public and private sector people, including many farmers, met in the course of the project.

This report is the second part of the consultant's overall report, and contains the recommendations of the consultant. The first part of the overall report, which is a self standing report, contains an extensive analysis of the structure and performance of Syrian agriculture, as well as an analysis of several issues of importance to strategy formulation. The main conclusions and points of that analysis will be highlighted below. The main purpose of this report is to discuss and propose a strategy for the agricultural development of Syria for the short and medium term, namely a period spanning about ten to fifteen years from now. The purpose also is to suggest specific policies towards realising this strategy.

II. MAIN FINDINGS AND CONCLUSIONS

1. Past and Current Agricultural Strategy and Policies

The factors that shaped the agricultural strategy and policies of Syria from 1960 onwards were the land reform and the external political environment of the 1950s and 1960s, namely the international alliances dictated by the cold war, the insecurities imposed by the Middle East developments, and the uncertainties inherent in the international trade system.

The major development paradigm, that has governed Syrian development policy in general and agricultural development in particular since 1970, has been that of state-led import substituting industrialisation. Socialism, which was the driving paradigm in the late 1950s and 1960s was redefined in the 1970s to mean increasing industrial employment, an expansion of the role of the public sector, and at the same time an activation of the private sector via productive but non-exploitative investments. Economic development and self-reliance, was the key to national strength, and development was understood to mean fast growth and modernisation. Syria was to cease being an agricultural economy, and become a mainly industrial one. Lack of indigenous technical capabilities was to be compensated for by importing complete, turnkey projects, and financing was to be secured by means of increasing the exports of oil, foreign borrowing, and Arab aid.

The consequences of this overall development strategy for the agricultural sector were the following. First, a strategy of self-sufficiency in major food staples was adopted. Second the state undertook a major role in production and trade, especially with respect to the major products and inputs. Third, foreign trade became almost completely a state monopoly. Fourth, several publicly owned industrial plants were established for food and other agro-processing activities.

Before the mid-1980s the Syrian economy was centrally planned. With the 6th five-year plan (1986-1990) a process of gradual move towards indicative planning was started, through a process of decentralisation. However, the government maintained its role in input distribution, while enhancing the role of the private sector in agricultural production and marketing.

With the exception of the oil sector is exempted, it can be said that the economy of Syria is primarily agricultural based. Apart from the basic agricultural production, the bulk of exports are agriculture based, the bulk of manufacturing is based on agroprocessing, a large share of trade and commerce is based on agriculture, and many services are linked to agricultural production. Furthermore, a large share of employment is provided by agriculture. Therefore, one cannot separate the overall strategy for agricultural development from the overall economic situation and macroeconomy.

The links between agriculture and the macroeconomy can be summarised as follows. First, while agricultural production is almost totally privately based, and carried out by a large number of relatively small farm units, the bulk of marketing and processing for the main strategic products (wheat, cotton, tobacco, and sugarbeet), as well as fertiliser distribution, are publicly controlled. Via the process of public control of the upstream and downstream activities relevant to agriculture, the government can exercise considerable control on production and distribution of the agricultural products, especially those deemed as strategic ones[1]. It can also generate considerable income through explicit and implicit taxation, as well as foreign exchange earnings through exports or import substitution. It can also use its control of agriculture to conduct domestic welfare policy, especially as it concerns food subsidies. The foreign exchange through official channels has always been severely limited, and hence control of trade in

[1] Currently strategic products include wheat, barley, cotton, tobacco, sugarbeet, lentils and chickpeas.

strategic agricultural products implies that the government can capture much better the implicit tax involved in the overvaluation of the currency. It thus appears that a major factor in the orientation of agricultural sector strategy and policies in the past was the severe lack of foreign exchange, and the importance of agriculture in generating foreign exchange or saving foreign exchange via import substitution.

The main long-term objectives of the current agricultural sector strategy are the following[2]:

- achieving a high level of self sufficiency in the main food staples
- optimal utilisation of the natural agricultural resources and improving their productivity
- securing the raw material requirements of the domestic processing plants
- increasing agricultural exports
- enhancing investments that are considered as one of the tools for comprehensive development
- improving rural living standards and containing rural-urban migration
- generating employment for rural labour
- improving food consumption in both rural and urban areas

The highest authority responsible for agricultural policies and planning is the Supreme Agricultural Council (SAC) which was established in 1975. The SAC is chaired by the Prime Minister, with the Chairman of the Economic Committee as Vice Chairman. Its members are Ministers concerned with agricultural and rural development, the Chairman of the National Farmers Bureau, and the Chairman of the General Federation for Farmers. SAC is the only central authority that has the right to approve agricultural annual production plans, determine prices for major agricultural products and agricultural inputs, and the policy for agricultural finance. MAAR acts as secretariat for SAC and follows up the execution of its resolutions and decisions.

The agricultural policies until the mid-1980s had the following features:

- Mandatory determination of areas planted for strategic crops both at the governorate and district levels
- Official pricing and marketing of a large group of agricultural products (all the strategic crops, some vegetables (such as onions, tomatoes and potatoes), broilers, eggs, milk, and others)
- Subsidisation of agricultural inputs
- Easy access to land and water resources through regulations involving land reform and distribution and rental of state property
- Investment programs
- Provision of loans to agricultural producers

Since 1985, these polices have undergone the following changes:

- Limiting official pricing to the strategic crops

[2] These objectives are stated in the most recent statement on agricultural development strategy. See Syrian Arab Republic (2000), Orientations to the agricultural development strategy in the Syrian Arab Republic, Ministry of Agriculture and Agrarian Reform, Damascus.

- Shifting from mandatory to indicative planning
- Limiting monopolistic public marketing to the strategic crops processed by public processing plants (cotton, tobacco, and sugarbeet), and opening marketing and processing of other products to the private sector
- Opening the export of all agricultural products (except wheat, cotton, and tobacco) to the private sector
- Promoting private investments in agro-processing and agricultural marketing under the investment law 10 of 1991
- Exempting exported fruit and vegetables, olive oil, and cotton and its products from agricultural production taxes
- Increasing the volume of agricultural loans
- Increasing the investment budget of the MAAR

The basic instrument for implementing agricultural policies is the **annual production plan** for agriculture, which is formulated as follows. The indicative figures for the production of crops, livestock and fisheries, especially major crops, are determined in co-ordination with MAAR and the State Ministry for Planning (SMP), based on studies for prospective demand and production possibilities, along with follow up reports on the execution of previous plans. This is undertaken according to the following steps:

- MAAR states production objectives at the governorate level based on the indicative figures, resources and production possibilities for each governorate;
- Each governorate agricultural council formulates its own plan on the basis of the directives received from MAAR, and village level consultations;
- MAAR unifies the plans received from all governorates, after discussion and scrutiny;
- The plan proposal is then presented to SAC including measures and arrangements for plan implementation, identifying the role to be played by different public sector institutions, along with a summary follow-up report on the previous plan;
- Costs of production for different crops are estimated by a special committee and presented to SAC for approval and determining product prices and declare them to the farmers before the beginning of the season.

The **investment plan** is confined to the public institutions. Investment programs for the ministries of agriculture and irrigation, including planned projects, their material and financial requirements as well as time span for execution, are discussed with the Department of Agricultural Planning of SMP with a view to determining priorities. Agreement is reached on the total amount of investment required, after discussing projects completed and under completion as well as new project proposals, taking into consideration financial and execution possibilities.

2. Agriculture and the Macroeconomy[3]

In 1999, agriculture was the largest productive sector, accounting for 27.3 percent of official GDP, with wholesale and retail trade second at 21 percent of GDP, and mining and manufacturing third at 18.5 percent. Mining, mainly oil and gas, accounted for 40 percent of the

[3] This section is a summary of the most important conclusions of a similarly titled section in the first part of this consultant's report, see Sarris (2001).

mining, manufacturing and utilities GDP, or 5.8 percent of total GDP. The growth rate of the various sectors has been quite uneven, with substantial growth during the last decade exhibited by the mining and manufacturing, the agricultural, the transport and communications sectors, the private services, and the finance and insurance sectors, while the other sectors have grown at much smaller or even negative rates.

Fast population growth, however, has resulted in a mixed pattern of growth of per capita GDP. Real per capita GDP in 1995 was lower than that of 1985 or 1980, but improved substantially since 1995. Nevertheless, **in 1999, according to calculations based on official statistics, the real per capita GDP stood at a level 2.5 percent lower than that of 1980**, having fallen by 4.4 percent from the previous year, because of the extended drought. This highlights the importance of agriculture in the overall economy.

Real per capita private consumption expenditures have exhibited stagnation since 1985, never having surpassed the level of that year during the last fifteen years. Assuming that income distribution has not changed much, this suggests an increased number of families with low incomes. Compared to 1985, the real per capita private consumption in 1999 was 12.7 percent lower, while it was 23.4 percent lower compared to the figure in 1980.

While real per capita private investment exhibited considerable growth during 1990-95, most likely due to the passage of law 10 of 1991, its growth turned significantly negative during 1995-98, for a negative average annual growth rate for the decade of the 1990s (-1.4 percent). On the other hand, real per capita public investment has increased considerably, while real per capita public consumption has declined almost steadily in the 1990s, undoubtedly due to the efforts of the Syrian government towards stabilisation.

The share of total investments devoted to agriculture has decreased considerably in the last ten years, after a major increase in the 1990-91 period. Total real investment in agriculture has not increased by much, despite increases in overall investments, because of a decline in the share of total investments going to agriculture. In fact **the average annual growth rate of real investment in agriculture during the period 1990-99 has been the lowest of all sectors** (at 0.17 percent annually), and was negative for the recent period 1995-99. This has obvious implications about the long run growth performance of agriculture.

The **inflation** in food prices, at 5.5 percent annually during 1990-99, has been much lower than that of non-food items, which was near 9 percent annually during the same period. This must have been due to the government policy towards food subsidies. Inflation, which was substantial during the period 1990-95, appears to have slowed down considerably during the last few years, with the general retail price index growing at only 2 percent annually, and the food price index growing at only 1.1 percent annually during 1995-99. In 1999 in fact, the general retail price index fell by 2.1 percent, while the food price index fell by 4.1 percent.

The **labour force** in Syria is estimated at around 4.7 million persons. The relatively low labour force participation rate is accounted for by the very low labour force participation rate of females (3.8 percent), compared with the high male labour force participation rate of 49.4 percent. These rates, however for 1999 are much lower than those reported for 1998 in the 1999 Statistical yearbook, which are 18.4 percent for females and 80.3 percent for males. If the figures are correct, they suggest a substantial decline in employment in 1999, a major drought year, and highlight the importance of agriculture for employment in the economy.

The average activity (namely participation) rates in 1999 seem to be higher in rural areas (42.1 percent) compared to 24.5 percent in the urban areas (in 1998 the rates were 53.1 percent and 48.3 percent respectively). It is interesting that a very high 51.1 percent of the female active

labour force in 1998 was occupied in agriculture and forestry, while the corresponding proportion of the male labour force was only 23.2 percent. If we take these percentages, and combine them with our estimates of the labour force, then it can be estimated that the total **labour force employed in agriculture in 1999 was equal to 818 thousand people** (114 thousand female and 704 thousand male). This amounts to 17.6 percent of the estimated active labour force, and compares with 1081 thousand in 1998 and 918 thousand people in 1991, or 28.2 percent of the total employment then. The significant decline of agricultural employment in 1999 by 23.5 percent, and which was mostly accounted for by declines in female agricultural employment is interesting. Women in Syria account for a large share of seasonal agricultural workers, who in turn largely come from low-income households. The large decline in that type of employment suggests that **the drought must have affected considerably those poor households that depend on agricultural wages for part of their income**.

All financial institutions in Syria are currently state owned. The Agricultural Co-operative Bank (ACB) finances all agricultural production activities, deals directly with farmers, and organises the distribution of inputs to farmers according to detailed plans drawn by the Ministry of Agriculture and Agrarian Reform (MAAR). Credit policy is conducted mainly through an annual credit plan formulated by a ministerial committee, that establishes credit ceilings for the central government, the public enterprises and the private sector

Public enterprises receive more than two thirds of total bank credit. **During 1994-99, ninety percent of credit to the public sector was allocated to the two largest public companies, which are both agriculture related, namely the General Organisation of Cotton Ginning and Marketing (GOCGM), and the General Organization for Cereals Production and Trade (GOCTP)**. In 1999 the GOCGM accounted for 40.9 percent of the total outstanding credit to public enterprises, 23 percentage points more than its share in 1995. The GOCTP, whose share of total credit to public enterprises declined by more than 20 percentage points over 1995-99, still had over 50 percent of the outstanding credit to the public sector. By contrast total credit to the agricultural sector in 1999, the bulk of which is ACB loans to farmers, amounted to only 16 percent of the total credit to these two organisations. This situation implies that the marketing and price policies towards cereals and cotton, accounting for three of the seven strategic crops, and the corresponding marketing organisations, have significant monetary implications for the economy, as well as implications about the availability of credit to the rest of the economy. Diminished requirements for credit to these two sectors will most likely release considerable amounts of credit for use by other public and especially private sectors.

The share of **currency outside banks** in total broad money stock has been on a declining trend since 1994, but still accounts for more than 40 percent of the total, indicating a low degree of financial intermediation, and that cash is the principal means of payment in Syria's payment system, as the bulk of deposits is by public enterprises. This is characteristic of financially repressed economies. The computed per capita currency outside banks declined in real terms (deflated by the retail price index) between 1994 and 1997 by 12 percent, but then recovered during 1997-99. Still in 1999 the real per capita currency outside banks was 3 percent below its peak (between 1994-99) in 1994. As this indicator is a proxy for domestic economic activity, and should increase when economic activity is growing, its decline in real terms suggests that the Syrian economy has been in stagnation for the past few years.

The other major feature of the banking system is the **meagre incentives it offers for private formal savings**. As real interest rates have been negative for much of the last two decades, the private individuals have found other ways to utilise their savings. These include investments in gold, investments in land, investments in agricultural operations (by the so-called

"entrepreneurs" that will be analysed later), overseas deposits , etc. This tends to deprive the economy of much needed formal capital for domestic investments. It is clear that formal private savings mobilisation has still a long way to go, and substantial room to grow in Syria.

Syria's **external position** has improved substantially in the last few years, with both the current and capital accounts exhibiting surpluses in 1998 and 1999. The major factor in this development was the increase in oil related exports, while private exports have remained steady.

On the **export** side, crude oil accounted for 63 percent of total exports, with fruit and vegetables second at 10.7 percent of exports, and raw cotton third at 4.5 percent of exports. About 82 percent of total exports are accounted for by primary products, a very high ratio by world standards. The bulk of non-oil exports are agricultural raw materials or based on agricultural inputs.

A number of incentives to stimulate private sector exports were introduced during 1996-99, such as the permission to import a larger number of inputs used in export production, the depreciation of the neighbouring countries' exchange rate used to value the surrendered portion of the non-agricultural export proceeds, and the removal of the tax on exports of many agricultural products. However, these incentives have not been sufficient to generate significant growth of exports, because exporters are still constrained by cumbersome administrative procedures, the absence of a duty drawback scheme for imports used in export production, the inability to import goods that are produced domestically at higher cost (such as cotton yarn), and the 25 percent foreign exchange surrender requirement. The European Union (EU) is Syria's main export market, accounting for more than half of total exports, consisting mostly of oil and non-agricultural products. Agricultural exports are directed mainly to Arab countries. There seems also to be considerable border trade with Lebanon and other neighbouring countries that is unrecorded.

Imports have gradually been liberalised, and this along with the increased availability of foreign exchange due to workers remittances and loans, has led to a surge in imports, especially private ones, that amount to 62 percent of the total. Foodstuffs accounted in 1999 for 19 percent of all imports. The main source of imports (30 percent) is the EU. The other major sources of imports were the former CMEA countries, China and Yugoslavia (17 percent). However, these shares do not consider the large volume of informal trade with Lebanon.

The **exchange rate system** has undergone considerable changes in the last decade. Generally, Syria has implemented a system of multiple fixed exchange rates. For agriculture, separate exchange rates were specified for the imports of agricultural inputs, for the imports, and for the exports of agricultural commodities. However, in many cases these were accounting rates only. Furthermore, the use of foreign currency has been restricted by controls. During the most recent period Syria has made substantial progress in reducing the exchange rate distortions. The respective policies consisted of a unification of the various exchange rates, and secondly, a devaluation of all exchanges rates, thereby, bringing them closer to the prevailing market exchange rate.

The unification of exchange rates has resulted in the reduction of the gap between the market exchange rate and the neighbouring countries' exchange rate. If one considers the trade weighted official nominal exchange rates, then a substantial nominal devaluation seems to have occurred in the past five years. Because of relatively moderate inflation rates the substantial nominal devaluation which has been implemented during the last years appears to have resulted also in a real devaluation of the exchange rate. However, the various official nominal exchange rates do not reflect the underlying fundamentals in the foreign exchange market. One rate that is considered as more representative of the market situation is the Beirut exchange rate, which is

the same as the Damascus black market rate. This rate has remained largely constant since 1994. Given the differences between the inflation rates in Syria and EU or other trade partner countries, the IMF has estimated that this open market exchange rate has appreciated between 1994 and 1999 by something like 9 percent, and this gives an opposite picture to the one suggested by an analysis of the real nominal effective exchange rate.

An interesting puzzle is why, given the inflation rate differentials between Syria and most of its (officially) trading countries, such as the EU and the Arab countries, the open market exchange rate has stayed nominally constant, and in real terms appreciated. If the parallel market reflects unobserved supply and demand forces for foreign exchange, then the parallel rate should, under balanced supply and demand for foreign exchange, have depreciated. An explanation may be that while most calculations of real and effective exchange rates consider as trade weights those indicated by official trade statistics, the existence of a large parallel market may suggest trade weights that are markedly different from those recorded officially. Given that Lebanon may be the largest unofficial trade partner of Syria, and given that the exchange rate in Lebanon has been overvalued, as estimated by the IMF, then the Beirut rate may in fact reflect an exchange rate between two overvalued currencies, and hence may not reflect the true fundamentals. Hence real effective exchange rates computed on the basis of the Beirut "free market" rate may not in fact reflect the real free market. This is, nevertheless, a hypothesis that needs further investigation.

Concerning the **trade regime** before 1985 all import and export operations were controlled by the state. Since 1985 substantial reforms were implemented in an attempt to liberalise Syria's trade regime. Today trade for some agricultural products such as fruits and vegetables is dominated by private traders. Trade in strategic crops, particularly, cereals cotton, tobacco, and sugar, remains widely in the hands of state organisations.

Imports of agro-food commodities are subject to two types of **tariffs,** a 'product-specific import tariff' which varies widely across products, and a 'general import tariff'. This is in the range of 6-35% and increases positively with the level of the product-specific import tariff. **Non tariff import constraints** for agricultural commodities abound in Syria, with the most obvious example that of import bans, which, although diminished are still in effect, especially for several agricultural and processed products.

The current government's growth strategy is to develop private initiative while maintaining a strong public sector. The strategy is to maintain a gradual pace of reforms consistent with Syria's social and political systems. Of particular importance is private export growth, driven by exports of agriculture, a sector where the government considers that Syria has comparative advantage. Nevertheless, despite considerable efforts to liberalise the economy in recent years, the economy is still characterised by a large but stagnant public sector, a resilient but constrained private sector, a cumbersome regulatory regime, continuation of many state controls, and a complicated trade and exchange rate system.

3. Structural Aspects of Syrian Agriculture Relevant for Strategy Formulation[4]

The figures of the agricultural censuses of 1981 and 1994 show that during this period there has been a considerable (26 percent) **increase in the total number of holders**, or farmers, from 485691 in 1981 to 613657 in 1994. Given that the total cultivable land has not changed by much during this period, the inevitable conclusion is that there has been considerable fragmentation and subdivision of farms, despite laws and regulations that explicitly forbid it.

[4] This section is a summary of the most important conclusions of the similar titled section in the first part of this consultant's report, see Sarris (2001).

This must have been the consequence of population growth coupled with long standing social norms in Syria that dictate the roughly even subdivision of land among a family's children.

Among holders with land, 29 percent have another job than farming as a main occupation, while among those without land the proportion is 44 percent. Absentee holders include those holding large areas, who do not have time to cultivate their land, as well as those with small amounts of land that cannot earn enough income on that land to support a family. Absentees either hire others to cultivate, or rent their land under some form or sharing or rental agreement. There exist several conflicts between owners and share tenants over tenure, due to inadequacies of the tenancy laws that give rise to many oral agreements, which can later result in disputes. Part time farmers enjoy all the benefits of full time farmers in terms of government services and subsidised inputs.

The **educational status of holders is very low**. More than 83 percent of all holders have education less than or equal to elementary, and a large share of those (44 percent) are illiterate.

While the total number of farm holders with and without land is known, there are many categories within these broad groups. It is possible to group households partaking in farm operations, and agricultural production in general, into many overlapping functional categories. These are:

(i) landed holders whose main occupation is not farming (mainly absentees);

(ii) landed holders with farming as a main occupation, i.e. owner-operators;

(iii) landless holders whose main occupation is not farming (mainly absentees);

(iv) landless holders with farming as a main occupation, i.e. owner-operators without land;

(v) sharecroppers and tenants on private land having a written or oral agreement with the owner of the land;

(vi) land reform beneficiaries and state land distribution beneficiaries that do not yet fully own their land. These are owners like possessors of holdings assigned to them, for which they pay a yearly fee up to concurrence of one fourth of the value of the assigned land;

(vii) tenants on public land, renting in lands belonging to the old state land establishment or to the expropriated land reform areas not distributed to beneficiaries;

(viii) squatters on public land -a category of workers aiming at becoming legal tenants and for which regularisation is on-going;

(ix) squatters on private land, who are mainly sharecroppers whose contract has expired and whose rights are awaiting arbitration;

(x) labourers in state farms, joint ventures or larger private farms with a permanent contract, which is a very small category as most contracts are for short term casual labour;

(xi) landless and near landless labourers, mainly descending from small owner or sharecropping households with inadequate land base to redistribute to children.

(xii) Agricultural entrepreneurs, these operators rent or own large areas of land, especially in the Northeast part of the country.

However, these groups can be overlapping. For instance one household's members may be owner operators in one holding and sharecroppers in another, or farm labourers. That is, the groups are not discrete and also their interests often overlap. From the management point of view, apart from absentee owners in categories (a) and (c), and categories (j), and (k), who are

permanent and casual labour working under instructions, all other categories function as farm operating households with different degrees of independence from the ultimate owner of the land.

Along with the increasing number of holdings **the average size of holding has been declining**. The bulk of holdings are small in size and traditional in system of management with more than a third (37.7 percent) of all holdings having an area of 2 ha or less. These holdings account for only 4 percent of the total area operated. On the other end of the spectrum 2 percent of holdings cultivate more than 50 Ha of land and account for 23 percent of the total area operated. Tartous and Lattakia are characterised by size distributions concentrated on small holdings, while Aleppo, Al-Rakka and Al-Hassakeh are characterised by distributions that are markedly skewed toward larger size classes.

The basic characteristic of the Syrian land tenure system is the co-existence of formalised systems of tenure side by side with customary institutions ("*urf*"). A strong emphasis on legal structures is traditional in Syria as in other Mediterranean countries, but there is a long history of tenure systems.

Registered state land includes areas registered under state property prior to the land reform of 1958, out of which some were distributed, with land use rights, or rented to individual operators. These are also referred to as original state lands (as opposed to the land reform areas expropriated from private owners and put under state control for reallocation). Registered state land also includes areas expropriated from private owners above ceilings defined by the land reform of 1958 and later amendments, and subsequently distributed, rented or transferred. Registered state land consists of 3789 thousand ha, of which 2399 thousand is original state land, and 1390 is land confiscated through land reform.

Unregistered state land, which amounts to 7675 thousand ha, includes communal resources for general use of the population and not registered against an individual or collective name. Within this general category are included areas open to the whole population, such as lakes or rocky areas as well as pastoral and grazing areas.

The land reform law gave the beneficiaries owners-like possession but no right of sale, and tied them to government pronounced cropping systems. The size of distributed plots was related to size of households. The holding was expected to remain one undivided management unit, but no mechanism for compensation between heirs of the household was foreseen. With respect to land ceilings established by land reform, as of early 2001, they legally exist and exceptions to ceilings in operation are possible only for joint ventures. Ceilings apply to ownership and not to operation and therefore there is no legal obstacle to establishment of larger scale operations, except that the short duration of contracts for land leasing has implication for insecurity and high transaction costs, if the terms of the contract have to be frequently renegotiated.

Since the late fifties, of the 2399 thousand Ha of original state land, 303 thousand ha have been distributed to farmers with a possibility of redemption after 10 years of registration. This took place mainly in rainfed, lower quality land areas of zone 4. Of the remainder another 491 thousand Ha has been rented to farm operators. The rest is being used by the public sector largely for agricultural and non-agricultural activities or is vacant wasteland. Of the 1390 thousand Ha of land obtained through the land reform, 555 thousand Ha were distributed to farm operators, and could be redeemed after twenty years of registration. These lands were mainly in better agricultural areas in zones 1,2, and 3. Another 5.7 thousand Ha were sold, and 448 thousand Ha has been rented out. A total of 99 thousand households have benefited from distribution of original and land reform land, while another 69 thousand households currently

rent a total of 969 thousand Ha of state land. Currently some of the land owned and operated by the twelve state farms (that occupied a total of 112420 Ha) is being distributed to farmers.

The land market involves both fully owned land but also land that has restrictions of sale, such as land reform land. Given the restrictions, sales of land reform land tend to be oral and at lower prices than for fully owned land. The consequence of land sales restrictions is that many agreements take the form of long term use rights rather than outright sale. This, however can restrict the type of investment undertaken on such lands.

A considerable tenure problem involves **squatters on both public and private land**. Of the 69 thousand families that rent state land, about 23 thousand are estimated to be paying squatters, namely holders whose contracts have ended and await renegotiations. There are also a considerable number of squatters on private land.

Agriculture employs considerable numbers of workers. The total number of family members employed in private agricultural holdings is 1.94 million, of which the overwhelming portion (96 percent) is unpaid family labour. This number constitutes about 40 percent of total Syrian labour force, but does not consider the fact that many family members are only partly employed in the family holding. The average number of family members per holding is relatively stable over different land size classes, at about 3.7. Hired labour of all types accounts for only about 88.5 thousand full time equivalent person-years, of which permanent workers constitute 58 percent. The reason is that while there are 1.6 million temporary workers employed by all holders, the average number of days each temporary worker works is only 5.9. There are a considerable number of landless rural households, which make their labour available for seasonal farm work.

The scarcity of land, coupled with insecurity of income, creates a tendency among workers to occupy land permanently whenever possible. Labourers want to become sharecroppers, who are more difficult to evict, while all employers like to continue using casual unprotected labour, employed for short periods only and for specific tasks only for the very purpose of preventing any possibility for them to settle on the land and claim any right to it.

The number of holders that plant only crops is relatively small, only 46.5 percent of the total. The rest plant crops and/or also have livestock. However, the proportion is much larger among the large holdings. In the largest size class, namely those with area larger than 50 ha, 78 percent plant only crops, while in the lowest size class, namely those with an area less than 0.5 ha, only 27.4 percent plant only crops. In the next smallest size class, namely those with land between 0.5 and 2 ha, only 33 percent plant crops only.

A remarkable structural observation is that there appears to be a **large number of holders (23.4 percent of all holders with land) that plant only fruit trees.** This proportion is, however, much larger among small size holdings (53 percent of the smallest size class (those with less than 0.5 Ha), and 37.6 percent in the next smallest size class (those with land between 0.5 and 2 Ha)). This indicates that for most small holdings fruit trees are a profitable activity. It might also indicate that trees, which requires relatively small amounts of labour except during harvesting are an appropriate activity for many smallholders that do not have enough land to support a family, and hence work only part time in agriculture. This is corroborated also by the observation that among small land holders a large share (about 40 percent) do not own any animals, an activity that is particularly labour intensive.

The same pattern emerges in the case of holders that have only greenhouses, or greenhouses along with non-greenhouse cultivation. This suggests that policies relating to fruits and

vegetables (most greenhouses produce vegetables) impact on small holdings, while policies for crops impact more on larger holdings.

Concerning **machine ownership**, water raising pump ownership, seeder, modern plough, thresher, and tractor ownership are all heavily skewed, in terms of the proportions owning, toward the larger holdings, while sprayers seem to be more evenly distributed. However, the number of machines owned per owning household is very even, and close to one for most types of machinery. In other words, it appears that, while it is mostly larger holders that own machinery, for most holdings owning machinery, one piece of machinery is enough. This suggests, in turn that there might be considerable inefficiencies in machine use in smaller holdings, as both smaller and larger size holdings seem to utilise on average the same number of machines, whenever they own them, while the land they operate is vastly different. On the other hand, this is also consistent with the reported pattern, whereby machine owners that have surplus capacity make them available for hire to other holders.

Analysis of the number of machines owned per Ha of operated land, reveals an inverse relationship between the farm size class and the number of machines per ha, namely that **there appear to be more machines per Ha among small holdings than among large holdings**. Assuming that those with excess machine capacity make them available to other farmers of the same size class, the numbers suggest that either there is considerable capital intensity in smaller farms, or that there are inefficiencies in machine use for smaller sized farms.

If the prices for labour and capital faced by different types of farmers are the same, then the capital labour ratios, namely the so-called **capital intensities** should be similar across different types of farms. The analysis of census information indicates that they are not, with larger holdings being generally more capital intensive than smaller sized holdings. The higher capital intensity seems to hold for all capital types and for family labour, which is the prevalent type of labour in agriculture in Syria. However, it does not seem to hold for hired labour, where an inverse pattern seems to hold for water pumps, and a more even pattern seems to emerge for the other types of capital. This is evidence that while the prices faced by farmers of different size classes for capital and labour in the open markets are similar, they are not similar for prices imputed for family labour. The generally lower capital intensity (or equivalently higher labour intensity) of smaller farms, implies that the **opportunity cost of family labour (the so-called shadow price of labour) is lower for smaller holdings, compared to large ones**. **This is consistent with excess supply of labour by smaller holdings.**

Irrigated agriculture has increased steadily in Syria over the last decades, with a doubling of the irrigated cultivated area since 1985. This increasing pace was followed in order to comply with the nation's food self-sufficiency policy objectives and thus satisfy the food production needs of an increasing population. The **water resources of Syria are very limited** compared to the needs of the country. The **overall water balance for the country is currently negative** with a deficit of 3104 million m^3/year varying distinctively across basins. In fact, the balance per basin shows that only three out of the seven water basins of Syria, namely Euphrates, Coastal and Al Badia have a positive annual water balance. The remaining basins have considerable negative annual balances. The magnitude of the deficit of the Al Khabour basin is so large that it will be difficult to correct it without special and severe measures. Given that of total uses, irrigation requirements comprise 83 percent, agricultural development and irrigation policies will have important effects on the different basins.

Most of the aquifers have been overexploited except for the Coastal and Al Badia basins, and water tables have significantly declined. Total irrigated area by wells is 715509 Ha of which 314050 Ha (44%) are in Al Hassakeh (Khabour basin) and the estimated total number of wells

is 201359 out of which 53078 were not licensed in 1999. Total irrigated area by surface is 560559 ha of which 396518 ha (71%) correspond to public irrigation systems and the remaining 164041 ha are private. Water consumption in surface irrigated areas is reported to be in the order of 15000 to 16000 m3/ha in the Euphrates basin, which is very high. The reported costs of developing new areas are in the range of 200000- 250000 SP/ha and they are recovered through charges to farmers over a period of 30 years. As water resources are very limited in Syria the construction of dams has received considerable priority. In the last decades construction reached a total of 154 dams but only three of them represent 87% of the total storage capacity.

Half of the total farm holdings in Syria utilised some kind of irrigation in 1994. The largest average irrigated area per holding is in the Al-Hassakeh mohafaza, where each holding with irrigation irrigates on average 10.5 ha. Similarly in Al-Rakka the average is 8.9 ha. By contrast in Sweida the average area irrigated by holdings that have some type of irrigation is only 0.75 ha, and in Hama 0.93 ha. Among holdings in the smallest size class (those operating an average total area of 0.3 ha), those that irrigate tend to irrigate a very large share of their area (83 percent). At the other end of the spectrum, among irrigating holdings in the largest size class (those with total average area of more than 50 ha), those that irrigate, and they are roughly the same proportion as those in the smallest class, tend to irrigate only 33 percent of their total area. Given, however, their large holdings, this irrigated area amounts to a very large average amount of 30 ha per irrigating holding. This conclusion largely holds for all governorates. Wells seem to provide irrigation for 55.1 percent of all irrigated area in Syria. The larger holdings use disproportionately more wells as their main irrigation source, and irrigate the bulk of their area from them.

ACB extends **loans** to private farmers, co-operative member farmers, co-operatives, farmers' unions and federations and public sector organisations engaged in agriculture. Each farm household must have a crop license as a prerequisite for obtaining credit and even for cash purchase of inputs if credit is not needed. Short-term credit is made available for farm expenses such as ploughing, harvesting, irrigation and fuel, cost of inputs, for small tools and for animal feeds and veterinary medicines. Medium term credit for periods not exceeding five years is extended for greenhouses, forest tree planting, purchase of livestock, digging of canals for irrigation, equipment for poultry farms and machinery for grading, waxing and packing. Long-term credit for periods of ten years or less is aimed at financing construction of stores, land improvement, forestry projects, fruit tree planting programs and cold storage facilities. The emphasis has been mostly on short term lending. The proportion of medium and long-term loans has been declining from year to year – from 17 percent of total in 1997, to 14 percent in 1999.

The **interest rates are quite low**, between 4 and 7.5 percent, depending on duration. Various charges add about another 3 percentage points to the nominal rates for annual loans, and also augment the interest rates on medium and long-term loans. These rates until recently were negative in real terms, with the result that there has been an excess demand for credit.

Loan recovery is tied to the sales of strategic crops to public agencies. The amount of the loan is subtracted from the farmer receipts when the product is delivered to the public marketing organisations. The enforcement mechanism is effective and repayments are generally satisfactory except in times of poor rainfall and drought.

The ACB is both dispenser of farm loans and distributor of inputs. The quantity of fertiliser and other inputs are pre-determined according to a recommended crop plan (earlier it was a mandatory plan subject to severe penalties for non-adherence but now it has been made "indicative"), and formalised by the issue of a crop license to every farm at the beginning of

each crop year. Farmers wishing to purchase fertiliser in cash also need crop licenses indicating the quantity of fertiliser they are entitled to.

Despite considerable liberalisation in recent years, the state in Syria still heavily intervenes in the **marketing of strategic agricultural products.** Currently the state maintains a monopoly in purchasing cotton, tobacco, and sugarbeet, and significant shares in the marketing of the other strategic crops. The remainder of production in these products, apart from satisfying farmers' household consumption, is traded by private traders and brokers. Farmers and private traders have to obtain certificates of origin to be able to transport their production to the nearest collection area for the relevant public organisation. The private sector has always been free to trade in fruit and vegetables as well as livestock and livestock products, at all levels of the market chain. Price monitoring and controls exist at the wholesale and retail level for most food products.

4. Performance of the Agricultural Sector[5]

The agricultural sector of Syria has exhibited several strengths but also some weaknesses under the past strategies and policies. **Production increased** constantly throughout the period 1981-99 except for drought years such as 1987, 1989, 1997 and 1999. The increases were both in plant as well as in animal output. However, the pattern of growth has not been even. Fruit and industrial crop production have grown the most, while the production of vegetables has declined since 1985. Nevertheless, self-sufficiency has been achieved in terms of the strategic crops and exportable surpluses have been produced in some products. In the last ten years there have been significant average yield increases for barley, cotton, sugarbeet, and chickpeas, while there have been no major yield changes for wheat, and lentils.

Over the last ten years there have been substantial changes in the **allocation of cultivated area** among crops. Summer crops have increased their area, while summer vegetables have reduced it. Within summer crops the area increase has been almost totally in irrigated area. Similarly within winter crops, there has been a large increase in the area of irrigated crops, while there was a major decline in the area of rainfed crops. Also the area of fruit trees has expanded considerably. The major pattern has been a substantial increase in irrigated areas. The bulk of total irrigated area is occupied by wheat and cotton that account for 57.7 percent and 21 percent respectively of all irrigated area.

The **per capita production** of wheat, barley, fruits, vegetables and sugarbeet have increased during the last decade but with annual fluctuations, which have no doubt been due to weather induced yield variations. Cotton per capita production has also increased but with major annual fluctuations. On the other hand, the per capita production of legumes, red meat, milk, as well as the number of animals have been stagnant or even declining, as in the case of sheep and goats.

The **annual plan**, that aims at steering farmers towards a particular land use pattern, is the main vehicle for national agricultural planning. There have been substantial differences between the areas planned and the areas that are ultimately planted. For all the strategic crops other than tobacco, the areas that are estimated to have been planted under irrigation are on average above those actually planned. This over-planting could be due to farmers ‘stretching’ their irrigated area to make maximum use of publicly supplied water. Government irrigation system maintenance and operation fees are paid for on the basis of *licensed* area but the *use* of such water is in effect free. Yields per hectare, on the other hand, have tended to be substantially

[5] This section is a summary of the most important conclusions of the similar titled section in the first part of this consultant’s report, see Sarris (2001).

over-estimated in annual plans in the period from 1989 to 1999 for all the strategic crops other than cotton and tobacco.

Yields in irrigated areas have varied considerably from year to year, and their variation is similar to the yield variation in rainfed areas. Given that irrigated production is more controlled than rainfed production, one would expect that the variability of yields in irrigated areas would be smaller than that of rainfed areas. In fact this does not appear to be the case. A possible explanation of this is that while the farmer is obliged to cultivate certain areas according to the license, and obtains inputs on the basis of the planned areas, in practice he can vary the amount of inputs applied considerably (with labour being the least observable and monitorable input). Hence, since he has limited freedom to vary the areas planted, he may compensate, in order to achieve his desired production, by varying the amounts of applied inputs, and hence yields.

Food security, has been one of the most consistent objectives of government policy. In earlier years, when there was a shortage of financial resources for food imports, food security was interpreted as food self sufficiency. Recently the concept has been redefined to mean increasing production of products that enjoy comparative advantage, so that exports of these products can be used to secure the currency needed to import other commodities. Nevertheless, when the economy is growing, both concepts imply increasing food consumption per capita. Estimates, based on official data, however, indicate that for many of the key food commodities, **the per capita domestic apparent consumption has declined during the last decade.** This holds for cereals, and in particular for wheat, for legumes, for fruit, and for milk, while per capita consumption has increased only marginally for red meat. The only commodities for which major increases are indicated within this short period are cotton, maize, and sugarbeet. None of these, however, constitute the major food consumption items. While there maybe errors in the data, particularly since there may be parallel imports and exports, the trend is disturbing and surprising, and suggests that one of the key objectives of the government for the population, namely increasing food consumption, does not seem to have been met. This despite considerable increases in the volume of production of most of these products. Apparently the population growth in Syria is growing faster than the increases in agricultural production net of exports, and imports have not been able to compensate for per-capita consumption declines.

Concerning **irrigation**, the bulk of the increase in irrigated areas during the last ten years has come from the construction of new wells. The number of new wells has increased by 50 percent between 1990 and 1999. Total irrigated area by wells in 2000 is 715509 ha of which 314050ha (44 percent) are in Al Hassakeh (Khabour basin), the region with the most acute water overexploitation problem. The total number of wells is 201259 out of which 53078 were not licensed in 1999.

Surface irrigation is the prevailing irrigation system in Syria covering 95 percent of the irrigated area. Basin irrigation is the predominant technique used in surface irrigation and most of the irrigated wheat and barley are irrigated by this method. Irrigation field efficiency is reportedly low, often below 60 percent. The average consumption per irrigated hectare for the whole of Syria is 12434 m3 per year, and the average consumption of the irrigated hectare in the Euphrates basin is 16750 m3 per year. This is a huge quantity that necessitates a serious reconsideration of the current irrigation methods, and indicates the urgency of shifting to modern water saving irrigation systems.

Deterioration of the Syrian Steppe (al-Baddia) has been documented in many reports. In addition changes in the composition and abundance of plants have been noted, particularly the increasing dominance of less palatable species and disappearance of the more desirable plants.

These reports suggest that degradation is caused largely by overgrazing, but other causes of degradation include removal of shrubs and use of motor vehicles.

The herdsmen have gradually been obliged over time to use more concentrate feeds, as substitutes for declining rangeland resources. The range livestock was almost dependent on range plants until 1958 when concentrate feeds were introduced for the first time. The rate of feed use has increased considerably in the last three decades. Estimates of the use of feed by co-operative members suggests that 46 percent of herders use concentrate feed for between 3 and 5 months of the year, 41 percent use it for between 6 and 8 months, while 7 percent use concentrates for between 9 and 12 months.

The lack of property rights over the land in Al Baddia provides no incentive for long-term management and leads to a classic 'tragedy of the commons'. This situation is exacerbated firstly by the provision of increased numbers of wells which enable sheep to remain on the Baddia longer into the summer, and to return earlier, than was historically the case, and secondly by the provision of subsidised feed that enables the maintenance of stocking densities above that which could be supported by the natural environment alone.

The problems of overstocking and poor management are not helped by the prohibition on slaughtering female lambs and sheep under 7 years old and a largely closed export market for female sheep. Justification for this policy is that if female sheep are exported, they could reproduce in importing countries, thus lowering the export potential for Syrian sheep. This appears to be unjustified since, if female Syrian sheep could reproduce in importing countries, then so could other types of sheep (local or non-Syrian). It is the inability or high cost of raising sheep in importing countries that leads to demand for Syrian sheep, and the export of Syrian female sheep is not likely to reverse this.

Efforts to rehabilitate the Baddia have included a banning on cultivation, the establishment of grazing protectorates and the revegetation of large areas with native plants. Unfortunately these efforts have been undermined in recent years as the grazing protectorates have been opened to sheep because of the drought and the inability of herders to buy feed for their herds.

The soils of Syria suffer from water and wind erosion, salinisation and chemical pollution. Wind erosion affects the greatest area (1.6 million ha) , and chemical degradation the least. In total 17.3 percent of Syria's land is affected by some form of degradation. The areas most affected by salinisation are the Euphrates and Khabour valleys, an area south east of Aleppo and an area in the extreme east of the country, north of Albo-Kamal. Problems of salinisation are accentuated by the insufficient and inefficient drainage that exists on most cultivated land. Reclamation of land of high salinity has been undertaken, with some success, but no better method of reclamation has been devised.

There is no specific policy for soil conservation in Syria. Soil degradation is occurring because of the impact of policies related to water use on cultivated areas and resource management of the Baddia. Soil conservation is an important long-term issue for Syria, and needs to be dealt with effectively.

Concerning **forests**, historically Syria was far more forested than it is presently. The causes of natural forest loss have varied, and include extensive land clearing for human settlements and agriculture, grazing by goats, sheep and other animals, illicit felling, burning for charcoal production, fires and inappropriate agricultural practices. Substantial afforestation and reforestation programs have been launched in recent decades to increase forest areas. Forest reserves have been declared in Syria. Work on sand dune fixation, green belts, roadside plantations and urban forests has been intensified. The rate of afforestation in Syria has

increased from 159 ha/year during 1953-70 to more than 24,000 ha /year during the 1980s. These measures have been sufficient to slow, but not arrest deforestation.

Adherence to the planting plan, which requires sh that each Governorate meet set targets tends to induce them sometimes to plant on land, which may not bring the highest return nationally. This, despite the effort that goes into identifying appropriate locations. Many species of tree are planted, including species not native to the country or region. The introduction of exotic trees can become a future environmental problem, and the government in response has begun production of adaptable seedlings.

Many of the protected areas are forested, but they are not well managed. More forestry effort could go into managing these areas. Most tree planting is on State land. There may be environmental benefits in planting more trees on private lands, especially via agroforestry and/or multipurpose trees. Forest fire is not a major problem, but better forest management may reduce losses. Poorly motivated forest guards do no protect the forests very well. The policy of land clearing and planting trees has been successful, but from an environmental point of view such land clearing is not a priority. The resources could be better spent on preventing erosion. Policy in the citrus sector seems to have been successful, and the sector seems responsive to environmental concerns, but it is hindered in its biocontrol by the bureaucracy and processes surrounding the import of biocontrol agents.

The effect of policies on agriculture work through the following mechanisms. First, there maybe product specific **market price supports (MPS),** which arise from all measures (such as border protection) which induce differentials between domestic and international prices for products. Market based support also includes subsidies on credit and production inputs, as well as capital subsidies, both measures that have been utilised in Syria. The second type of support is general service support, which includes investment expenditures, and all types of current expenditures for research, training, extension, marketing structures, administration, etc.

Any indirect policies, which affect domestic agricultural producer prices, are effectively support granted from the market participants, because of which this form of support is called market price support (MPS). There seem to be three policy areas in Syria which affect the level of indirect policy transfers to agricultural producers in Syria:

- **Import and export policies.** Import tariffs, export taxes, and quantitative constraints increase the difference between the domestic and international agricultural prices.
- **Exchange rate policies.** They also directly affect the international prices, which have to be expressed in domestic currency.
- The **centrally planned system** because it has a direct effect on domestic prices, particularly in the case of strategic crops.

The most important variable in the estimates of MPS is the exchange rate. Three different exchange rates have been chosen for the assessment of the market price support: the official exchange rate, a trade weighted exchange rate, and the neighboring country exchange rate as it prevailed in Beirut.

Based on the official exchange rate, all agricultural commodities but tomatoes were subsidized throughout the 90s. By year 2000 the degree of protection, however, had declined considerably, and this is due primarily to the devaluation of the official exchange rate. Estimates with the trade-weighted exchange rate indicate a different picture. The major strategic crops, namely wheat, barley, raw cotton, sugar and tobacco have received considerable support throughout the 1990s and continue to receive large indirect support by the end of the 90s. In contrast, some of

the more export-oriented strategic crops such as chickpeas and lentils were and still are taxed based on the trade-weighted exchange rate.

Estimates computed with the neighbouring country exchange rate, which can be thought to represent more accurately the underlying shadow price of foreign exchange, suggest that, with the exception of wheat, barley, sugar, tobacco and beef, most products were implicitly taxed in the early 1990s. This appears to have remained so in the late 1990s, as well as 2000 for the limited cases where data is available. In other words the bulk of strategic products enjoy some kind of implicit protection, while the bulk of exportable products are still implicitly taxed.

Concerning the **aggregate MPS for all products**, estimates were made with the three exchange rates. While the official exchange rates as well as the trade weighted exchange rates indicate that agriculture has been protected all throughout the decade of the 1990s, (at relatively constant rates when the official rate is used but at declining rates when the trade weighted exchange rate is used), the neighbouring market rate indicates a very different story. It suggests that until the mid-1990s, and apart from some years like 1993 and 1994, namely when the official exchange rate was heavily overvalued, the Syrian agriculture was effectively taxed. It is only in the last few years, namely since 1997, with the devaluation of the exchange rates that Syrian agriculture has been effectively subsidised. In 1999 the rate of support reached an average of 7 percent of the gross value of agricultural output, which is quite large, and implies a heavy load on the budget. Another interesting observation is that the trend in the aggregate MPS using the trade-weighted exchange rate and the neighbouring country rate are opposite. The former indicates a decline in overall MPS to agriculture, while the latter indicates an increase. It thus appears that **exchange rate policy is a significant determinant of agricultural support**.

Concerning **finance for agriculture**, the total amount of lending to agriculture, while increasing until 1995, has declined considerably since then. The bulk of the loans have been of short-term nature. The biggest share of loans disbursed to agricultural producers has been for production loans for wheat and cotton. Loan disbursements for capital investments (e.g. tractors and combines) have been very low. Priority areas enumerated in agricultural policy documents have not fared well. Loans for irrigation declined in 1999 to a little over a third of their 1990 value. Lending for greenhouses, which form the thrust for improved quality and competitive costs for export, has increased very modestly from SP 301 in 1990 million to SP 475 million in 1999. The share of these special purpose loans declined from 20 percent of total ACB loans to 12 percent in 1999 besides registering a fall in absolute terms from SP 1695 million to SP 1271 million.

The number of beneficiaries of ACB loans in 1999 was only 54 % of the number in 1994. It is significant to note that the number of borrowers in 1999 was 266 thousand, nearly one third of the total number of 749,703 in 1989. This trend is indeed cause for concern. Either loans are not reaching farmers, or farmers are unwilling to utilise the facility from the Bank, or farmers are becoming self-sufficient for financing production activities. The last mentioned possibility seems unlikely. The average size of loans has been increasing and is presently 1.32 times the size six years ago. The higher average size is suggestive of a movement toward larger farmers and/or toward better-endowed zones. Subsidies in the form of low lending rates and tolerance for defaults, encouraged by a system that does not make it incumbent on the lending bank to be self-reliant for resources, may have been gradually cornered by well-to-do farmers crowding out the poorer ones thereby reducing access to credit.

The contracting base of ACB credit and the increasing average loan size are causes for concern in terms of its impact on agricultural growth and productivity and the social implications of neglecting the weaker segments of agricultural producers, who depend on farming for their

livelihood. It raises the question whether the formal credit system, in spite of subsidized interest and unrestricted fund availability at low cost is not reaching out to smaller farmers and lower rainfall zones.

Subsidies for inputs were estimated to about 1.4 percent of GAO in 1999. Given, however, that the main source of credit for inputs, as well as inputs themselves, has been the ACB, and given that the total number of beneficiaries of ACB loans has declined during the recent period, these subsidies have increasingly applied to a smaller number of relatively larger farmers. On the other hand, estimates suggest that domestic fertiliser demand is much larger than total domestic supply. This implies that the input delivery system has increasingly been biased against the smaller farmers.

Review of the budgetary expenditures for agriculture, revealed that next to the operating costs for the MAAR, the expenditures for land reclamation, afforestation and forest improvement, along with expenditures for rural road maintenance were the most important. Given the scarcity of water and the associated problems with desertification, the availability of increased financial resources for reforestation seems to be justified. Note that if the total expenditures of the Ministry of Irrigation are added to those of the MAAR for land reclamation and irrigation, then the total expenditures of the two ministries devoted to irrigation activities amounted in year 2000 to 69 percent of all expenditures on agriculture. This underlines the importance that the government has placed on irrigation development.

At the same time it is notable that agricultural research and especially extension system receive only very limited financial resources (10.7 percent of all non-operating costs of the MAAR in 1999-2000). Given that the economic returns to agricultural research and extension have been shown to be very large in all developed as well as developing countries, this is not a positive development. However, in 2000 expenditures for both research and extension increased considerably.

The cost of **agricultural producer price subsidies, as well as consumer subsidies** is large. The estimated losses of the three public establishments involved in the markets for wheat and flour, cotton, and sugar, amounted in 1999 to about 4.5 percent of GDP. This is larger than the deficit of the Public Stabilisation Fund (PSF), which amounted in 1999 to 2.3 percent of GDP. However, the PSF estimates omit the cost of running the wheat reserve.

5. Issues Relevant to the Establishment of a New Agricultural Sector Strategy[6]

Estimates of the degree of aggregate support to Syrian agriculture, based on the neighbouring market exchange rate, indicate that while the agricultural sector used to be taxed, currently, namely after a period of nominal devaluation, agriculture seems to be subsidised at a rate approximating 7 percent of the value of gross agricultural output. While this level of support is much lower than the level of support of many highly industrialised economies, with small agriculture sectors[7], it is high for an economy of the level of development of Syria with a large agricultural sector. Of major importance to the design of agricultural sector strategy is a view concerning the question of **whether the agricultural sector should be subsidised or taxed at this level of development of Syria.**

[6] This section is a summary of the most important conclusions of the similar titled section in the first part of this consultant's report, see Sarris (2001).

[7] For instance the aggregate level of support for many EU countries, measured by the so-called producer subsidy equivalent, namely the share of GAO that is accounted for by various support measures, is of the order of 50 percent, and the level of many other high income industrial countries is between 20 and 50 percent. However, in these countries agriculture rarely accounts for more than 5 percent of GDP, and the share of labour force employed in agriculture is normally lower than 10 percent.

The historical experience of many developing and developed countries is that in the normal course of development, namely during the period of transition from an agriculture based economy, to an industrial or service based one, agriculture is normally taxed at early stages, and subsidised later, namely when the share of agriculture in GDP, as well the share of labour employed in agriculture fall considerably. The analysis of agricultural support for Syria has indicated that Syria currently extensively supports agriculture, despite the fact that the economy is still agriculture based. This raises the general question of where will the government obtain the financial resources that are required for such support.

If support to agriculture is provided implicitly, namely by trade measures that differentiate domestic from international prices, then the bulk of the support will be paid implicitly by consumers, as is done in several EU countries. However, currently the policy of the Syrian government is to subsidise the domestic consumers of staples. Hence, all the cost accrues to the government, and involves both the cost for subsidising producers, as well as the cost of subsidising consumers. The total support to agriculture (not including consumer subsidies) amounts to about 2 percent of GDP, which is about 18 percent of all current public expenditures. As most of these support expenditures are basically transfers to producers, their high cost crowds out other potentially beneficial uses of this money, as well as infrastructure and other productive public investments. It is not clear, whether at this stage of its development, Syria should devote such as large share of scarce domestic financial resources to income transfers, especially since, as shown earlier, the benefits of these transfers are very inequitably distributed.

The design of the previous agricultural development strategy that dates to the 1970s was influenced considerably by a closed economy mentality. This has considerably changed in recent years, and the efforts towards signing an Association Agreement (AA) with the European Union (EU) as well as signing regional trade agreements and joining the World Trade Organization (WTO) imply **considerable trade liberalisation of the economy**.

The Syrian proposal to the EU concerning an AA between Syria and the EU has several implications for Syrian agriculture. In particular, the proposal suggests that the bans on imports of some agricultural products into Syria are continued for five years after the entry into force of the AA, and eliminated thereafter. Similarly the proposal suggests that for the products that are permitted for imports, tariffs and similar levies are gradually dismantled over a twelve-year period. All these imply considerable future trade liberalisation that will increase competitive pressures on domestic industries.

To realise export gains from the EU agreement, it is crucial for Syria that export activities are supported by an adequate domestic environment for business and investment. Syrian export composition must diversify to high-value products, if export gains are to be pursued. The constraints to Syrian exports are mainly supply-related. While farm-gate prices in Syria are below farm-gate prices in EU countries for a number of fruit and vegetables, high marketing costs (including logistics, post-harvest operations, transport, etc.) imply reduced Syrian competitiveness in the EU markets. Non-price competition has a significant influence on the European demand for imports of Mediterranean products.

Price comparisons indicate that EU export parity prices seem to be much lower than those for comparable strategic Syrian products. Hence the improvement of market access for EU exports to Syria is likely to undermine domestic price policies. This does not mean that those products should be kept as a part of a Syrian import ban list. These products could be fully tariffied and subjected to a schedule of tariff liberalisation, with the help of tariff rate quotas (TRQ)s, which could become progressively wider.

Increased market access in the EU and the progressive intra-Arab integration should improve the appeal of Syria as a destination of European Foreign Direct Investment (FDI) in the agri-food sector. However, the reform of the legal framework for the encouragement of FDI could help to simplify the business environment. The current process of reforms would need to be speeded, in relation to the banking system, the currency regulations, the movement of capital and the administrative procedures for foreign commercial transactions.

The desire to join WTO also has considerable other policy implications. Current computation of prices in terms of production cost is not valid for setting bound tax rates under WTO. In that context what is required is to exhibit the differences between domestic and international prices for Syrian agricultural products, and use this to set the bound tariffs. While this can be done for products with monopoly purchasing like cotton, sugarbeet, tobacco and wheat, it cannot be done for others. Hence the MAAR will need to analyse the differences between domestic and international prices for a range of agricultural and processed agricultural products. Another aspect of WTO membership is the inability to have bans on any imported products. These are not permitted under WTO for industrial products and for agricultural products they are permitted only in light of market access commitments.

Current agricultural policies, despite the considerable support they have given to agricultural products, **do not seem to have eliminated large income disparities, or poverty among rural households.** Results from a farm household survey in year 2001 suggest that about half of agricultural households report that their incomes are not enough even for the bare necessities of life, and another 38 percent feel that their incomes are only sufficient for these bare necessities. On the other hand, larger farmers cultivate larger areas in wheat and cotton, and also utilized larger irrigated areas. Hence **the benefits of subsidies for strategic products, as well as for irrigation and inputs seem to accrue disproportionately on larger and wealthier farmers**.

The survey revealed that **a large number of farmers do not obtain licenses** even though they cultivate land larger than 0.5 Ha, namely the size below which a license is not required. Furthermore, it was revealed that among farmers with large farm sizes, the proportion that obtain licenses is much larger than among farmers that cultivate small areas. As the license entitles a farmer to obtain subsidized loans, and inputs, as well as to sell his strategic products at the government prices, which as was seen earlier are highly supported, it appears that **the licensing system tends to be utilised to a greater extent by those with larger cultivated areas**. This is consistent with the notion that the various support measure of the government tend to confer the bulk of their benefits on the larger farmers.

Of the people that obtain a license, the survey indicated that **only about half of those who obtained licenses complied with the terms of the license**. This suggests that despite the punitive mechanisms in place for complying with the licenses, and the continuous surveillance of areas planted by extension agents, there is widespread non-compliance. The proportion not complying with the licenses is much larger among larger farmers. Hence, **the larger farmers not only are the largest license recipients and take advantage of the government subsidies, but also that they are the largest violators of the licenses.**

A major issue in the design of agricultural policies in Syria has been the notion of **self-sufficiency in a number of so-called strategic food crops**, like wheat, barley, lentils, sugarbeet and chickpeas, as well as in a number of other staples. Self sufficiency in staple foods is an extreme form of food security, and is reasonable to pursue when there is extreme unreliability of external staple food supplies, either because of few suppliers that are conditioned by politics in their supply to specific countries (e.g threat of embargoes), or by extreme international price instability. The conclusion of GATT, and the current multiplicity of

supplying countries in the world staple foods markets, imply that these conditions do not exist and will not exist in the foreseeable future, making the above underlying reasons for the pursuit of self-sufficiency policies much weaker.

Another set of reasons that may justify a policy of self sufficiency in staples have to do with the lack of foreign exchange to purchase staples if the country normally is in deficit. Such a reasoning can justify a self-sufficiency policy, if the foreign exchange cost of obtaining a ton of a staple (e.g. wheat) in the international market is larger than if it is produced domestically. This, however, does not appear to be the case, as the comparison of producer and parity prices (using open market exchange rates) suggests that Syrian producers currently receive prices above those dictated by international markets, except for lentils and chickpeas. An argument might be advanced that current world prices for staples are low because of developed country domestic support policies. While this argument is correct, estimates suggest that the likely depression of world prices due to such policies is small (of the order of less than 10 percent)[8], and hence any domestic support on these grounds should not be too large, and in any case does not justify a policy of self sufficiency.

In Syria **the government, via the planning mechanism and the direct monitoring of production at the farm level, tries to control production, while at the same time it also sets the prices at which it will purchase the strategic crops**. This policy of setting both prices for producers, as well as quantities to be produced, goes against all economic logic. In fact **this process of setting both quantities as well as prices, is against one of the most fundamental economic laws, namely that of how supply is determined**, which implies a positively sloping supply curve.

In most planning contexts a government sets either the prices or the quantities it desires, but not both. In other cases, depending on how strong the enforcement mechanism is, the **farmers will try to evade controls,** either by overtly violating the plan, which is happening on a massive scale in Syria, or covertly by reallocating inputs, so as to achieve their own profit maximising objectives given the prices. It was observed from the survey and verified repeatedly in the field, that both problems exist on a massive scale, as despite strong enforcement of the plan through the extension agents, the farmers still have considerable degrees of freedom when it comes to input reallocation. Inputs that can be reallocated are labour, fertiliser, water, etc. Hence, even when the area targets are satisfied (a situation that does not seem to be the case), the actual production targets might be far from desired. An example of the distortions that this policy creates concern the pricing and production of cotton. In 2000, the government set a very attractive price for cotton, but due to water considerations it forbade several farmers who would like to produce it, from doing so. The result is that the farmers are producing cotton anyway, despite the fines they are paying in the process. Clearly the prices set for cotton, and the desired quantities of production are not compatible with farmers'desires. The conclusion is that, **while it might be possible to control some production choices of farmers, such as areas planted, it is impossible to fully control production practices, and hence yields and production.**

Concerning the planning mechanism, it seems that one of the **hidden costs for both the government as well as the agricultural sector is the enforcement mechanism through the extension agents**. It was observed through the field visits, and verified in the household survey, that every village in Syria is supervised by an extension unit, which is staffed with a considerable number of personnel, although most of them are not "engineers", namely agriculture specialists. Each farmer in the area of responsibility of the extension unit is visited

[8] See for instance the articles in the special issue of Food Policy, on the Implications of the Uruguay Round for Developing Countries, vol. 21, Number 4/5 September/November 1996.

around 10 times a year, largely to observe and ensure that the farmer conforms to the plan and his license, and only as a secondary task to provide information on new techniques, collect data, etc. It was widely observed in the field that the bulk of the time of extension agents is utilised for these supervisory visits. This suggests that there is a significant loss of important productive resources in the form of the time and resources of extension agents, which could otherwise be utilised for improving production. It was also observed that the farmers are not happy with this heavy control, and hence often they come to distrust the extension agents.

Water is a very scarce commodity in Syria**. Some 90% of the total available water is currently used for irrigating crops. Almost all sources of irrigation water are currently being exploited up to their sustainable levels, and in some cases beyond. Given these three facts, it is essential that all available water resources in both irrigated and rainfed areas be used efficiently in each year, and that an optimal balance be struck between current and future water use.**

Despite its scarcity and great value, there is currently no means of charging farmers for the volume of irrigation water that they use, since water is not metered. Once farmers have invested in a tube well and its associated equipment or have paid their fixed irrigation fee for water from government schemes, their use of water is in effect free, other than for the cost of pumping water from wells or rivers.

Because farmers are not charged for use, water has to be distributed between them administratively. For water supplied from dams, this is done through a combination of regulating the areas planted to particular crops and through limiting the supply of water to particular time periods. For water drawn by farmers directly from rivers or artesian wells, the only means of controlling use is through regulating areas planted. The need for this indirect system of regulation of water usage is a major justification for the Government's current system of agricultural production planning. However, this system does not ensure efficient water use since it only controls each farmer's theoretical potential water requirement. In practice, farmers can utilise more than the amounts that the Government assumes to be optimal without penalty. For this reason, water table levels have been falling throughout Syria, and water from dams is not used as efficiently as it could be.

The need is for a system of allocating the available water between farmers that leads to efficient utilisation and does not require the physical farm-by-farm state control of crop areas.

The policy of the MAAR to substitute traditional with modern water saving irrigation techniques is appropriate. However, the plan of the MAAR also envisions an expansion of irrigated areas. Projections of water balances under this scenario[9], indicate that, if the modernisation plan is effective, during the four initial years of the policy a large reduction of the deficit is obtained. However, from the 5th year onwards the deficit starts to increase due to the development of the new irrigated areas. At the end of the planned period a water deficit still obtains, which is only 20 percent smaller than the initial value. This shows that **in spite of the substantial impact that could be obtained with the modernization programme the expansion of the irrigated area has a marked counterbalancing effect.**

Other scenaria simulated by Varela-Ortega and Sagardoy combining modernisation of irrigation systems wit slower expansion of irrigated areas, show that it is only if modernisation is coupled with slower irrigation expansion, and especially so in critical basins, that it will be possible to obtain a positive water balance in the medium term.

[9] See Varela-Ortega and Sagardoy (2001)

The consequences of adoption of modern irrigation on farm profitability can be substantially different in typical large, medium and small farms, evidencing that structural parameters and cropping patterns and hence regional characteristics are crucial for profitability of modern irrigation. Small intensive farms growing fruits and vegetables seem to be best suited for adopting modern irrigation techniques, especially drip irrigation. Under traditional surface irrigation, these small farms have the largest profit per Ha, three times higher than medium size farms and eight times higher than extensive large farms. When drip irrigation is adopted, these differences increase and farm profit is five times higher in the small farms than in the medium size farms and ten times higher than in the large extensive farms. Large extensive farms irrigated by wells, show in general a substantial increase in farm profit when adopting modern irrigation methods. However, as this result is due to initial low farm profits, it remains questionable whether these farms will be able to finance fully the adoption of these techniques unless there is a change in the cropping pattern. For this reason, the government has accompanied the irrigation modernisation decision with a decision to secure funding for such investment projects. As, however, the ACB funding for irrigation projects has declined considerably in the last decade (see table 5.5.3 in volume 1 of this report) it is not clear how this massive required increase in Bank lending is to be effected.

A policy of promoting modern irrigation techniques, in order to be successful, must be compatible with the incentives and disincentives facing the farmers. One major issue in this context is the clarity of land rights. If land is not fully owned, then a farmer may not be inclined to make the large investment needed for modern irrigation, irrespective of the various tax and other financial incentives given, and irrespective of the benefits derived. Hence **the resolution of many land issues is necessary to promote the adoption of modern irrigation techniques.**

Related to this issue, **the idea that the government is to force the farmers to adopt modern irrigation techniques is to be discouraged**. It is well known that forcing economic agents to do something incompatible with the price and other economic signals they face is counterproductive, requires considerable of public resources for enforcement, and can lead to evasion and corruption.

6. The Current "Orientations to the Agricultural Development Strategy" by the MAAR

The MAAR has prepared at the end of year 2000 a document that describes its orientations and policies for the period 2001-2010. The document (which from now on will be referred to as **the current MAAR orientation**) describes the strengths and weakness of past policies and, after assessing the current constraints facing Syrian agriculture, proposes a strategy and policies to realise the strategy.

The current MAAR orientation suggests that modernisation of the agricultural sector requires the following (re. page 9):

- Moving from an objective of self-sufficiency to an objective of food security, interpreted as competitive production of comparative advantage products;
- Improving the marketing and processing activities;
- Maintaining the efforts at fulfilling the objectives indicated in section 1 earlier;

The major constraints recognised are

- Limited natural resources like land and water;
- Post harvest constraints
- Institutional constraints related to the fragmentation of decision making and responsibility;

- Financial constraints; and
- Population increase

It is suggested that the modernization process requires the following economic and social modifications:

- Adoption of a gradual approach in adapting to the new economic and institutional environment in order to avoid negative social impacts;
- Introduction of modern technology to achieve agricultural modernization and development;
- Modifications of land reform laws;
- Exemption of agricultural products from all taxes, in order to increase international competitiveness;
- Establishing an information system about foreign markets;
- Promoting the establishment of marketing companies in all sectors;
- Giving attention to vertical developments;
- Determining the roles of different sectors in the agricultural development process;

The general objectives as well the required modifications for modernisation are defined in very general and broad terms, and give considerable room for alternative policies.

The specific objectives that are proposed to realise the overall general objectives are as follows:

- An annual agricultural production increase of 4-7 percent to be achieved through:
- Annual growth rates of irrigated areas of 1.5-2 percent per year, expansion of tree area by 3-4 percent annually, and expansion of forest area at 4-5 percent annually;
- Achieving annual yield increases of 3-5 percent for wheat, 3-5 percent for cotton, 3 percent for irrigated lentils and chickpeas, and 1 percent for rain-fed lentils and chickpeas;
- Achieving the objective of food security, providing raw materials required for the domestic agro-industry and increasing both raw and processed material exports;
- Adoption of comparative advantage through focusing on crops such as legumes, olives, citrus, pistachio and apples;
- Adoption of agricultural policies for sustainable development; and
- Enhancement of the supporting services (research, extension, and training) at average growth rates of 15 in the initial years and 10 percent for the rest of the period.

The idea of the production plan is to increase slowly the total cultivated area, while at the same time increasing yields

An important underlying assumption of the proposed plan is that the current system of planning will be maintained, and that the MAAR has direct control over areas planted and yields. Concerning expenditures on research and extension, the average annual growth in real terms of expenditures for agricultural research between 1990 and 1999 has been 16.5 percent, while the average annual growth rate of expenditures on extension has been only 5.5 percent. In year 2000 the budget for agricultural research was significantly increased by 56 percent, and the budget for extension by 74 percent. This suggests that there is a clear policy to enhance the intensification and technological standards of Syrian agriculture.

The strategy that is proposed to achieve the specific objectives is the following:

- Optimal utilisation and protection for depletion, deterioration, and pollution of the agricultural natural resources (land, water, forests and steppes);
- Maximising the plant yield and livestock productivity;
- Prioritising the production of the strategic crops and other crops based on their economic importance;
- Enhancing and diversifying agricultural production and promotion of rural industries;
- Achieving sustainable development;
- Creating the proper environment for all sectors and enhancing their contribution to the economic development process through the identification of the role assigned to each of them and encouraging them to compete with each other;
- Improving scientific research and focusing on genetic engineering research with the aim of expediting the vertical growth rate and enhancing the production of competitive varieties.

The above strategy is quite general and sets the overall framework for agricultural policies.

7. Constraints and Opportunities

A number of factors constrain the development of the Syrian agricultural sector. While these factors are discussed below under different subjects, they are interrelated in their effects on the different sectors and sub-sectors of the economy.

7.1 External Constraints

The developments in the international relations of Syria, as discussed above imply considerable pressure to change the current agricultural policies. This constraint will become a major one, if Syria is to open up as intended.

Another external constraint is the evolution of the world markets for products of importance to Syrian agricultural trade. Despite the policy of food self-sufficiency, Syria in the past has had to increasingly rely on international markets to provide basic foods, as well as to export surplus commodities. Despite the successful conclusion of the GATT agreement, the world markets for cereals, are likely to remain in the foreseeable future in excess supply, given the continuous producer support for these products in the world's largest producers (USA and EU). This implies that, if it becomes possible to employ some of the utilised resources in products currently produced at high domestic resource cost, in alternative products and uses, then it will be relatively cheap for Syria to import the necessary staple food commodities it needs. If alternative products or employment opportunities can be found, then continuation of a policy of import substitution in staple foods, which has been the norm in the past under the rubric of food self-sufficiency or food security could become increasingly more expensive.

It must be realized, of course, that estimates of domestic resource costs for the production factos depends heavily on the opportunity costs of factors of production such as labour, capital, and water, as well as the opportunity cost of foreign exchange. These opportunity costs, in turn, or shadow prices, denote the returns of using the factors in the best alternative activities. It has been difficult to identify these opportunity costs for Syria, and especially so for foreign exchange, and hence it has been difficult to identify comparative advantages at this stage. In addition, it remains a major technical and economic challenge to identify alternative agricultural products that could be produced profitably in the lands currently cultivated with strategic products.

Another key external constraint of importance to the development of the agricultural sector is the allocation of the water of the Euphrates basin between Turkey, Syria and Iraq. This is obviously a major political issue, but it impinges considerably on the future development of Syrian agriculture. It also suggests that an agricultural development policy that relies excessively on increasing availability of water from the Euphrates basin is subject to considerable risks in the absence of an assured framework for the allocation of this resource.

Finally, an important consideration of Syria's opening is that more technical and other types of economic aid will become available, both bilaterally, as well as multilaterally. Given that Syria will need restructuring of a large number of domestic sectors, such technical aid, and the expertise that comes with it, will be much needed in the next few years.

7.2 Macroeconomic Constraints

There are several constraints on agricultural development that are imposed by macroeconomic developments, and which cannot be ignored in the design of the future agricultural development strategy. The first concerns the developments in the domestic labour market. The agricultural sector of Syria supports a very large number of rural families, most of whom are poor. The analysis in part 1 of this report demonstrated that the imputed or shadow price or opportunity cost of family labour, appears to be low in Syria, manifesting labour surplus of rural households, and the rural sector in general. This is consistent with considerable rural-urban migration, as well as migration to neighbouring countries. Agricultural labour availability depends on alternative opportunities of agricultural workers and operators. While in the past, agriculture had to compete both with non-agricultural urban or rural based alternative activities, as well as with the demand for Syrian labour from neighbouring and other countries, the current rural labour surplus suggests that labour supply for agriculture is not a problem. The consequence of this constraint is that any future policies for agriculture must be labour intensive. However, it also implies that a strategy of restraining rural-urban migration must be supported by generation of adequate income earning opportunities in rural areas.

In the past the government has tried to influence the profitability of agricultural activities directly via price policies as well as policies on input prices and availability. In these efforts the government has incurred substantial monetary costs which were exhibited earlier. As was shown, the agricultural sector from implicitly been taxed earlier in the last decade, has moved to a situation of net subsidisation.

The availability of general investment funds, and the allocation to agriculture-related public investment activities is another general macro constraint. Clearly as GDP increases so do the available domestic savings and the funds that can be made available for general and agricultural development. Apart from this, however, an important macroeconomic constraint is the allocation of total public investment funds. While real total public investments per capita have increased in the last five years, the total per capita private investment expenditures have declined. The amount of total gross fixed capital formation that goes to agriculture, has stayed stagnant in absolute terms, and has declined in per capita terms in the last five years. This suggests that the government's overall public investment policy is a major constraint to agricultural development. Given the general budget stringency, it might become increasingly difficult for agriculture to maintain a given level of public investment spending.

A final macro-constraint concerns the overall macroeconomic climate for investments. Given the large and growing rural population in Syria, and the severe resource constraints imposed on agriculture by land and water, increasing rural and urban employment must be generated via non-agricultural private investments. Private investments, necessitate a stable macroeconomic environment, as well as lack of severe distortions, especially in the foreign exchange markets.

These are issues largely not related to agriculture, but they impinge heavily on agricultural sector adjustments.

7.3 Water Constraint

Water is a scarce commodity in Syria. About 90 percent of the total available water is currently used for irrigating crops. Almost all sources of irrigation water are currently being exploited up to their sustainable levels, and in some cases beyond. Given these three facts, it is essential that all available water resources in both irrigated and rainfed areas be used efficiently in each year, and that an optimal balance be struck between current and future water use.

7.4 Environmental and Resource Management Constraints

There are four main reasons why any Government should be concerned about its country's environment:

- The environment provides a resource base which can be utilised to generate wealth and thereby help meet wider social needs (e.g. extraction of minerals, provision of timber and fish, provision of a fertile soil for agricultural production).
- The environment provides a range of 'services' which provide benefit to humans, (e.g. nutrient cycling, filtering of pollution, aesthetic beauty)
- A badly managed environment can cause real economic and socials costs, e.g. wind erosion damaging roads and buildings, pollution of water bodies impacting human health, salinisation of soils leading to lost yields.
- An ethical concern for other species and ecosystems.

There are a range of barriers to the introduction of, and adherence to, policies concerned with protecting and enhancing the environment which are common to nearly all Governments. Seeking to meet a national environmental objective may conflict with one or more Government sectoral objectives of increasing output or wealth. Similarly, the reality of meeting environmental objectives may also conflict with the individual objectives of citizens. These barriers are often so real that many Governments acknowledge the importance of environmental issues, but frequently place them down the policy agenda when faced with apparently more pressing, short-term issues such as wealth generation and national security. This is a very understandable response, but in many cases it is ultimately flawed, and the consequences of Governments' ignoring environmental issues in the short term are that in the long term these issues multiply and their effects can potentially become enormous. So while dealing with environmental issues in the short term can be a painful experience for Government and citizens, the effect in the long term of not doing so could be far, far worse.

If a government is to act in the short-term, then it is important that it acts on the correct issues. One of the criteria for identifying the issues to be tackled in the short term is **reversibility.** Reversibility describes whether or not an environmental problem could be reversed at some future time should the right corrective action be undertaken. So for example, the impact of a minor pollution spill in a river could be reversed over time, and the river could recover, assuming no other pollution events occur. However, should a certain species of wild animal go extinct, it can never return. Some issues are reversible but over a very long time scale, for example, soil erosion leads to the loss of soils from certain areas. New soil is produced from rocks, and can regain some nutritive value, but only over very, very long time scales. So while not absolutely irreversible, soil erosion is effectively irreversible when considered against the average human lifespan.

A second criterion for identifying environmental issues of importance concerns their associated economic costs and benefits. For example, a certain resource, may in theory be able to provide long term economic benefits if managed correctly, but if mismanaged these benefits may be reduced, or even disappear. Alternatively a certain environmental problem may bring economic costs and rectifying the problem will reduce these costs. An example of the former would be the cultivatable soils of Syria, e.g. in the Euphrates valley, while an example of the second would be damage to infrastructure from soil erosion.

From these two criteria, reversibility and economic costs/benefits, it is possible to prioritise environmental issues into those that require immediate action and those that do not. The environmental issues of concern identified during the study of Edwards-Jones (2001) and an estimate of their reversibility and economic importance are shown in table 7.4.1 From this table it is possible to argue that the most important issues for immediate action are those with high economic impacts over the whole of Syria, and which are only reversible over the long term.

Table 7.4.1. Qualitative ranking of the reversibility and economic importance of several environmental issues in Syria. 'Reversibility' assumes that appropriate management is taken to enable the recovery process.

Environmental issue	Reversibility	Known economic impact of loss per unit area	Known economic loss over all Syria
Extinction of species	Never	Low	Low
Physical loss of soil (wind erosion)	Very long term (>100 years)	Very high	Very high
Chemical degradation of soil with heavy metals	Very long term (>100 years)	Very high	Medium
Pollution of groundwater with heavy metals	Very long term (>100 years)	Very high	Low
Loss of natural ecosystems	Long term (10-100 yrs)	Low	Medium
Depletion of groundwater	Long term (10-100 yrs)	High	Very High
Pollution of water bodies with nutrients	Medium term (4-10 yrs)	Low	Low
Pollution of water bodies with disease organisms	Medium term (4-10 yrs)	Medium	Medium
Salinisation of soils	Medium term (4-10 yrs)	Very high	Very high
Loss of Steppe grazing lands	Medium term (4-10 yrs)	High	Very high

Source. Edwards-Jones (2001)

The physical loss of soils appears to be the most urgent issue to be resolved, followed by depletion of groundwater, salinisation of soils and the loss of Steppe grazing. Thus, the issues of importance for Syria are clear: soil conservation, protection of ground waters, salinisation of soils and the grazing resource of the Baddia. It is worth noting that success in achieving environmental objectives is not necessarily related to any political system. Both laissez-faire capitalist systems, such as the one prevailing in the USA, bring environmental problems, as did the centralised systems of the former USSR and other countries. Indeed it is worth noting that in several developing countries the process of economic adjustment and the withdrawal of Government from central planning role has seen a worsening in their environmental problems. Several analysts now agree that under a more open system, there may be more of a role for Government in managing the environment then some free-market economists had previously thought. One vital part of environmental management is that a government must remove any

signals or incentives, which may be contained within sectoral policies, for citizens to degrade the environment. The removal of such incentives is as important as developing new policies to tackle the identified problems.

7.5 Allocation of Resources Between Crops

About 79 percent of Syria's rainfed land that is devoted to annual crops, is planted to wheat and barley. Some 58 percent of all irrigated land is planted to wheat and a further 21 percent to cotton. To prevent the majority of wheat and cotton producers from making losses, the producer prices of both crops are currently heavily subsidised by the Government. For both hard and soft wheat, the GOCPT has recently been paying farmers prices that are over 60 percent above estimated import parity. For cotton the GOCGM producer price has been about 30 percent above export parity. The GOCPT producer price for barley is currently approximately equal to import parity. However, subsidisation of barley will be required should world prices fall back from their current relatively high levels or should the country return to producing export surpluses once farmers no longer face drought conditions.

Thus, Syria is currently in a position in which two of its three main crops require subsidisation and the third may well need subsidising in the future.[10] This contrasts with other field crops, such as lentils, chickpeas, and a set of horticultural crops which farmers can grow profitably at unsubsidised parity prices.

In the absence of large-scale devaluation, this subsidisation may need to persist for a number of years since, in the short-term, the potential for substituting other crops for wheat, barley and cotton is relatively limited. On rainfed land, other than for the possibility of planting small amounts of sesame and cumin, the scope for substitution is limited largely to lentils in zones 1 to 3 and to chickpeas in zones 1 and 2. There is no alternative to barley in zone 4 other than for use of the land for extensive grazing. On irrigated land, there is scope for planting lentils and vegetables. However, the scope for substitution in the short term is limited by logistical constraints in processing and, in the case of vegetables, by the limited domestic market and the need to develop international marketing capacity.

Thus, while over the long term there is considerable scope for changing land use, in the short term a large proportion of the land under annual crops will need to continue to be planted to wheat, barley and cotton. This, in turn, means that the profitability of these crops, may need to be maintained artificially. If this objective is not met, it will have major adverse consequences for agricultural employment and for the incomes of the nation's farm families, the majority of which rely heavily on producing one or more of these three crops.

The need to support wheat and cotton currently creates two distinct problems. First it has a high fiscal cost for the government; and second it requires a mechanism for delivering the support. The mechanism that has been employed by the Government is direct state acquisition of the crop by public establishments.

In the case of wheat, the situation is exacerbated by the fact that government policy is for bread –Syria's main staple foodstuff – to be sold at less than world price equivalents. This adds to the

[10] The dominance of wheat is a consequence of government policy to obtain self-sufficiency. Cotton production was also deliberately expanded during the 1990s in response to prices in international markets that allowed Syrian cotton to be exported profitably without subsidisation. International cotton prices have subsequently declined. The area planted to barley has more than halved over the past decade but it remains the dominant crop in the drier arable farming areas where there are few alternatives.

fiscal burden and also requires a mechanism for delivery of the subsidy. The present mechanism is the sale of standard flour by a state establishment at a subsidised price.

The situation is further exacerbated by the large strategic reserve of wheat held by the government. Since this stock must be turned over regularly, this requires the Government to be a major buyer and seller of wheat.

The need is for some other means of providing price support to wheat, barley and cotton that has a lower fiscal cost and/or does not require direct government intervention. A proposal towards this end is made later.

7.6 Availability of Domestic Investment Funds and Domestic Savings

Growth needs investments, and especially private ones, in a setting of a more open economy. Investments, in turn need to be financed, and, worldwide, the major source of finance for investments is private savings. According to the results of the rural household survey conducted in 2001, the main constraint to increasing agricultural production was the lack of own savings or credit.

Savings mobilisation has been largely neglected in Syria. The reliance of the ACB on money provided by the Central Bank is evidenced by the fact that with a deposit base of SP 8616 million the ACB's loans outstanding are SP 40187 million, namely14.6 times that amount, thereby heavily drawing upon the resources of other sectors of the economy.

As in many other respects of banking, the interest rates offered by various banks are uniform for different types of savings, irrespective of the bank in which one keeps the savings. The rates for current accounts have been 4 percent, and for bank deposits of 6 months to one year and those of above one year have been between 7 and 8 percent. The post office savings and investment bonds offer interest rates of 8 and 9 percent respectively.

The nominal interest rate on savings having remained constant for over ten years now, the attractiveness of the rate has varied depending on the inflation rate, and has been negative for the period before 1996. By deflating the dominant savings rate of 8 percent by the index of retail prices, table 7.6.1 illustrates the fact that when the "real" interest rate improved in 1997-98, bank savings deposits increased considerably. This also shows that the opportunity cost of capital in the informal market is not such a heavy counter-force as to dampen the effect of improvement in positive rates of return in the formal system. Although informal lending rates are cited as varying from 24 to 36 %, such markets are not fluid and well organised, access to opportunities may not be easy, and involve higher risks compared to keeping money in an institution having the backing of the government.

The following factors inhibit savings mobilisation. First banks do not have the freedom to design different savings products carrying different rates of return and cash flow features to meet varying savings and income-need characteristics. Second, rates and other terms being standard, there is a sterile uniformity among the banks and this lack of variation dampens any semblance of competition to attract savers. It is to be noted that while there is specialisation about whom each bank can lend to, there is no such limitation on which bank could be approached for a savings deposit. As lending rates cannot be varied by the management, bank are not able to provide incentives for good customers with large deposits to maintain a good account. Where agricultural credit is concerned, the low rate of interest based on 2.5 % discounting by the central bank to meet all lending needs, has taken away the incentive by banks to mobilise deposits costing 8 percent. In the current structure, there is little room for bank management to take the initiative of introducing innovations like "Islamic" banking with

profit sharing and other features to overcome the cultural hurdles to savings, borrowing and banking.

Table 7.6.1 Real Interest on Savings Deposits and Savings Growth

	1994	1995	1996	1997	1998	1999
General retail price index (RPI)	154	170	185	189	188	184
Change of RPI from previous year (percent)	-	10.4	8.8	2.2	- 0.5	-2.1
Savings interest of 8 percent minus inflation (real interest rate in percent)	-	- 2.4	- 0.8	+5.8	+8.5	+10.1
Savings deposits (Banks + Post Office + Investment Bond) (SP million)	141719	159535	179003	204041	228675	278437
Increase in savings from previous year (percent)	-	12,6	12,2	14,0	12,1	21,8

Source. Parthasarathy (2001)

7.7 Marketing and Processing Constraints

In order to design and implement a coherent strategy for the development of Syrian agribusiness, it is necessary to solve some internal contradictions (as, for example, that existing between a policy for agricultural production aimed at the generation of an exportable surplus, and the lack of any policy for export enhancement), to remove some blocking factors (most of them are situated outside the agricultural and food sector) and to develop some push factors, especially in terms of agribusiness chain organization and offer of services.

The lack of horizontal farmers' organizations and the bad quality of vertical coordination are among the basic problems in Syrian agricultural marketing. The only tool of supply management is presently the annual plan, which concerns only production functions, has decision points far from the individual farmer[11] and, also due to gradual liberalization of agricultural marketing, in recent years lost part of its capacity. Concentration of supply is necessary for implementation of standardization and grading and for reaching the "critical mass" needed in order to enter foreign markets and even to differentiate products on the domestic market (with a brand, or an organic foods label, etc.). It is also a way to facilitate vertical relations which, in turn, are necessary for quality management and in order to ensure a good transmission of the price signal through the marketing chain.

A starting point for this process of organization is the reorientation of farmer's co-operatives and agricultural chambers. At best, these structures offer some services, which are marketing pre-requisites, at the worst they are completely irrelevant for marketing. Co-ops have not been conceived as a marketing tool, and their re-orientation will be a difficult task. However, they are structures that already exist and it is more realistic to think of transforming them, through management reorganization, concentration and specialization, into a marketing tool than planning some new network supplanting the present structures.

Another important point for this reorganization is to provide legislative framework, as well as incentives (e.g. fiscal incentives or interest reduction on loans for specific projects) for integration contracts between farmers and processors. These contracts are useful for market stabilization, especially if price control is relaxed, and allow to increase the control on raw material quality, thus improving the competitiveness of processed products through reduction of processing costs and increase of final quality.

[11] While the Farmers Union is represented in the SAC, this organisation represents mostly co-operative farmers, and the Chamber of Agriculture, which represents mainly commercial farmers, is not represented.

An important service that is largely missing and needs to be offered to all the actors in the agro-food chain is market information. Now, farmers can chose when to sell or to which market they would carry their products only through direct information from traders. Foreign markets information, search of potential partners, insurance on export operations risk, generic promotion are some of the needs in this area.

The current pricing system for food products, that requires notification and prior permission for any price changes at the production level but even more at the wholesale and retail levels, is a major constraint for the development of an agro-marketing system. Even when official prices are not compulsory, they strongly reduce the flexibility of firm competitive behavior, affect negatively product differentiation and repress the rise of demand for variety coming from consumers. Its liberalization is a necessary factor in order to increase competition among firms, and hence their competitiveness.

Another blocking factor concerns exchange rate and currency access. While recent decisions have led to partial liberalisation, with individuals being allowed to procure their own foreign exchange, this does not concern foreign exchange through banks, which is still unavailable. The government has recently decided to allow the establishment of private banks, a move that would facilitate considerably the financing of private business. However, it will take some time before the first private banks are operational. Present constraints have two main negative effects; namely, they take foreign investors off Syria and are an obstacle for Syrian companies in their trade operations abroad.

Import restrictions are considered a protective factor for domestic industry, and indeed they are. However, they reduce the stimulus for quality and competitiveness, as it is demonstrated by the comparison between Syrian and other countries' products on foreign markets, and reduce the variety on the market, blocking the development of new potential business areas. While, in the present situation, a complete and sudden import ban removal would have destructive consequences; gradual but constant steps in this direction can be beneficial both to Syrian industry and consumers.

Syrian agribusiness sector needs the continuation of the effort started in the '80s aiming at the increase of private – both national and foreign – capital invested in agriculture and, especially, in the food industry. While proposals have been made to amend Law No. 10/1991, increasing incentives especially for foreign capital, analysis of the law and of the projects approved since its promulgation suggests that the constraint is not so much the law or the extent of its benefits, but rather its implementation.

As an example, Law No.10/1991 states that foreign invested capital and profits can be repatriated. While it is clear how this will happen for a project generating an export flow, as export sales returns can be available for repatriation, it is not clear how this would work in the case of projects oriented only to domestic market, as procedures are not defined.

Protection of intellectual property, which is, among other things, a necessary condition for licensing contracts, is almost absent in the Syrian food industry.

Limited access to credit, and more generally to financial markets, is a major constraint both in agriculture and, even more, in the food industry. In agriculture, the strict link between the credit system and planning system is a great factor of rigidity and potentially of distortion, if plan provisions are not accurate. It makes it difficult for the farmers to raise the needed capital for crops and livestock raising outside the plan. Loans are often available from middlemen who will trade farmers' products, but this restrains farmers' freedom and is an obstacle towards better horizontal and vertical organization. In the food industry access to bank credit is even

more difficult, as the banking system has been conceived and built in a framework where industrial sector was almost completely public.

While public control of interest rates has probably been beneficial to investors in a time when the Syrian economy presented a high inflation rate, presently it penalizes them, as inflation is zero or slightly negative and the real interest rates are highly positive.

7.8 Demographic and Social Constraints

The high rate of annual population increase, which in the past was 3.4 percent annually, but currently estimated at about 2.6 percent annually puts much pressure on natural resources. The high dependency ratio caused by the high ratio of younger age brackets puts much pressure on the heads of the family, but also results in large supply of young labour. Population less than 15 years of age amounted to 44.8 percent of the total population in 1999.

7.9 Farm Structure Constraints

The average size of holdings is small and has been decreasing over time. 38 percent of all holdings with land were smaller than 2 ha in 1994. The partitioning of a large number of farms into a number of separate parcels bars the efficient utilisation of land resources and the efficient use of mechanical equipment. While this structure has been the result of lengthy land reform policy, it nevertheless, is rigid, because of the legal environment that inhibits land exchange. The consequence is that much land remains fallow.

In addition to this farm structure, there seems to be continuing maldistribution of land. In 1994 about 2 percent of all holders (about 11600 holders with land larger than 50 ha), occupied about 23 percent of all cultivable land, and 16 percent of all irrigated land. There also seem to be a very large number of absentee holders.

7.10 Potential for Agricultural Development

Apart from the various constraints mentioned above, there appear to be several areas of unexploited potential. A strategy needs to take advantage of these. Such areas are:

- Considerable levels of technical expertise in the public sector in various aspects of agricultural administration, research, extension, irrigation, marketing, and planning.
- A large number of young entrants into the labour force.
- Some potential for intensifying land use under supplementary irrigation conditions in rainfed lands.
- Significant room for improving the efficiency of water use in currently irrigated areas, as well as in areas under supplementary irrigation.
- Climatic conditions that favour the production of high valued crops under irrigation (such as several fruits and vegetables).
- Potential for increasing yields of rainfed crops.
- Proximity to markets for products of comparative advantage to Syria. Such markets are the Arab countries, as well as other middle-East countries.
- An apparent capacity of private farmers to adapt quickly to changing conditions.

III. RECOMMENDATIONS

8. The Basic Elements of a Proposed New Agricultural Development Strategy

8.1 Vision and Objectives

A new strategy for agricultural development for Syria must be guided by a vision of the type of agriculture that is desirable and feasible in the medium and long run. The considerable and binding resource constraints that were discussed in the previous section, suggest the following for the future of Syrian agriculture. **Agricultural development in Syria should aim at an agricultural sector that is efficient and productive as well as sustainable in its use of resources, competitive in terms of external orientation, and providing adequate incomes to a large number of holders with equitable distribution of incomes and benefits.** Such a vision, if acceptable to the government of Syria, has considerable implications about strategy and agricultural policies. These will be discussed in the sequel.

Given this vision, and the changing constraints and economic realities facing Syria, it appears that a new strategy should aim at an agricultural sector that satisfies the following objectives, all of which are compatible with previously articulated objectives, as well as the directions of new policy initiatives.

- Promote self-reliance for the agricultural sector and the economy via greater reliance on comparative advantage;
- Utilise fully and improve productivity of natural agricultural resources, especially those of land and water;
- Increase labour productivity in agriculture;
- Achieve equitable levels of income distribution, satisfactory targets of poverty alleviation in rural areas, and contain rural-urban migration;
- Secure adequate levels of employment to the rural labour force;
- Securing adequate food consumption of low income urban and rural populations;
- Provide adequate supply of raw materials at reasonable prices to domestic processing plants;
- Increase the value of agricultural exports;
- Promote private investments as a major instrument for achieving economic development;
- Develop and expand economic relations with foreign countries, with a view to promoting exports, acquiring new technologies, and becoming a regular member of international organisations, such as the WTO;
- Achieve better utilisation of water resources for irrigation and other uses;
- Maintain environmental balance;

These objectives include most of the objectives contained in the "current MAAR Orientations". However, they do not include certain objectives, which are deemed to be in conflict with both the vision articulated above, as well as the other objectives above. First they do not include the notion of self-sufficiency of main food staples. As indicated earlier, this is in conflict with the notions of comparative advantage, improving productivity, as well as export orientation. It is also contrary to the notion of the best utilisation of natural resources, as increased productivity must be obtained by using each resource in the activity that produces the highest income for the economy.

The objectives also do not include the one about "securing" the supply of raw materials to domestic plants. There is no reason that the supply of raw materials for such plants must all be produced domestically. If it is cheaper to import some raw materials, and domestic plants can produce internationally competitive products with them, restricting supply to domestic sources involves a cost to the processing industry and the economy at large. Protecting domestically produced raw materials is equivalent to a tax on processing industries. Given that many industries that transform agricultural raw materials such as cotton, sugarbeet, fruits and vegetables, etc. are labour intensive, and that a major objective of the government is to enhance labour intensive manufacturing, restrictions on raw material processing to domestic sources only implies considerable loss of manufacturing jobs.

The objectives above are also slightly differentiated from those articulated in the "Orientations". For instance, one objective there is to improve producer income. This amounts to increasing the value added of agricultural production, and if this happens it implies increases in the incomes of those that produce agricultural products. However, there are many ways to increase agricultural production. If, for instance agricultural production is increased via capital intensive methods, then the increase of incomes will accrue to capital and land owners, while the number of workers employed will decline. This is clearly contrary to the overall objectives of increasing rural employment limiting rural-urban migration and promoting equitable income distribution. For this reason it is deemed more appropriate to aim at increasing labour productivity in agriculture. The latter implies improved incomes for those working in agriculture, and by extension those working in non-agriculture.

Similarly, the above objectives do not include the objective of expansion of cultivated area, through increases of irrigated and rainfed land, as is indicated in the "Orientations". While some expansion of irrigated areas is possible in water basins that have water surplus, it is deemed that it is more pressing instead to promote better water utilisation and conservation in existing irrigated areas, under current agricultural production technologies. Also expansion of rainfed areas, such as via derocking of hilly and mountainous areas maybe incompatible with soil conservation, which was seen above to be the one of the most pressing environmental problems.

Finally one of the objectives in the "Orientations", namely the one about an increasing contribution of agriculture in GDP, is inappropriate for a growing economy. In all growing economies, agriculture tends to grow at rates slower than those of non-agriculture, thus decreasing the contribution of agriculture in GDP. This is compatible both with growth in agriculture as well as growth in labour productivity in agriculture. The objective of increasing the contribution of agriculture in GDP, given historical development experience of many other countries, amounts to an objective of overall slower growth of the economy, and is hence not appropriate for Syria.

8.2 The Main Aspects or Principles of the Proposed Strategy for Agricultural Development

A strategy comprises two main parts. First, it outlines the main directions or orientations or principles on the basis of which various policies are designed. Second it specifies in more detail the policies and instruments needed to realise the overall strategy. It is important for a strategy to be based on general principles, as otherwise the policies recommended cannot be easily justified.

Given the overall vision, and the general objectives for Syrian agricultural development, outlined in the previous section, we first outline the basic **strategic principles** on which Syrian

agricultural development could develop in the near and medium term. These principles are basic ideas that are meant to provide the overall framework, and essentially are **the key ingredients of the proposed strategy**. They are meant to indicate **the philosophy** that is behind more specific policies. Such a philosophy or strategy must be based on the objective social conditions of Syrian agriculture, the possibilities for development, and the overall future vision and objectives. The principles outlined below are not all new to the Syrian authorities. Some have already been included in previous strategies, while some others imply a new approach and philosophy. They are all included here, however, in order to provide a coherent framework.

The **first principle** that is proposed as crucial to provide the basis for an agricultural development strategy for the medium term is that future **agricultural development in Syria should be based on intensification of current production structures and methods, along lines of comparative advantage, coupled with more efficient, conservation minded, and labour intensive production methods**. This principle is proposed as an improvement to the principle, embodied in all plans to date, of increasing production via cultivated and irrigated area expansion.

While there is still some room for decreasing the amount of fallow land, and expanding irrigation in some water basins with surplus water, Syria has largely reached the limits in terms of cultivated land and land under irrigation. Hence, the major avenue through which production can increase is through land intensification. The intensification is necessary in order to continue the increase in production that is necessary in order to improve rural incomes. Furthermore, intensification is necessary as resource use and especially water and soil conservation are necessary to preserve the production potential of Syrian agriculture. Efficiency improvements are necessary as the land and water resource bases of Syrian agriculture are reaching their limits of use, and increases in production, and hence incomes can only come through more efficient utilisation of these resources. Land intensification implies considerable technological improvement, as well as extension effort to disseminate the knowledge. Of course, the key question is to provide motivation and incentives to producers to be more efficient and conservation minded.

The idea, embodied in the above principle, that intensification should be labour intensive, is required in order to promote equitable income distribution and diffusion of the fruits of growth to a large number of rural families. This has considerable implications for the type of research and technological improvement that should be promoted in Syria.

The **second principle** on which the agricultural development strategy should be based is that **any planning of production or resource use should be based on providing to farmers appropriate incentives, and not through coercive mechanisms.** It has already been discussed that the current mechanisms for planning are many times not compatible with producers' own desires. The consequence is that producers either do not obey the licenses, or choose not to obtain a license at all. Both actions lead to large deviations from desired plans, to farmers who are not satisfied with what they are obliged to produce, and to unsustainably high water use. Clearly, any signals must be compatible with farmers' own production objectives. In particular, the economic signals that are given to farmers, must not be internally contradictory, and room should be allowed for farmers to adjust to the provided signals. It was already discussed that the current practice of providing farmers with both price signals, as well as quantity signals, in terms of the amounts of land planted to different crops, and inputs to apply, is not internally consistent, and this is what has given rise to non-compliance with the licenses and excessive water use.

The major reasoning behind this principle is the following. First, the current system of planning through production licensing, implies a very high economic cost of enforcement. This cost is first monetary, as a large apparatus of planning, as well as extension must be devoted to the preparation and enforcement of the plan. Secondly, however, and more importantly, the personnel and other resources involved in this type of planning could be much more productively employed in other parts of the agricultural production and marketing system. For instance, the many extension agents could be released from their enforcement tasks and charged more with educating farmers to apply modern production and quality oriented production and post harvest handling techniques. Third, there is a multitude of conditions and constraints that apply locally and are specific to every village and farmer. These are impossible to know by any planning authority, and hence some freedom should be allowed for farmers to optimise their production orientation, as they are the ones who know best the specific conditions and constraints that apply to their case.

Currently, the overall indicative regional area allocations and product mix are set by MAAR, and then translated to the local, district, and village levels through regional, and local planning authorities, by largely asking individual farmers to conform to the same overall area allocation and product mix, as the overall regional plan. This on the one hand negates the specificities of each locality and farmer, and on the other hand, by dictating the area of the major crops, largely obliges the farmers, because of technical reasons, such as rotations, to follow specific production patterns. This is quite inefficient, and must be changed if the agricultural production is to be intensified in the future.

The **third principle** comprising the strategy for agricultural development in Syria should be that **the orientation of agricultural and food production should be organised within a context of an open and export oriented agricultural sector**. This is necessary in view of the planned opening up of the Syrian economy, and the envisioned international and regional agreements. The principle implies that much more attention should be given to products that can either be exported, or can compete adequately on quality and price with importable similar products. This principle implies a fundamental rethinking of many current policies and practices, as until now the major thrust of Syrian policy making and planning was inward oriented and aimed at import substitution as well as providing self-sufficiency for several food products. **The notion of protecting all domestic raw material and food industries, and self-sufficiency of some food staples, are contradictory and incompatible with an open and export oriented agriculture**. It is also incompatible with the quality and marketing improvements that are needed to enhance exports. Furthermore, a more open economy is incompatible with the command and control type of production system, currently in operation in much of Syrian agriculture. Hence the explicit strategy of the Syrian government to open the economy and make it more export oriented, implies that these various previous principles, on which many current policies are based, must be redefined.

The **fourth principle** of the strategy that is proposed is that **agricultural development should be seen as part of an overall rural development, and labour employment strategy**. It was seen earlier, that the rural sector of Syria is characterised by excess labour, and by considerable poverty. If the objective is to improve the incomes of those in rural areas, and to contain migration out of rural areas, the main avenue is the provision of rural based adequate income sources. Such sources of income do not necessarily have to be agriculture based, but agriculture, via modernisation, intensification and increased value of output, can provide the impulse for other labour intensive rurally based activities that can provide increased incomes to rural residents. These increased rural incomes, in turn can provide the stimulus for non-agricultural and industrial activities in non-rural areas, so as to promote overall growth. This agriculture led

industrialisation strategy has been applied in the past very successfully by many currently developed countries, with initially large agricultural populations and low income low technology agricultural sectors, such as Japan, Taiwan, and Korea, and is currently applied with considerable success in countries such as China and India.

The **fifth principle** of the strategy that is proposed is that **the organisation of production, marketing and processing of agricultural products should allow in the short and medium term, both private as well as public agents to participate in a non-discriminatory way in all aspects of the agrofood chain**. Currently, while private agents have been allowed, alongside the publicly owned enterprises, in several areas of marketing and distribution, the public sector has kept the monopoly of marketing, processing and distribution of cotton, sugarbeet, and tobacco, and still keeps a dominant position via import and other domestic restrictions in several other areas of the food chain, such as wheat. This is incompatible with the objective of opening up the economy, and the envisioned transition to a more mixed economy. The current policy regime discriminates against private companies that compete with public ones, for instance in the provision of bank credit, and is merely protective of the public sector companies, without any other economic rationale. In fact it seems that it restraints the development of much needed private investments. It will be very difficult to attract domestic and foreign investments in the agrofood sector if it is perceived that the public sector discriminates against the private sector. The principle proposed does not imply the closing down or sale of any public companies. However, simultaneous operation of both private and public enterprises will provide incentives for public companies to become more efficient, and competitive, something that is needed in the context of a more open environment.

The **sixth principle** is that **the role of the public sector should be gradually redefined to include correction of market failures, regulation (not control) of markets, and redistribution**. In the past the attitude towards agricultural markets was one of direct control of every aspect of production, marketing, and distribution. Much of this attitude is still present today, as evidenced by the emphasis on detailed production planning, area and production targets, and price controls. It is proposed that as a matter of principle and strategy **the role of the public sector in the organisation of agricultural markets should be reoriented as one of regulation, rather than one of command and control**. This aspect of the strategy does not necessarily imply a reduction in the size of the public sector that is concerned with agriculture. However, it implies a thorough re-examination of the functions of the public entities involved in the various stages of production, marketing and processing, and **reorientation towards provision of public goods, and services to producers and other market agents,** rather than direct control of decision making of private agents. This will restore to farmers much of the responsibility for making independent production and marketing decisions, an ability that has been weakened through the operation of the licensing system. The current rigidity of farmer decision making that is imposed by the plan needs to be loosened in order to allow a transition to a more intensive and quality based agricultural sector. This of course implies **a fundamental change of current policy thinking from one that assumes that the government knows best, to one that acknowledges, trusts, and respects the wishes of the individual farmers.** The farmers should not be regarded as production units to be guided and controlled from the center, but as self-interested producers that can promote the development of the country through the increase in their own incomes and welfare.

There will always be a significant role of the public sector in trying to correct market failures (such as the failures occurring in the water sector, or the grazing areas of the Badia), in regulating markets (so as, for instance, not to allow exorbitant price increases or major price declines of key foods), and redistribution (so as to favour the poorer segments of the

population). However, none of these functions requires the monopolistic control of any market, or the detailed control of production and marketing.

The seventh and final principle concerns **the timing of any proposed reforms.** Given the fast changing international environment and the increased competitive pressures from internationalisation, one can envision a faster pace of reforms for the agricultural sector of Syria compared to the past. One could argue that given the considerable inertia inherent in the current structures and system of planning and control in Syria, suggested in the "Orientations" document, it is not prudent to make sudden and large changes. Sudden changes, one might say, can lead to unexpected and undesirable consequences, as the experiences of the transition of formerly centrally planned economies in Central and East Europe and the USSR to a market oriented economy have shown. However, Syria does not start from such a totally controlled economy. A process of transition has been in operation since 1985, and there already is considerable private sector activity in many areas. This implies that many aspects of the economy of Syria are already operating under a mixed private public system. Furthermore, the fast increase in population creates an urgency for changes to improve income opportunities, and the external pressures will become larger if Syria desires to integrate further with the world economy. This suggests, and it is proposed as a matter of strategy, that **the process of adaptation and transition to a more market oriented but regulated agricultural sector proceeds at a fast pace.**

The above seven main principles constitute the core of the proposed strategy that is suggested as crucial for the future agricultural development in Syria. They set the framework and principles on the basis of which subsector strategies can be designed and implemented.

8.3 Who will Produce the Marketed Surpluses of Agricultural Products in Syria?

Agricultural strategy and policies must be aimed ultimately at producers. The government of Syria is correct in being concerned about agricultural production growth as well as adequate income for the many rural participants. The policies of area controls, coupled with the system of input and credit subsidisation via licensing and monopolistic public procurement, have assured in the past that many smaller farmers, would be eligible for short term production loans, and that any producer price subsidies could reach the smaller producers. However, the evidence presented in part 1 of the report, and discussed earlier in this report, suggests that over time, with the weakening of the system of area controls, there has been a significant decline in the number of loan recipients from the ACB, coupled with an increase in the average size of loan. This suggests that over time there are fewer loan recipients and the average loan of ACB is becoming larger. These developments must be judged against the facts that both the total number of farms has increased over time, and the average size of farms has decreased. Also the allocation of subsidies, which is tied to the amount of area planted and area irrigated, seems to be highly regressive, with the larger producers receiving the bulk of the subsidies. All this suggests that the current system is over time benefiting a smaller number of larger farmers, and this is contrary to the government policy of redistributing income and benefits to the rural poor.

It is interesting and important in this context to inquire as **to who are the major producers of marketed agricultural surplus** in Syria, and **who are the producers likely to increase marketed production in the future**. It is clear, that while small producers might be able to obtain some income from farming, their production may be not more than enough to satisfy domestic consumption needs. In other words, one would expect that small producers would sell a smaller share of their output, compared to the large ones, in order to satisfy home consumption needs. This is indeed verified by the results of the farm household survey done for this project. According to these results among farms of size less than 1 Ha (10 donum) the share

of wheat produced that is sold is zero. In other words all the wheat produced by these small farms is consumed by the households and not sold. Hence no matter how high the wheat price is, these farms cannot benefit since they do not sell any product. The share of wheat produced that is sold for farms of the next size class, namely those with area between 1 and 5 Ha is 0.58. The shares of the next three size classes, namely those with area between 5-20 Ha, 20-50 Ha, and larger than 50 Ha, are respectively 0.77, 0.85, and 0.98. In other words it is larger farms that market the bulk of their product, and hence produce the largest amount of marketed wheat production, and consequently obtain the largest benefits of the supported prices. The same type of result obtains for most other food products, as was seen earlier for cotton.

Similarly, one would expect that larger farmers who produce large amounts of food products would be able to satisfy larger shares of their home consumption requirements from their own production. Table 8.3.1, however, does not support this hypothesis. In the table it is shown that except for few products, such as poultry meat, fruits, and vegetables, for most other products, the households with smaller farms satisfy a larger share of their home consumption from products produced on their own farm. This suggests that the small farms in Syria are not the main suppliers of several strategic products to the market, and that the bulk of production that is marketed comes from medium and larger farms. However, it was seen earlier that the number of small farms has increased over time. This suggests that **over time a greater number of farm households are operating smaller average amounts of land, and they produce mostly for home consumption, at least as far as strategic products like wheat are concerned**. This does not appear to be the case for fruits and vegetables, which are two classes of products where Syria appears to have comparative advantage. This suggests that the bulk of marketed production for products such as fruits and vegetables comes from small farmers, while the bulk of wheat and (as was seen earlier) cotton production comes from larger farmers. This suggests that **if the Syrian government desires to support the incomes of smaller farm households it should concentrate on intensifying and increasing the value of production of products such as fruits and vegetables in which Syria has comparative advantage, and which are produced and marketed by smaller farms.**

Table 8.3.1 Shares of household consumption of major food products that are produced on the household farm (percent)

	Farm size classes (donum)					Total
	0 – 10	>10 - <=50	>50 - >=200	>200-<=500	>500	
Average proportion of home consumption produced on farm (%)						
Wheat	100,0	28,3	15,9	7,2	10,2	**20,1**
Other cereals		70,0	58,3	13,6	34,8	**40,8**
Mutton, lamb, goat meat		2,0	66,9	77,5	4,0	**60,8**
Poultry meat		50,0	75,3	62,5	100,0	**70,2**
Milk	58,8	88,8	71,0	57,8	9,0	**69,2**
Cheese	100,0	88,0	74,3	44,8	20,0	**69,2**
Eggs		92,5	94,1	100,0	100,0	**95,4**
Fruit excluding olive oil	27,1	48,9	71,4	100,0	100,0	**62,2**
Vegetables	48,8	77,5	83,2	86,1	50,1	**77,2**
Potatoes	100,0		8,5	2,0	0,1	**19,4**
Olive oil	90,0	65,7	70,3	32,9		**63,1**

Source. Farm household survey 2001.

On the other hand it is not to be denied that **the medium and larger farmers are those that are likely to produce the bulk of marketed surplus of agricultural products in Syria in the future**. These farmers are largely commercial ones, namely with large shares of their products

that are sold. The strategy towards these farmers should not be one simply of income support. Income support for these farmers has the tendency to increase their overall farm profits, without increasing efficiency, and tends to make them more capital intensive. Evidence for higher capital intensity among larger farmers was exhibited in the first part of this report, and a hypothesis is that this tendency has been the result of the specific products support policies followed in the past. The approach towards these operators should aim at making them efficient in their use of resources, technologically advanced, environmentally sustainable, and internationally competitive. It is only in these terms that these farmers can contribute in the overall growth of Syria and not drain financial and other resources from other sectors of the economy.

8.4 Instruments and Policies in the Product Markets to Implement the Proposed Strategy

In this section the major policies and instruments that are proposed to implement the proposed strategy discussed in section 8.2 will be outlined. The recommendations are based on a **fundamental principle of policy design**. This is that **the best effectiveness of policy instruments obtains when each policy instrument is designed to deal with only one policy objective**. A corollary to this principle is that **the government needs at least as many policy instruments as objectives.** In other words there could be more than one policy instrument that targets a given objective, but it is not possible to utilise one policy instrument to target two or more dissimilar objectives. **Another fundamental aspect of policy design is that a policy instrument should try to operate directly on the target that it seeks to affect, and not indirectly**. For instance, if the desire is to increase production of a product, the first best instrument is a production subsidy for that product. A tariff, for instance, on the imports of that product is an indirect way of subsidising production, and is inferior to the direct policy. These are fundamental principles, which, however, seem to have been violated in the past by Syrian policy makers. For example, the current system of planning areas planted, is designed to control water use, but it is utilised both as a way to control water use, as well as a way to direct production, and also to increase farmers' incomes. In other words there is one policy instrument that tries to achieve two or three objectives simultaneously, and it is no surprise that it cannot achieve any one of them well.

8.4.1 A New System of Production Planning and Water Use for Strategic Products

As analysed earlier, the major rationale for the current system of production, which is based on an annual license to produce, is both to guide agricultural production towards desirable targets, and at the same time to control the utilisation of water, as well as support incomes of producers. This system puts very harsh restrictions on individual farmers, and cannot possibly be compatible with the myriad of technical specificities that exist in each farm, nor with the overall desires of farmers. It was seen that it has created a culture of non-compliance, which undermines the credibility of the government and the MAAR. The major problem with the current system is that it is not compatible with individual producer incentives, and it has a very high cost of enforcement. It is also very expensive in terms of financial resources, which makes it unsustainable financially for a country of the level of development of Syria. Nevertheless, the producers obtain the licenses, as these are the only way with which to obtain subsidised inputs and credit. However, the system has tended to be utilised more by the larger farmers, who end up obtaining the bulk of the subsidies, while not complying to a large extent with the terms of the licenses. Hence it is inequitable. This suggests that there is a need for a better system of guiding area allocations, production, and water use.

The current system dictates both areas planted as well as prices for the strategic products. The producer prices are defined on the basis of national costs of production calculations, and do not

take into account the supply responsiveness of farmers. In other words they do not consider the question, which is fundamental from an economic perspective, of "how much area are the farmers likely to plant, and what amount are they likely to produce with the given prices?". The planning process does not even pose this question, and tries to set independently the areas that should be planted to various products. This is again evident in the "Orientations" document that has been produced by the MAAR, which includes detailed planned areas and production for all crops. However, it must be realised that **area and production targets and prices cannot be both independently specified in an agricultural economy characterised by individual private farmers**. This is because there are many independent decision-makers whose production decisions cannot be controlled in an open economy system. The attempt to specify independently both areas and prices has resulted not only in non-compliance, but also in a very high cost of enforcement, a cost that could be easily avoided and made available for other productive uses. Hence **it is of fundamental importance to the proposed strategy that the current system of area and price controls for strategic products be redesigned**.

It is generally acknowledged by the government that if the area controls were abandoned, and only the prices were set at the current levels, then farmers would rush to produce larger amounts of products such as cotton that are heavy water users, and hence would violate the water control objectives of the government. This is prime evidence that the government acknowledges the incompatibility of current prices with current area targets.

There are several options to coming to terms with this major problem. One would be to abandon area controls, but lower the producer prices of strategic products that are offered by the public purchasing agencies to levels where areas allocated and production would not be above the targets desired for sustainable water use. In other words the offered prices would become compatible in the aggregate with the production decisions of farmers. The government would not have to maintain the monopoly of purchasing under such a scheme, but if the offered prices by public agencies are still above parity international ones, the producers would obviously prefer to sell to the public enterprises.

This indirect system of production control is the one utilised in most industrialised countries, not always with desirable outcomes, as it is difficult to predict the supply response of farmers both in the short term, but also in the longer term. The experience, for instance, in the EU, with this type of control has been that farmers, when given prices far above those prevailing in world markets, without any area or production quantity control, rushed to increase production of these products (such as cereals, beef meat and milk, sugarbeets, cotton, wine, and others). The result was the various surpluses that have been experienced periodically since the late 1970s and 1980s in the EU. These surpluses had to either be stored at high cost, or exported with expensive export subsidies, a fact that has created all kinds of trade problems with EU trading partners. In an effort to control production without reducing prices, the EU has instituted "guarantee thresholds", namely maximum aggregate production levels at which the prices to producers are guaranteed at certain high levels. The individual producers are not required to produce specific amounts, but are free to produce whatever they want. It is only in the aggregate that the production guarantee level is set. When in an EU country these maximum guaranteed production levels are surpassed, then the prices to all producers in the country are reduced by some formula, according to the degree of surpassing the aggregate production quota. In other words the "punishment", in terms of lower prices is collective. The individual EU member countries try to institute some system of allocation of production quotas so that the ceiling is not surpassed.

Given that currently the domestic Syrian prices for the main strategic products are far above parity international prices, abandoning area controls but maintaining the existing price levels

would inevitably lead to expansion of production of the two most important strategic products, namely cotton and wheat. Hence under such a policy the government would have to lower considerably the prices offered to producers if it wants to maintain or lower the area allocated to these two crops. This may not be desirable, given the objective of maintaining incomes of farmers of these products. Furthermore, given the uncertainty about the supply response behaviour of producers, it will be difficult to estimate the domestic price that would be compatible with the desired areas planted.

Another policy option to deal with the water control problem, would be, just as in the previous option, to rely only on prices but instead of directly setting domestic prices, concentrate only on trade controls, and let the market determine the domestic prices and quantities produced. In other words, with this approach, all the government would set is import tariffs and/or taxes for each type of agricultural product, or in the case of exportable products, export taxes or subsidies. Private and public trading companies could be allowed to both purchase crops and compete for supplies.

If trade in these products was then free, namely subject only to the various tariffs, subsidies and taxes, and without any other quantitative controls, such as import or export bans, or import and export quotas, then the operation of the market would ensure that the domestic prices (after transport and other transaction costs are taken into account) would be in line with the international prices plus the various tariffs and taxes. Given that international prices are variable, and fluctuate from year to year, such a policy, if the various taxes and subsidies are fixed over time, will imply variable domestic prices, which may not be desirable for some Syrian products, but such a system already exists in several products that are exported, like lentils, chickpeas and fruits. If it is desirable to have fixed domestic prices, then the trade taxes and subsidies would have to be variable, much like the variable levy for most agricultural products that has been instituted in the EU, precisely to keep domestic prices fixed in the presence of variable international prices. However, the WTO rules forbid this type of policy unless it operates within the maximum tariffs which the countries have agreed to apply (the so-called “bound tariffs”).

The third option would be to maintain only area controls, as is currently the case, via the current production licensing system, but liberalise the trade in strategic products, by allowing private traders to operate alongside public ones. Under such a system, licensing would not oblige the license recipient to sell to public enterprises only. Also domestic prices would be free to find their equilibrium level via supply and demand. A system of minimum support prices could be instituted, namely so that prices do not fall below a predetermined floor. The public enterprises would be authorised to buy unlimited quantities at these floor prices. Under this system, the role of public trading companies would be transformed to one of supporting the minimum prices, but otherwise would not change much. The advantage of such a system would be that it would ensure that areas planted would not expand beyond what is deemed desirable by the government, subject, of course, to the problems of enforcement and control that currently exist. However, domestic prices will tend toward international parity ones, which for the main strategic products are much lower than current domestic producer prices. To avoid this, the system could be combined with the system of indirect price control via trade instruments, to keep domestic prices at desirable levels. This system would be quite similar to what is done currently, except that it would abolish the monopolistic control of trade in the main strategic products by public enterprises, and would substitute trade measures to control prices, rather than the direct method of monopolistic purchasing currently employed. The proposed system would not, however, avoid the problems of enforcement and non-compliance that are inherent in the current system.

A final option, and the one that is proposed here, is **a transformation of the current system of agricultural production, which is based on a license to produce, to a system of agricultural production based on a license to sell for the main strategic products**. This basic idea, which in practice will be shown to be not far from what is currently applied, but is conceptually quite different, and avoids several of the problems of the current system, will be elaborated in the sequel.

The proposed system is similar to the system of the so-called **guarantee quotas** or **maximum supported production** that is in place in the European Union, but with some key differences. The idea is that each farmer will obtain each year a **license** that entitles him to **sell** a quantity of a supported product up to a certain amount at given prices to the official public marketing agency for the product. In other words the farmer will be able to sell at the guaranteed price, which normally will be above the international parity price, but only up to the amount specified in the license. If the farmer produces more than the amount indicated in the license, then he would have to sell it in the private market, at whatever price the private market achieves. This free market price does not have to be equal to the international parity price, as the institution of trade measures could ensure that there is a difference between domestic and international prices.

A **minimum guaranteed floor price** could also be established, that is slightly below international parity prices (including whatever trade measures are in place), at which the public marketing agency could buy any offered quantities above the specified maximum amounts for each license holder. In this way for each product for which the government intends to maintain a strategic interest, there would be **three prices in each year**. The **guaranteed price**, at which the public agency will purchase amounts smaller or equal to a maximum specified amount, the **open market price**, at which all other transactions can take place, and the **minimum support price**, at which any amounts offered would be purchased by government agencies.

A key aspect of the system as envisioned is that the **licenses to sell should be tradable in the open market. However, the total amount of product for which selling licenses would be issued would be specified on a regional basis by the boundaries of the water basins.** In other words the licenses to sell would be issued to producers based on regional capacities to produce, especially as far as water use is concerned. Each license would be specific to a water basin or region. However, the purchasing agency in a given region could buy, say wheat or cotton with licenses from any region. If a person brings say wheat for sale in Aleppo, with a license issued in Aleppo, then the agency would pay the agreed guarantee price. However, if the same person brings in wheat to sell but with a license that was issued in Hassakeh, then a penalty could be imposed, in terms of a reduced price. This penalty should be higher than the average cost of transporting wheat from Hassakeh to Aleppo. In other words the prices paid by the various regional agencies would be highest only for the license issued in the given regions, and lower for products brought in with licenses issued in other regions. This would not totally prevent, but certainly discourage the sale of product in a region with licenses obtained in another. The discouragement would be high or even prohibitive if the price differential are high. This aspect of the proposed sale licensing system implies that a license does not have to indicate the name of the recipient, but only the region in which it is issued. Otherwise it would be a tradable piece of certified paper. This would simplify considerably the administrative cost and the bureaucracy of the proposed system.

Another key aspect of the proposed system is that **all licenses to sell would be valid for only one marketing year.** This is necessary to allow the government the flexibility to adapt the system given exogenous and unforeseen developments, as well as other objectives.

A producer obtaining a license to sell could either sell his license to others who decide to produce more than their licenses, or in turn if he desires to produce and/or sell more product at the guaranteed prices, he could try to buy in the open market enough licenses to achieve the quantities desired. One aspect of this system would be that a trader could purchase licenses from the farmers, at the same time as purchasing their crop, and could deliver the product to the purchasing agency. Of course in such a case the farmer would not sell his crop to a trader unless he receives a price close to the one offered by the public marketing agency. This would ensure that farmers would concentrate on producing, and traders would continue doing what they know best, which is trading.

The fact that licenses would be traded among producers and/or traders does not guarantee that production for sale in one region would occur only within the specified region. It could happen, for instance, that a producer that has a license to sell a given quantity of wheat in Al-Hassakeh produces more wheat than what he can sell at the supported price. If there is a producer in another mohafaza, say Aleppo, who has not been able to produce the maximum amount specified in his license, and has not been able to sell his license for the excess amount that can be sold, then he could sell his license to the producer in Al-Hassakeh, and wheat from Al-Hassakeh would be sold to the marketing agency in Al-Hassakeh, but with a license to sell in Aleppo. Of course, as indicated above, such a producer would lose, as the sale in the agency of another region would bring a lower price, but that price could still be higher than the open market price. This would prevent cross hauling of wheat, but also ensure that wheat from the most profitable and efficient regions would be produced there.

The proposed system would help develop an open market for these sale licenses. Such a market would help to correct for the errors that are inevitable in the current planning system, namely those involving the precise allocation of areas. Planning would concentrate on the aggregate aspects, where planning can be quite useful, and which the individual farmer cannot see. On the other hand the open market for licenses would give freedom to the system to find the optimal allocation of areas and production, within the given water basins. Furthermore, it would help economise on land resources, and would contribute towards intensification, as the incentive for a farmer with a license to sell a given quantity, would be to produce this quantity with the smallest possible area, and with the minimum cost. The current system obliges farmers to allocate certain amounts of areas planted to given products, but cannot oblige them to produce efficiently on these areas. Hence the consequence is that there is a misuse of areas allocated. The same amount of production could most likely be produced with smaller amounts of area, thus economising on productive resources, and allowing an increase in national productive efficiency. This is probably one of the major ways in which agricultural growth in the next decade could come from.

The idea of the proposed system is that on the one hand the total amount of purchases of the public agency would be known. If a fiscal constraint arises, then the government could decide either to restrict the amount of quantities for which the price would be guaranteed, or could lower the guaranteed price.

The advantages of this system, compared with the existing system are the following. First, the government could plan the maximum amount of money needed for total support. It would be maximum, because if there are production discrepancies between the issued sale licenses desired and actual production in some regions, then the actual prices paid by the purchasing agencies would be lower than the maximum guaranteed ones. Second, the government, by planning the maximum amount of the strategic products that could be supported, would guarantee that production would indeed take place, as it would be advantageous for the holders of the licenses to produce primarily only if they could obtain the guaranteed price. Third,

production of the supported products would take place at the lowest possible cost. This would be achieved because the free trade of the licenses would ensure that the most efficient farmers would make larger profits, and hence would try to obtain licenses for as large quantities as possible. This is very important for the future of agricultural production, as it is imperative that overall productive efficiency is improved, so as to increase production without wasting resources. Fourth, the proposed system would ensure that there would be enough production to supply the raw material needs of the domestic processing plants. This, because the government could issue sufficient sale licenses to accommodate the demands of the processing plants.

The allocation of the licenses to individual producers could be utilised to achieve income transfer objectives. Since the guaranteed price will be above the equilibrium market price, which for most products will be related to the international parity price of the commodity, each license entails a benefit to a recipient. Hence, allocation of licenses to producers can be used as a redistributive device. For instance, the smaller and poorer farmers could be allocated licenses irrespective of whether they could indeed produce the full amount. If they cannot, then they could sell the licenses to bigger farmers for a price. Similarly the government could put a limit to the amount of licenses allocated to bigger and richer farmers. In this way, bigger farmers, who currently receive the bulk of government supports, would have to obtain licenses from smaller farmers for a price, thus transferring a portion of the subsidies to smaller producers.

Fifth, the incentives would be to increase yields on both rainfed and irrigated areas, so as to achieve the desired quantities with minimum area use. This would tend to increase land productivity. Sixth, the proposed system would maintain a large part of the current planning structure of the MAAR and the Supreme Agricultural Council, and would avoid costly reorganisation. This is because the government would still need to guide agricultural production to areas of appropriate water use, and because there would still be a need to monitor the areas planted to different crops, although the planting decisions would not now be compulsory. However, the bulk of the planning mechanism would be geared toward analysis of the appropriate production targets, as well as the criteria for allocating the licenses, rather than control.

Seven, the proposed system would allow the farmer freedom as to what to produce. He could take advantage of all the signals given to him, including price signals without fear of being penalised. Eight, the proposal would release the bulk of the extension agents from the burden of enforcing the area plan, a task not related to production improvement, and would make them available for truly production related tasks. Finally, since there would be no incentive to produce amounts that could not be sold at the supported prices, and since the incentives would be to increase land productivity, the total water use could stay within ranges that do not produce unsustainable draws of water from the water basins. In other words the license to sell would play the role of a license for water use.

A major additional advantage of the proposed system is that it could easily be gradually reduced to a market based system, whenever the government decides that the agricultural sector and the economy are ripe for such a move. This could be done by either decreasing the levels of supported prices, or by reducing the total amounts that would be eligible for purchase at preferential prices by the public marketing agencies. The pace of reform would be up to the government to decide.

One might argue that if a system of licenses to sell allows open trading, then this does not guarantee that water use would be sustainable and that producers would conserve. This is because a license to sell could be transferred between water basins, so that production would not take place according to planned licenses. It was already mentioned that the prices for

product offered for sale to a regional marketing agency, but accompanied with a sale license in another region could be lower than the maximum guaranteed prices. This in itself would discourage or even prevent both production over quota for each individual producer, as well as cross hauling of products among regions, especially if the price differentials are above the average transport costs.

The tradability of the proposed licenses may invite the observation that markets do not work well in Syria, and that the larger farmers would end up obtaining all the licenses. The first comment does not seem to be borne out by the experience. Syrians appear to be characterised by a very old and deeply rooted trading mentality, and markets operated in all regions and villages, and for all products. In fact the government distrust of traders goes against one of the oldest attributes of the Syrian population. The field observations of both this consultant as well as others, amply manifested that both information as well as all other aspects of trading are well spread in Syria, and that there is a very competitive trading sector, that would ensure that the open market prices of these licenses would be appropriate.

Concerning the idea that it will be only the larger farmers that would obtain all licenses, this may be correct, but in order for a large farmer to obtain a license he would have to pay for it. In other words he would have to purchase it from smaller farmers. This would ensure that the smaller farmers would obtain the rent implicit in say cotton or wheat production, without having to actually produce the product. As there seem to be significant economies of scale in producing some of these field crops, the system, by concentrating production to larger farmers, would guarantee that production would indeed be concentrated on more efficient farms, but at the same time a part of the rent would be obtained by smaller farmers. As it is now, all the rents are captured by the larger farmers as indicated earlier.

Note that the proposed system is based on indirect regulation, and on providing appropriate incentives to farmers, rather than coercive mechanism. Hence it is consistent with the proposed strategy outlined earlier.

The major potential technical and political problem with the proposed system may appear to be the allocation of the licenses among farmers. This, however, is not the case and **the proposed adaptation of the current to the proposed system** will now be described.

As the current system operates, farmers at the beginning of an annual planning cycle express their desires as to areas they would like to plant to different products. These areas are aggregated at the nahia, mantika, and governorate levels, and compared against the targets dictated by the central planning authorities for each governorate. Deviations between the desired levels of planting by farmers, and the indicative targets set by the center are corrected by adjusting the areas of every mantika, nahia, village and farmer, largely in proportion to the overall desired adjustment. In other words if the area that farmers desire to plant in wheat in a given governorate is larger than what is desired at national level, then all villages and farmers in the mohafaza area asked to adjust downwards their actual areas planted. This then dictates the licenses that are issued to the farmers, and also dictates the amount of loans they receive and the amounts of other input they can obtain.

Within each village, all farmers must allocate the same percentages of their irrigated land to specific crops. For rainfed land, the village is divided into sectors, each of which is allocated to a particular crop group or to fallow. Farmers must grow the crops specified for the zones into which their rainfed plots fall. This system leaves little flexibility to farmers, and is certainly inefficient from a production perspective, as it does not recognise the peculiarities of individual plots and farmer skills. Nevertheless, it could provide the basis for the proposed system of sale licenses.

The envisioned system could easily be adapted from the present system, and it would work as follows. At the beginning of the annual planning cycle all the current steps involved in the current annual planning exercise would be taken. In other words the farmers would still express their desires concerning areas planted at the village level, and these desires would be aggregated to the governorate level, and subsequently adjusted according to targets that are found on the basis of desired water use. At the final planning step, namely when farmers are issued licenses to produce, **these licenses could still be issued, but only for the purpose to obtain inputs and loans.** In other words, the current system could still operate in order to plan inputs and loans extended.

However, and **in order for farmers to be able to sell their products to the authorised agencies at prespecified prices, they would have to be issued separate and additional licenses to sell**. In other words the area allocations that have been authorised for each farmer, would be transformed to production quantities, on the basis of the experience of each locality with yields (for instance a three year average of yields in the three most recent normal years could be taken). The farmers would be issued licenses to sell the given quantities of each product for which the system would operate. In other words while the planning may be done on the basis of several products, and used for input use, the products for which the proposed sales licensing system would operate are the ones for which the government has a strategic interest. These, for instance, could be all the current strategic crops.

Licenses would be issued separately for each strategic product that is supported, or desired by the government, and would take the form of standardised quantity pieces of paper. For instance all licenses for wheat would take the form of a given amount of paper licenses (much like money). **Each one of these standardised pieces of paper, which would bear no name on it, would specify only the product and the amount, as well as the region (e.g. governorate) in which it is issued, and nothing else**. So if, for instance, the minimum wheat license is a paper for the sale of 100 kg of wheat, then a farmer who is allocated or authorised to produce 1 ton of wheat, would be issued ten of these licences amounting to a total of 1000 kg. It is these papers that would be tradable in the open market. The standardisation of these papers would ensure that it would be cheap to print all these in every year. It would also avoid any costly monitoring system based on the names of farmers. It would also make the sale of the standardised licenses very easy, thus facilitating, without any cost to the government, the development of this type of market. It must be also mentioned that **a potential side benefit of introducing such a system of sales licenses and their open market, is that it may facilitate the development of an organised futures exchange market,** namely a formal market for contracts to deliver products in the future, which is exactly what these licenses would be. Such organised exchanges and markets are well developed in many developed economies, such as the USA, Australia, Canada, the EU, Japan, Argentina, etc., and in most cases these markets started by open trading of this or similar types of contracts.

Under the proposed system then a farmer at the end of the planning cycle would obtain the following papers. First a license to produce, much like the current license. This license would state primarily the areas to be planted to various crops, and would be utilised only for procurement of inputs and ACB loans, but for nothing else. Second the farmer would be issued a certain number of paper sale licenses to sell the quantities of the strategic products that are implied by the production license. In other words if, for instance, a farmer in a given region is authorised to plant 4 Ha of wheat, 3 Ha of cotton, and 1 Ha of sugarbeet, then these areas would first be transformed to production on the basis of the average recent normal year yields, and subsequently he would be issued enough paper licenses for wheat, cotton, and sugarbeet, that will allow him to sell the authorised amounts at given prices and in his specific region.

Once these sale licenses are given to each farmer, there would be no more monitoring or enforcement of areas planted for the crops in the farmer's license. He would be free to plant other products, with the inputs procured, or he would be free to exchange or sell his sale licenses to others. Of course, the disincentive to doing this would be that in the subsequent years, the licenses may be adjusted, should the government desire, according to the areas actually planted. On the other hand, the government may not wish to do this. The reason is that the distribution of the licenses to sell would amount to a system of income supplements. If the government wishes to maintain its redistributive role, and especially to favour weak producers, then it could keep giving sale licenses to small farmers, even though they do not produce the products. The idea would be that these farmers would sell these licenses and obtain some income from them. The advantage of the proposed system is that there would be no need for micromanagement of production, or detailed planning by the government. The market itself would take care of both product allocation, as well as redistribution, after the initial allocations.

As envisioned, the proposed system would offer to all farmers in the country the same support price for the amounts under sale licenses, if they are delivered in the region for which the sale license is issued. Price discounts would be specified for products delivered to a given region if they were presented for sale with a sale license from another region. For instance, assume that in a given year the government decides that the national support or purchase price for wheat will be equal to p. If the government deems that there are seven major water basins, then there would be six discounts for wheat delivered in one water basin, say one in Hassakeh, but produced in any of the other six water basins. These discounts would be specified so as to cover the average transport cost between the two regions.

So for instance if the transport cost between a region i and a region j (say Aleppo and Hassakeh) is equal to a value equal to $m_{ij} = m_{ji}$ (under the assumption that it costs the same to transport from Aleppo to Hassakeh as it costs to transport from Hassakeh to Aleppo) then the discount for wheat would be specified as m_{ij} . In other words a farmer in region j who delivers to the purchasing center of his region wheat, but with a sale license issued to region i, would obtain a price equal to $p- m_{ij}$. If he chooses to haul his product to the same region from which his license to sell was issued he would still obtain a price equal to $p- m_{ij}$ as he would have to pay himself the transport cost. If the farmer delivers the product in the same region for which he has a sale license, then he would receive the price p. In this fashion a farmer that produces in region j but with a license from region i would obtain the price $p- m_{ij}$ irrespective of whether he chooses to deliver to the region of production or the region from which his license derives. Hence he would always receive a price lower than the price he would receive if he produces and delivers in the region in which he obtains a license. This is meant to discourage the production in regions for which sale licenses have not been issued.

If the government deems that the proposed system is not enough to guarantee the optimal utilisation of water, then it could utilise one or both of **two further instruments**, that could be superimposed, namely used simultaneously with the proposed system.

The first one involves **introducing on non-metered irrigation systems, per-hectare water charges**, the rates of which are a function of the estimated water requirements of the crop grown, and which are also a function of the scarcity by water basin. The idea is that since the water requirements per hectare and per crop are broadly known, prices per hectare of crop grown could be specified on a national basis, and then adjusted to individual water basins according to the seriousness of the water shortage in the basin. The advantage of this system is that it would discourage production of water intensive crops in water basins that face depletion problems.

The water charges would be levied not on the basis of actual areas planted, but on the basis of areas specified on each farmer's production license, namely the license that authorises him to obtain inputs and loans, and is also the basis for the issuance of the sale licenses. The rationale for having water charges levied in this way is first that it would avoid the expensive, in terms of extension manpower, task of monitoring each farmers areas planted. On the other hand the proposed system would provide motivation for farmers not to overstate their desired planted areas, with the logic of obtaining more licenses, as they would be penalised for excessive production of water using products.

Of course, once irrigated areas are fully metered, as is currently planned, the government could introduce water charges per cubic metre, the rates of which could increase to high amounts once the farmer uses more than is estimated as optimal for the crops that he is growing.

The **second option is that for each region a water discount charge would be levied on the sale of products with a sale license issued in that region.** This water charge would be specific to each product and water basin. In other words a discount w_i , different for each product in accordance with its water demands, would be subtracted from the price obtained when the product is sold with a sale license issued in region i. This charge would be levied on all licenses for the product issued in a given region, and it would be higher for regions with water scarcity problems. For instance if in a region (say the Al Khabour basin) it is deemed that water shortage is very critical, then the licenses issued for this basin would provide not only for just enough product so as to accommodate the water limitation, but also for a water discount that is to be applied to all products delivered to any purchasing center but with a license issued in Khabour, and any amount of the product delivered to any purchasing center but with a license from this basin would obtain a price diminished by a discount specific to the basin or region in which the license is issued.

We must assume that at the open market prices, namely those at which the products not accompanied by sale licenses could be sold, the farmers would not find it optimal or profitable to produce. If they do then this implies that some farmers in that region could produce without any support from the government, and hence they have comparative advantage in producing. Otherwise, farmers would not produce more than what is decided at the aggregate regional level by the government. Aggregate overproduction in such a basin of a strategic crop, say cotton, by the farmers could be achieved only if these farmers obtained sale licences from other regions in the free market. With these licenses they could produce and deliver more product than what their own licenses would allow. They could sell this excess product in another region, but as already discussed this would be discouraged by the regional price differentials. If they sold it in the same region for which the license was issued, then they would obtain the price p minus the water charge, but they would have to incur the transport cost applied by the purchasing agency to this region. In the accompanying box, the system is exhibited and it is shown that the incentives would be such as to keep the production in the regions where the licenses are issued, unless there are large production cost differentials.

Box 8.1. Pricing in a system of sale licenses.

Consider the sale licenses for a product issued in regions k and j. Anyone holding such a license can sell the product to authorized purchase centers in various regions in the country. The problem analyzed here is the one of where the product will be produced and where it will be sold. The following table exhibits the various options and prices received by the person delivering the product under different production assumptions and different sale points. In the table the symbol m_{kj} indicates the actual transport cost between regions k and j. while the symbol m^*_{kj} indicates the discount subtracted from the purchasing agency in region j for crop delivered there but with a license from region k. The symbol l_k denotes the cost of obtaining in the free market a license to sell the product issued in region k. The symbol w_k denotes the water discount discussed above.

	License issued in			
	Region k		Region j	
	Product delivered for sale in		Product delivered for sale in	
Product produced in	Region k	Region j	Region k	Region j
Region k	$p-w_k$	$p-w_k-m_{kj}$	$p-w_j-m^*_{jk}-l_j$	$p-w_j-m_{kj}-l_j$
Region j	$p-w_k-m_{jk}-l_k$	$p-w_k-m^*_{kj}-l_k$	$p-w_j-m_{jk}$	$p-w_j$

It can be first be seen that if the farmer produces in a region where he obtained a license, then it is never profitable for him to deliver to another region. These is indicated in the shaded boxes. If the discount applied by the purchasing agencies is equal to the actual transport cost, then the farmer producing in a region, but with a license issued in another region, which he has to purchase in the open market, he is indifferent whether he delivers to the regional purchasing center or the purchasing center of the region from which the license is issued. Finally the best price that a farmer who obtains a license issued in a region can get, is the price from delivery to the same region. It is only if the costs of production are very different among regions, or the water charges among regions are quite different, that it may be profitable for a farmer to obtain a license in another region in order to produce profitably in his own region. For instance consider the farmer who is situated in region k, and desires to produce more than his own sale licenses. If he purchases in the open market a license from region j, then, assuming that $m^*_{jk}=m_{kj}$ so that he is indifferent whether he sells in the same or the other region, then it would be profitable for him to purchase the license and produce above his own quota only if $p-w_j-m_{kj}-l_j>0$. This cannot be guaranteed, however, because under a free trade in licenses the price of the license would be the highest possible and this would be the largest value such that the above inequality holds with equality for some k. Clearly this would obtain only if licenses are sold to neighbouring regions, where the transport cost is small, or the same region where transport costs are nil. This would ensure that the licenses would not be traded over a wide regional area, and hence that the water basins would not be overexploited.

The advantage of the combined system proposed above is that it uses two different policy instruments to achieve two different objectives. The first instrument, namely the licenses to sell at support prices, are aimed at maintaining incomes and production at levels decided by national food security and other objectives, such as full utilisation of public ginning plants. The second instrument, namely the per-hectare or per unit of product water charges, is aimed at water conservation. The system of sale licenses would also contribute towards water management, but it would be primarily aimed at production control and support. Currently, the government uses only one instrument, namely the planned areas, to achieve multiple objectives, and it is no surprise that it has difficulty achieving them all.

One might argue that the proposed system might be too bureaucratic, and centralised. The answer is first that the government cannot escape planning the water utilisation of each water basin, given the intense water scarcity. Second, given the government objectives for food security and income support to farmers, it has to plan the aggregate quantities in the near future, as it needs to plan spending. However, government should still allow the farmers the freedom to produce whatever they deem most profitable, within the overall macroeconomic and water conservation framework.

Another argument might be that the proposal does not promote quality. This can easily be accommodated by making the guaranteed prices for delivered quantities functions of quality. Similarly, one might argue that the system does not guarantee that production would be restricted to the planned amounts of sale licenses. This is correct. However, if the strategic crops can be produced profitably at parity prices without government support, which is what the open market prices would tend to, then this would imply that Syria has comparative advantage in the particular product, and the government in such a case may decide to lower the support, or reduce the guaranteed production quotas.

Note that one could argue that it might be more efficient from a water conservation viewpoint to allocate to farmers tradable water quotas or licenses for water use rather than licenses to sell products, as proposed above, and let the farmers decide what to produce with the water they are allocated. This system, however, is not workable without full metering of all water use, and hence is not applicable with the current production structure.

The system outlined above is meant to be applied largely to the strategic products, and especially those that are heavy water users like wheat, cotton, sugar and tobacco. For the last three of these products, there is a public monopoly of marketing and processing. Hence one might also think that an alternative approach to organising production of the raw materials for these processing plants would be to **issue contracts between the responsible organisations or processing plants and farmers.** For instance, the General Organisation for Sugar could contract with interested farmers certain volumes of output, at specific prices, adjusted for sucrose content. In fact most sugar processing factories in the EU and other developed countries work in this fashion. **The sale licensing system outlined above is very much like a contracting system between factories or marketing organisations and farmers**.

Once the sale licensing system is in place, and given that the public purchasing agencies are the only ones that would buy these products, then these organisations could determine the total amounts of raw material they desire to process. In collaboration with the MAAR and the Ministry of irrigation concerning the water basins in which these quantities could be allocated, these processing organisations could take on the task of allocating the sale licenses directly to the interested farmers of these raw materials. In other words, the main agents in the decision of how much raw materials to produce, would be the processing plants. **They could in fact take on the whole task of issuing the sale licenses for the various products.** All the above points

concerning tradability of the licenses would still hold. If more processing plants, including private ones, are allowed to operate, then they could be allocated a certain amount of licenses, or could be allowed to operate outside the licensing system, namely offering the farmers whatever lower prices they could offer.

Concerning the **timing of implementation** of the envisioned system the following timetable of activities is recommended.

Short term. Year 1-2. Complete study of the proposed system of sale licensing, with design of the types of licenses that are to be issued, the regional differentials, water charges, and all administrative details. Design of a monitoring and evaluation system.

Year 3-4. Pilot implementation of the proposed system in one or two water basins. Implementation of the monitoring and evaluation system in the same regions. Study of the outcomes, and adaptations and corrections as needed.

Medium term. Year 4-10. Implementation of the full licensing system, as well as the monitoring and evaluation systems, on a national basis.

Long term. After year 10. Liberalise the licensing system, by utilising mostly trade measures to regulate domestic prices. In other words the long-term objective should be to find the domestic equilibrium production and prices under a market system, that will ensure a sustainable utilisation of water resources, while at the same time providing adequate incentives to producers, and adequate domestic value added.

8.4.2 Pricing Policy for Supported Crops

The proposed system of production planning must be accompanied by a system of pricing for the products that are to be procured at prices above international parity ones. The current computation of prices of strategic crops in terms of production cost is fraught with problems. First, the national average costs of production for the various crops do not reflect the actual costs of production. The Directorate of Agricultural Economics of the MAAR aims to provide the Cost Calculation Committee with a weighted per-hectare cost that takes account of the various natural conditions and production techniques encountered in producing areas throughout Syria. Since accurate up-to-date regionally based survey data are not available systematically for this exercise, it relies principally on averaging the per-hectare costs generated by a detailed set of models first developed by MAAR in 1994 with technical assistance from FAO/UNESCWA.[12]. The Directorate also uses its own experience accumulated over the years. These models refer to agro-ecological zones and embody a detailed analysis of costs into quantities and prices. Over time, the Directorate has adapted these models as required to reflect changes in production methods, such as the adoption of a new planting technique, and to take account of changes in input costs. To arrive at mean national costs for each crop, the Directorate combines models for agro-ecological zones, for rainfed and irrigated land, and for particular types of irrigation, by weighting unit costs on the basis of the planted area estimated to be represented by each model.

The Directorate summarises the mean per-hectare cost data into ten agricultural operations categories and six production requirement categories and then sums these to give a basic per-hectare cost. To obtain a figure of total per-hectare costs, interest is added, calculated on costs at a rate of 4.5% per annum, and 5% is added for incidental expenses. Finally, an amount is added for land rent that makes rent equal to 15% of total cost inclusive of rent.

[12] These models are available in the form of a handbook: *National Farm Data Handbook of Syrian Agriculture*, E/ESCWA/AGR/1994/8, United Nations, New York, 1995.

The average national unit cost of production gives little indication of how a particular price influences these variables in any particular year. This is because unit costs of production vary enormously between governorates, between regions within governorates, between villages and between farmers within a particular village. Moreover, for each farmer, unit costs vary from year to year, especially on rainfed land, principally as a result of weather-induced variation in yield per hectare.

To come to a well-informed judgement on an appropriate level of price, it is necessary to employ information on variability in unit cost both over space and over time, and this can only be done on the basis of farm level surveys, which are not available. Thus, the present system of seeking to arrive at and base decisions on a single average unit cost of production is inadequate.

Secondly, the official yields used in the various annual producer price reviews are not representative of the actual yields. For instance, the yields used for the past three annual price reviews have been above the estimated mean national yields from 1988-99. This is because extraordinary years (good or bad) are excluded from the calculation of average normal yields. But how can one judge what is an above or below average year for yields? As it is more likely to have a below average year in terms of yields than an above average one, because of drought, the process gives a downward bias to estimates of costs per unit.

Third, cost of production calculations are not appropriate as a means for tariffication of existing policies in the context of WTO. In that context what is required is to exhibit the differences between domestic and international prices for Syrian agricultural products, and use this to set the bound tariffs.

Given that the government wishes and will continue to support the production of a certain number of strategic products, and given that the government is concerned about covering the cost of production for the major crops, it is therefore, recommended, that the government considers as a **benchmark for the setting of domestic support prices a mixture of domestic cost of production estimates together with a moving average of international parity prices**. The domestic cost of production calculations, however, should be based on farm management field surveys of actual production practices and costs. **It is recommended that such a baseline survey is first done, so as to obtain a valid benchmark for one year, and then for every subsequent year, smaller surveys of actual costs are done in the various regions.**

Concerning the moving average of international border (namely parity) prices, this could be over a period of 3-5 or more years. Such an average would take into account both the changes in world production and trade, as well as the competitive environment facing Syrian producers. The actual level of annual price support could be decided on the basis of both costs of production, as well as international parity prices, as well as on the basis of domestic income objectives for farmers, and fiscal constraints. The advantage of the proposed mixed system, is that it would immediately point out any growing divergences between the domestic cost situation in a given product, and the international price trends. This could be utilised in order to assess the evolving competitiveness of Syrian products, and to adjust the pricing policy accordingly.

The **minimum reservation prices for the products for which such support is deemed appropriate, and for quantities above those for which sale licenses are issued, should be specified on the basis of a moving average of international parity prices**. However, the minimum support prices should be set below these averages, at levels about 10-20 percent lower. This will guarantee that there are no undue declines in domestic prices. The existing marketing organisations could be authorised to be the buying agencies for these reservation quantities, if there are any.

In terms of timing the following is recommended.

Short term. Year 1-2. Benchmark national farm management survey to determine the actual costs of production in various regions for various products and under different production technologies. Also in the same period a study should be done concerning, the calculation of border prices of the major products which are to be supported. Furthermore, the formulas for the implementation of moving averages should be studied, and the levels of minimum prices at which products should be supported should be studied and prepared.

Medium term. After year 2. Implementation of the new system of pricing of products.

There have been additional recommendations for the strategic products (not on pricing) made in the report by Westlake (2000). Most of these recommendations are additional and independent from those made here, and will not be repeated.

8.4.3 Policy Towards the Non-strategic Products

The above system concerned mainly the products that the government deems essential to support, while at the same time not allowing unlimited expansion of area planted and production because of water resource limitations. However, there are other products, that are not strategic, and which do not currently come under the control of the government. In some of them there exists a mixed public private marketing and processing system, while others operate purely within the private sector. The government interferes in much of the marketing of these products, especially in terms of pricing. However, it is impossible to control these markets, as there are many producers, and marketing agents. **For such products, it is recommended that the government utilises only trade controls for indirect regulation of the markets**. Such controls could include tariffs, export taxes or subsidies, but not import or export bans. One might also think of import tariff quotas, or export quotas, but the implementation of such quantitative arrangements is fraught with implementation difficulties, and invites corruption, hence they are to be avoided. **It is recommended that all current quantity controls and price regulations for the marketing or pricing of these products are simplified and expressed in terms of one tariff equivalent of subsidy equivalent.** This could be done very soon, possibly within one or two years.

8.5 Strategy and Policy in the Agricultural Input Markets

If the price of the products is supported in the manner suggested above, there is no need to support the price of inputs as well. This is because the allocation and use of any subsidies on inputs is distributionally inequitable, given that larger farmers are much more intensive users of fertiliser and other inputs. Furthermore, there is no reason to limit the imports of fertiliser to the government. This, basically has the effect of protecting the domestic publicly owned fertiliser plant, which can become efficient and internationally competitive with appropriate restructuring (see Parthasarathy, 2000). Hence the decision of the government to allow the private importation of fertilisers in 2000 is correct and in the right direction. The best strategy on inputs, in the context of the proposed overall strategy, is to **allow the private sector to import and distribute fertilisers and other inputs, alongside the public entities similarly engaged, and to abolish any import restriction on imports**. This policy could be implemented in the short or near term.

Furthermore, since subsidies on inputs will not be necessary under the proposed system, it is proposed that the ACB gradually disengage from the trade and distribution of fertilisers, and other inputs, and subsidies on inputs be eliminated since they can be incorporated in the proposed guaranteed prices. Finally, the government, while not abolishing its own seed production units, should allow the private production and marketing of both seeds as well as

other inputs. The more detailed recommendations for the reorganisation of input production and marketing that are included in the input study report of Parthasarathy (2000) are compatible with the proposals here, and are endorsed here.

8.6 Strategy and Policy for Agricultural Finance

Credit and financial services are major impediments to agricultural sector growth in Syria. The rural financial system is dominated by the ACB and by private agents who charge high rates. On the other hand, there are very few ways in which rural households can save, and the majority of savings seem to go into gold, and land or houses. Thus it is not available for productive investment. The need is therefore for improved savings mobilisation, as well as improved credit delivery mechanisms.

Suggestions for the improvement of the performance of the ACB have been made by Parthasarathy (2001) and will not be repeated here. The one-size-fits-all approach to lending has caused considerable dissatisfaction among farmers. The bank cannot be expected to exercise any initiative as all changes and improvements have to go to the controlling Ministry. Loan terms should be designed for each group of situation. Terms should be flexible with a pre-defined limit of authority to the loan officer to vary them to suit any individual peculiarities. The medium term loan, for instance, does not necessarily match the needs of fruit planting where bearing on a commercial scale starts much after the maturity of the standard loan. Loans to small and marginal farmers in lower zones should cover their basic consumption needs also during the period of waiting for the income from the harvest, as without this, in any case, they would give priority to consumption, neglect the crop and find themselves unable to repay. Rebates for prompt and early repayment, concessional lending to time deposit holders and special treatment to borrowers with consistently good record of repayments over a specified number of seasons are other possibilities.

There are three major strategic suggestions that are made here to improve the rural financial situation. The first concerns the **development of micro-finance groups**. Agricultural lending is presently concentrated upon zones 1 and 2 with a very small portion for zone 3. The average loan size has been increasing and the number of beneficiaries dwindling, suggesting that smaller farmers may be gradually left out. For smaller farmers with no collateral, and for zones 3,4 and 5 the g**roup-lending concept, through micro-finance groups**, could be tried out on a pilot scale, in order to see if it could be generalised throughout Syria. Group lending has worked in many countries with small-scale farmers, both in Asia, as well as in Africa, and the concept is particularly suited where communities have strong group cohesiveness and are ready to assume responsibility for supervising their funds. Joint liability and peer pressure make up for lack of individual collateral. Wherever possible, the group's small savings are mobilised and, as an incentive, matching funds are provided by the bank for lending to individuals of the group. This way local savings and credit groups are strengthened.

The second idea that can be promoted at the same time as the micro-finance groups, is the promotion of **rural savings and loans associations along the Raiffeisen model** (see box 8.2 below). The idea here is to allow rural residents to pool their savings and recirculate these among themselves in the form of loans. The main institutional element that makes these associations viable is control of the association by its members. Just like for micro-finance, it is proposed to try this modality on a pilot basis the creation of a number of these associations throughout rural Syria.

Box 8.2 The Raiffeisen model of financial co-operatives

The idea of a financial co-operative to benefit its participants originated with Friedrich Raiffeisen 130 years ago in Bavaria, Germany. As mayor of a small town, Raiffeisen organised a co-operative savings institution to permit the people in his district to pool their money and make loans among themselves. The idea spread throughout Europe and North America, and in 1901, Alphonse Desjardins, started the first credit Union in North America, in Levis, Quebec, Canada. The primary difference between credit unions and other financial institutions is that members, not customers, control credit unions. Each owns a part of the credit union, and has the right and responsibility of ownership. Benefits of credit union membership have traditionally been higher interest paid on savings balances and lower interest rates charged on loans. Such benefits are possible because credit unions are non-profit organisations and their income is therefore returned to members. The management of credit unions is composed of a Board of Directors, a Credit Committee, and a Supervisory Committee. The first sets policies, approves plans and budgets, assumes responsibility for the health and growth of the credit union, the Credit Committee acts on each application for a loan made by a member, and the Supervisory Committee audits the books and examines the affairs at frequent intervals to be certain that it is operating in accordance with the laws and bylaws. Credit Unions are also known as Savings and Credit Co-operatives, Credit Societies, and "Caisses populaires".

The third suggestion concerns **the restructuring of co-operatives to make them operate more like farmer marketing and input delivery associations.** Farmer associations can do excellent work in providing physical intermediation without involving themselves in money or stock keeping. They can disburse the loans on behalf of the banks, distribute inputs, collect and store the produce, see that the crop is not diverted to avoid repayment of the loan, help the farmer in having their graded properly and distribute the proceeds after deduction of loan. Farmer associations in Syria could play a similar valuable role and work synergistically with the private sector as well as with the banks. Co-operatives could be encouraged in this direction and be given the necessary training to project themselves as an invaluable rural intermediary for services with direct and intimate knowledge of farmers and prepare them to accept the increasing role of the private sector as an opportunity and not as competition.

Associations that have a good track record could be selected and given the necessary training to become savings and credit associations with shares of farmers, deposits from farmers, seed money from the government and matching refinance from ACB, the ratio of the refinance increasing in graduated steps according to the managerial capability and proven record of timely repayments.

Given that a large number of rural households hold gold as a form of savings, another suggestion is to institute a **scheme for mobilising that gold.** Rough estimates by Parthasarathy (2001) suggest that there could be about 234 tons of gold among Syrian households. Households motivated to hold gold as a store of value may be more susceptible to part with its physical possession if it could be regained and if, in the interim, it could generate an income. Gold deposit programs have been tried successfully in other countries, and their specifics have been outlined in the report by Parthasarathy (2001).

8.7 Strategy for Processing and Foreign Investments

The analysis of the foreign investment regime by Maletta (2001) has suggested that there are several improvements that are needed in order to attract more foreign investments. These can be summarised as follows.

- Create and implement an autonomous Syrian Agency for Private Investment (SAPI) instead of the current Investment Office. The current Investment Council should become the Board of Directors of the SAPI. A body of representatives of the private sector should be appointed as an Advisory Council. A charge of up to 0.5% should be applied to all investments effectively accomplished by authorised projects, to cover the expenses of the Agency. The functions of the agency should include not only processing tax exemptions and other legal benefits for private investment projects, but also promotion of investment opportunities in Syria; advice and consulting services for the development of investment projects, services of market information, finance sources, monitoring the development of investments, and other related functions.
- Simplify the application and authorisation process for investment projects under Law No.10. Previous and posterior approvals in the concerned ministries should be eliminated, since the Ministers would give their approval within the Investment Council.
- Investors should be given legal access to foreign currency, especially for input procurement, profit remittances and capital repatriation in the case of projects producing for the domestic market. Also, Syrian investors with capital in local currency should be given legal means of acquiring currency for importing equipment and inputs. If the foreign exchange regime is not directly liberalised, then at least it should be relaxed for authorised investment projects.
- The current regime of time periods allotted for construction and for tax exemption should be replaced by a tax credit system, applicable to all investments made under the project at any time. After establishing a tax credit rate, for instance 40%, any investment would generate a tax credit equal to 40% of its value. Any income tax on profits obtained after that investment, should not be paid but deducted from the tax credit, until the credit is exhausted. Further investments in the same projects would generate additional tax credits. Also, reinvestment of profits should be income-tax exempt, and importation of equipment should be duty-free at all times. Zero customs duties for capital goods as a general measure is recommended, but even in the absence of such a general policy, at least authorised projects should have the possibility of importing capital goods at no tariff, to foment incorporation of foreign capital and its embodied technology.
- Steps must be taken to simplify and made more clear and transparent the conditions to obtain State-owned land on lease or freehold for the purpose of building facilities for investment projects.
- Land for industrial investment projects should be pre-allocated in industrial zones near important cities, with provision of basic services (industrial-strength electricity, telephone, water, sanitation, roads or railways). Any project licensed under Law No.10 should be given easy access to industrial zones.
- Eliminate any requirement for private companies to request authorisation for changing the price of items that do not carry a fixed official price, or are not specifically regulated for some reason. Once controlled prices are realigned, gradually establish bands of permitted variation in the indicative or obligatory lists of prices, and proceed towards further liberalisation of prices and final abolition of official and indicative prices.

8.8 Export Promotion

It is clear that there are considerable prospects for agroindustrial exports in Syria. However, there are several limiting factors that must be removed, and there are several domestic policies that need to be instituted to achieve this. The basic assessment by this study has been that the

major constraints to exports are related to domestic production and trade. Hence the policies and measures suggested below are aimed at removing those domestic constraints.

The major macroeconomic constraint for exports is the **foreign exchange market**. This market **should be fully legalised and gradually liberalised**. The next step after the recent authorisation to convert domestic currency into foreign currency for personal purposes at the Commercial Bank should be a similar authorisation for private companies licensed under Law No.10, for legitimate operations such as import of equipment, repair parts and other inputs, profit remittances and capital repatriation. The next step would be full authorisation to all banks to exchange currency. Dealing in foreign currency should be totally de-penalised.

The current taxes on the exports of processed agricultural products constitute a disincentive to investments in processed agricultural products. It is also not compatible with an export orientation of the agricultural sector. The speedy abolition of all such taxes should be considered seriously.

An export strategy must be combined with a reasonable import policy. The aim should be to **establish a simple tariff system**, with relatively few categories of goods. **All quantitative or otherwise non-tariff restrictions should be converted into tariffs.** The list of prohibited items should disappear, or include only dangerous items (such as weapons, illegal drugs or other similar items). The list of imports that can be brought in freely and the list of goods that can be imported with export proceedings only should also be cancelled. Items whose importation is not desired may be assigned a very high customs tariff. Initially, tariffs might be as high as desired, as long as quantitative or otherwise non-tariff restrictions are all converted into tariffs. The current "unified surcharge" should be integrated with the tariff, so that only one concept (the tariff) is applied. **Duties should be computed** on the dollar value of the imports at CIF level converted into domestic currency **at the market rate of exchange**. In the context of WTO negotiations, the tariff structure would then gradually converge towards lower levels for trade agreements with other countries and for eventual membership in the WTO.

Export licenses should be abolished, and also most import licenses. Only import licenses for a few sensitive and very specific products may be retained. Anyone should be able to import or export, with the only requirement of going through the necessary banking and customs formalities. Any tax, charge or surcharge on exports should be abolished. Any tax on imported items that are re-exported should be rebated.

In order to export agroindustrial products, it is of paramount importance to have a **reliable system of grading and standards**. Such a system currently does not exist in Syria. Hence in order to promote exports, the government must develop a serious and competitive system of grading and standards, applicable equally to imports, exports and domestic uses. The policy should promote modern systems for ensuring quality for raw and processed products such as ISO certifications and HACCP (Hazard Analysis and Critical Control Point) certification.

An integral part of an export strategy should be to continue negotiations for a trade agreement with the European Union. The main policy objective should be to complete the agreement as soon as possible, letting certain specific and sensitive points of disagreement to be adjusted later once the agreement has been signed and ratified. **The political and commercial importance of actually reaching the agreement is much more important than any specific point of negotiation.** Concessions not won at the time of signing the agreement may be negotiated afterwards, from the better position of a member of the partnership, even if they take a long time to negotiate.

It appears that many areas in Syria offer possibilities for production of raw materials for processing (e.g. in fruits and vegetables or dairy products). Currently, a processing plant operates without any guarantee of supplies of the raw material, which essentially depends on the production of a multitude of small farmers. The processing plants rarely give extension advice to the providing farmers, and their market is limited to some extent by the amount of appropriate raw material procured (as well as by other factors). A production organisational method that has been applied in several countries (e.g. Madagascar, Mexico, Philippines, etc.) is for **a (generally multinational) company to organise a large number of small farmers to produce under contract on their own (the farmers') land specific qualities of a raw material (e.g. tomatoes, or asparagus, etc.), which in turn are processed or marketed to specific external markets**. These markets in turn are where many of these large companies have comparative advantage, and hence can guarantee an outlet. Such companies offer several advantages to small producers, such as a guaranteed income.

If such type of organisation is to be promoted in Syria in the context of an export oriented strategy, then several aspects of the current planning mechanism must be changed for the specific areas where such companies can operate. It appears that there is a willingness from MAAR that if such proposals were offered to Syria, MAAR would be amenable to revising or even suspending the application of the plan to such areas. The sales licensing system proposed above is clearly compatible with this organisational structure. This is an area that merits further consideration by the Syrian authorities, as it has considerable potential to enhance production as well as exports, while at the same time improving small farmer incomes. The recommendation made here is for considerable promotion of this institutional structure, starting with an appropriate law by the Syrian authorities, and subsequent advertising of the possibilities in international markets, so that the interested companies can become aware of the possibilities. In terms of timing the study of the system and the appropriate laws could be done within a year, and appropriate advertising and promotion could be done afterwards.

A final recommendation on export promotion concerns **the institution of an export promotion organisation.** Such an organisation would be responsible for organising international exhibitions, arranging for the participation of Syrian companies in international fairs, exploring market opportunities for Syrian products in various foreign markets, organising information for prospective exporters concerning markets and products, provide links between foreign buyers and Syrian firms, and other similar related services for export promotion. A key function of relevance to Syrian agribusiness exports, could be the promotion of the Syrian label of origin for specific products, such as for instance, Syrian cheese, or Syrian apples, etc. Many countries have organised such organisations with considerable success over time.

8.9 Strategy for the Agricultural Land Market

As seen earlier, the public sector still controls a vast amount of agricultural land. Of the original state land 445 thousand ha have been sold, while 794 thousand ha have been distributed to farmers or rented. Of the land expropriated through land reform, only 5 thousand have been sold, while 1003 thousand ha have been either distributed or rented to farmers. All of this land is subject to considerable restrictions for production, as well as transfer. As indicated earlier, this uncertain ownership and exploitation regime is not conducive to long term farm investments, such as adopting modern irrigation systems, despite the fact that the farmer normally keeps his land unless he violates the contract..

Despite the restrictions, there is an active market for land but part of it is in the informal sector with high levels of risk. Relations between owners and operators of farm land are often strained.

The tendency to give short contracts reflects the persistence of precarious situations. Illegal occupation of land is a widespread practice.

In the *badia,* pressure on pasture and open access policies facilitate free riding, thus resource deterioration is at a critical stage. The potential role of the co-operatives as local organisations representing the range users is emerging as one way to redefine traditional land tenure within a legally recognised user rights system. Employment opportunities in agriculture are not growing at the same rate as landless and semi-landless households.

The strategic areas for action in the land sector are the following (for some more details on these and other policies see Forni, 2001):

Distribute the state land currently under rental agreement to farmers in the same fashion as before, namely with ownership like contracts. The state should not be acting as a landlord. The MAAR has already started distributing the largest part of the land cultivated by State Farms to farmers. This is a welcome development. However, the **land should be distributed in a way that after the farmers have paid for it they can obtain a full title, with full transfer rights**.

On public land rented out, or sold but not yet paid, allow more freedom of farmers to plant whatever they want, subject to the system of sale licensing proposed earlier.

Restore full ownership rights, including the right to transfer, of former state or land reform land that has been fully paid by the beneficiary.

Monitor current production structures in land reform areas. This could include areas covered, differences between original beneficiaries and current *de facto* operators, differences between land reform beneficiaries and state land distribution beneficiaries, And co-ordination of technical (MAAR) and financial (Peasant Union/Co-operatives) monitoring of land reform implementation.

The importance and spread of the communal agricultural land system needs to be clarified and whenever necessary written titles for rights of use established. **Recognition of access rights to communal lands in pastoral and forest area, and pastoral commons**, which are officially part of state land, needs to be further studied and established in the interest of sustainable management of the *badia*. Conservation of resources could be further discussed in conjunction with responsibilities and participation of populations claiming traditional access rights, under the general framework of state's ultimate property.

There is increasing realisation in Syria as elsewhere that social capital and local institutions are important in the evolution of property rights formation and in negotiation on the use of land resources. Social capital is mainly expressed in the traditional system, *'urf*, developed over time to suit societal needs. But *'urf* and official land tenure patterns sometime differ. Greater attention is needed to make them complementary. An **increasing emphasis on local institutions'** role particularly at the village level would facilitate this co-ordination. For instance, officially recognising the functions of village level councils in arbitration may help decrease the excessive burden now placed on the *Mohafaza* level arbitration courts.

Government strategies need to be based on an improved knowledge of the current situation as well as on forecasts of anticipated change. As an example, large scale eviction of squatters may send waves into the labour market where squatters may join the already growing group of landless agricultural workers. **Thus, stricter rules to protect ownership rights may have to be accompanied by programmes promoting rural employment to avoid any side effects.**

A recommendation is to **establish in each Mohafaza a centre of legal information to assist and advise owners/tenants/squatters on their legal position** and possible changes. This might

promote conciliatory processes. In addition efforts should be taken to promote the integration of traditional (‘urf) social regulation of access to land into the broader legal system.

8.10 Marketing of Agricultural Products

The idea of MAAR that the current marketing organisations of agricultural products must be maintained, can be accommodated if the purpose of these organisations is modified within the overall system of sales licensing proposed earlier. First, **the monopoly role of such organisations must be abolished**. This should be done quite rapidly so as to allow the investments needed by private agents. There does not appear to be a clear argument in favour of allowing only the publicly owned companies to purchase certain products. If private marketing of all agricultural products is allowed, then this will certainly offer more possibilities to farmers. At the same time there is no clear rationale for allowing only public processing of agricultural products, including cotton ginning, tobacco and sugar. If changes are made so as to allow the participation of private companies in such processing activities, then **the role of the public marketing organisations should be on the one hand to guarantee prices for certain amounts, as outlined earlier, and at the same time to act as buyers of last resort (at much lower prices) for unlicensed amounts**.

Another recommendation relevant to proper marketing, is to **design a system for collection, clearance and public dissemination of market information for agricultural and food products**, with the exception of those products where official mandatory pricing systems exist.

A major factor blocking the improvement of marketing of agricultural and processed products is the pervasive official pricing system, and the rigidity this imposes on private firms. The liberalization of pricing is a necessary condition to promote product differentiation, improvements in quality and more competitiveness**. It is therefore, recommended, that the MAAR, in conjunction with the Ministry of Supply and internal Trade, work towards abolishing in the nesr times all price controls at the retail and wholesale levels for all agricultural and food products.** Any price regulation could be implemented via trade controls, and not directly. The joint operation of public as well as private food firms can ensure that there will not be any unnecessary increases in prices. **Liberalization of import trade, especially the abolition of import bans, and the free permission of imports, subject to whatever import tariffs are instituted, can ensure that there will not be any monopolistic pricing by any domestic firm**.

Syria has considerable opportunities for producing and marketing agricultural products of reasonable quality both domestically and in foreign countries. However, while production of many of these products is quite adequate, the quality deteriorates due to inappropriate post-harvest handling, such as storage, packaging, grading, etc. This is especially acute with products that could be exported in fresh form, such as fruits and vegetables. In most countries there is an important role that co-operatives play in marketing of such products, as there are clear economies of scale in such activities. However, in Syria co-operatives have not been conceived or designed as marketing and service organizations. Hence, if their role is to be enhanced in this direction, considerable training, management reorganization, and specialization are needed.

If co-operatives are to perform such tasks, the most important organizational aspect is that **co-operatives must belong to the farmers and be accountable to the farmers**. It is the farmers that will contribute capital for further marketing and other activities, such as storage, packaging and grading, etc., and hence the farmers must control the organization and its revenues and profits. As they are currently organized, however, co-operatives are quite bureaucratic, and have more of a role in making sure that the plan is implemented, rather than a service role. The recent proposal to found 24 new marketing co-operatives, one for animal products and one for

vegetable products in each governorate, is indicative of the top-down, and bureaucratic way co-operatives are regarded in Syria. A marketing co-operative must be based in a given locality, have a relatively small number of members that are similar in their production and needs, and be controlled by the members' assembly. Hence governorate based co-operatives are bound to be very bureaucratic and not responsive to the particular needs of members. By comparison, a smaller country like Greece, with a smaller agricultural sector has more than 8,000 primary co-operatives, most of which are engaged in storage, packaging and grading, and processing.

Nevertheless, apart from more private enterprises, the co-operatives are the most promising way for farmers to improve on marketing and processing. However, the whole legal structure governing the organization and operation of co-operatives needs rethinking. **It is thus recommended that a thorough study of the reorganization of the co-operatives, and the laws governing the operation of co-operatives is undertaken.**

In terms of timing, the following steps are recommended:

Short term. Year one. Allow the operation of private enterprises in all areas or production, marketing and processing, where currently only public companies are allowed.

Implement a study of the reorganization of co-operatives along the lines of European similar law.

Year one-two. Study and implement a system of publicly available agricultural market related information.

8.11 Strategy for Consumer Subsidies

The basic current problems with consumer subsidies, such as the ones for bread, rice, and sugar, are that they are expensive, and horizontal, in the sense that all citizens benefit irrespective of income level. Hence there is significant leakage to non-intended beneficiaries.

There is nothing wrong with efforts to subsidise deserving households. It is the organisation and type of subsidy that are at issue. The major problem of the current system is the lack of targeting. However, there can be no targeting, unless detailed household surveys are conducted, and clear criteria are established for the support. Hence the first recommendation is that **a detailed national level household survey is conducted,** with the objective of identifying criteria for targeting consumer subsidies.

The second issue has to do with the kind of subsidy. Currently the subsidy is in the form of low food prices. However, this is inefficient. It would be more efficient to institute a **system of transferable food coupons**. This is like the food stamp system that has been applied to many other developed countries, and along with better targeting has the potential of both saving money, as well as better targeting. **It is imperative that a study of a new system of subsidy delivery is made before any changes.**

8.12 Strategy for Restructuring Agricultural Production Along Lines of Comparative Advantage

Syria is not at a stage of development, where it can subsidise heavily the production of agricultural products. This is not only costly financially, but also tends to tax exactly those primary and processed products that could be promoted for export. Hence, in order for Syria to develop an export oriented agricultural and food processing sector it must reorient its agricultural production along lines of comparative advantage. The price analysis of Westlake (2000) showed that with the current price policy, of all strategic products, Syria could export profitably only three, namely barley, lentils, and chickpeas. All these are products that are actually exported. For all other products, the current producer prices are more than 30 percent

above international parity ones. Even if international prices are depressed due to developed country protective policies, the level of decrease due to these policies is not more than 10 percent. Hence at the current domestic prices Syria is not competitive in any of the other five strategic products. This is not to say that Syria does not have comparative advantage in these products, but rather that the current domestic price policies make it difficult to export. It also makes it difficult for agroprocessing enterprises that utilise domestic raw materials to produce internationally competitive processed products.

The first best policy for becoming internationally competitive in agricultural and food products is to revise the domestic price policy. This could be done directly, by bringing the domestic prices closer to international parity ones, or indirectly by further devaluation of the exchange rate. Given the recent apparent appreciation of the exchange rate that has been pointed out by the IMF (IMF, 200a, 200b), it seems that the best strategy for improving international competitiveness, may be a general further devaluation of the exchange rate. Apart from this, however, or revising domestic price policies, it appears that there is considerable room for improving the domestic irrigated and rainfed yields, as well as improving production practices so as to diminish the cost of production for producers. This suggests that **a major part of the general strategy for agricultural development should be considerable emphasis on further technological improvement in agricultural production and practices, so as to improve yields and decrease production costs.**

Another aspect of the strategy for becoming internationally competitive should be to restructure domestic agricultural production towards products where Syria can have comparative advantage. Needless to say this necessitates making detailed studies of comparative advantage so as to determine the priorities for further improvements. Earlier studies of comparative advantage were seriously flawed as indicated by the detailed analysis of Westlake (2000) and must be redone. Hence **it is recommended that as a matter of priority for agricultural research as well as price policy the MAAR undertake a thorough study of comparative advantage of the currently produced products in Syria under different technologies and irrigation structures.** It is only if some idea of comparative advantage is obtained that agricultural research can be reoriented towards those products and technologies where Syria is internationally competitive.

Whatever is the outcome of a comparative advantage study, it is imperative that further effort and resources are devoted for agricultural research. Past research efforts in Syria have produced considerable successful results, in terms of increased yields, and biological pest control. However, considerably more is needed to make the agricultural sector internationally competitive and to find alternative products and techniques of production so as to increase value added. **It is therefore, recommended that the current thrust of the government towards emphasising agricultural research is continued and enhanced**. However, the increase budgets for research should be supplemented by a thorough re-examination of research priorities. In the past the priorities for agricultural research were dictated by objectives such as self-sufficiency in food staples, and self-sufficiency in the provision of raw materials for the domestic publicly owned processing industry. **In light of the recommended strategy, which advocates a much more export oriented agribusiness sector, it is recommended that a study on medium term agricultural research strategy be done in the near term**.

The enhanced role for research must be accompanied by continued and enhanced emphasis on agricultural extension. Syria is one of the few developing countries with a well-developed and organised agricultural extension network. It is notable and of considerable importance that all producers have regular contacts with extension agents. However, as was pointed out earlier, considerable amount of the time of extension agents is currently spent on enforcement of the

plan, or in essence policing the farmers, so that they conform to their licenses. This is a waste of a valuable resource, but will change considerably if the proposed new strategy is adopted. Nevertheless, there wills till be considerable need for extension for a long time to come, as many Syrian farmers are not well educated. Furthermore, if a policy of export promotion rather than self-sufficiency and import substitution is adopted, if new production techniques for the traditional products are adopted, and if new products that are profitable, and can substitute for some of the more water consuming ones currently utilised, then there will be a very important role for extension. **It is therefore, recommended that the recent increase in resources devoted to extension continues and is further enhanced. It is also recommended that in light of the proposed strategy of export promotion, a study is done on the reorganisation of the extension functions, tasks, and training, with the objective of recommending a reorientation of the activities of extension agents towards more export oriented products, and water saving and cost reducing production techniques.**

8.13 Strategy for Rural Development

While the Syrian government has made many improvements in rural areas, in terms of infrastructure and services, there is a continuing immigration to urban areas as well as to neighbouring countries. The major reason, of course, is lack of employment opportunities in rural areas. It was seen that agricultural production is not likely to improve the employment prospects in rural areas, as the tendency is for more mechanisation of agricultural activities. Nevertheless, there is a pressing need for employment opportunities.

The major strategy that is proposed here, which has been tried successfully in many other developing countries, is to **promote the establishment and operation of rural based non-agricultural small-scale companies**. Such companies do not have to be included under the provisions of investment law 10, as the capital requirements for such companies and the bureaucracy involved are prohibitive. The idea is that such companies could produce a range of domestically demanded non-tradable products that would be demanded by rural residents. Given the density of rural areas in Syria, there seem to be ample opportunities for the establishment of such small enterprises. While the specifics of such a strategy are not indicated here, as they need to be studied further, it appears that this is the most promising way to create a viable and thriving rural sector, as it would promote labour intensive enterprises with little initial capital requirements. **It is, therefore, recommended that a study is done on the possibilities, prospects, and institutional needs for the promotion of rural non-agricultural based small-scale activities.**

8.14 Guidelines for the Allocation of Responsibilities Among Different Ministries and Public Entities

Currently in Syria the agricultural sector is influenced by a variety of public institutions and ministries, each with a different agenda and objectives. This necessitates considerable energy and effort in co-ordination and implementation of policies by the officials of the MAAR. The main ministries, besides the MAAR, that influence considerably the agricultural sector are the following:

- The Ministry of Economy and Foreign Trade which is responsible for exchange rate policy, and trade policies, as well as some processing activities;
- The Ministry of Irrigation;
- The Ministry of Industry which is responsible for most agroprocessing activities, as well as for the sectors that provide agricultural inputs, such as fertilisers;

- The Ministry of Supply and Internal Trade (MSIT;
- The Ministry of Planning;

Clearly the main concern of the MAAR is with agricultural production and with the incomes and welfare of farmers. However, it appears that there is often a conflict of objectives between the MAAR and other organisations. For instance, the Ministry of Industry desires low prices for raw materials for agroprocessing, while the MAAR desires high prices for farmers. The MAAR may desire agricultural products that are more export oriented, while the MSIT may desire production to satisfy self-sufficiency objectives. In fact it appears that the self-sufficiency objective is more in line with MSIT objectives, rather than MAAR objectives. Also it is not clear if there are conflicts relating to production objectives. In other words it is not clear whether the production objectives of the MAAR for strategic products are in line with the objectives of the Ministry of Industry.

The current conflict resolution mechanism is the Supreme Council (for agriculture or other sectors), where decisions are made concerning these conflicting objectives. There is nothing one can do about the existence of these conflicts, as they will be present in any economic system. In industrialised countries, the conflicts are similar, except that the lobbies are different. For instance it is always the case that ministries of agriculture advocate higher prices for farmers, while ministries of industry advocate lower input prices for food processors, as they represent the interests of the private processing industry, and ministries of finance advocate lower overall public expenditures. There are different conflict resolution mechanisms in place in different countries, and many times the decisions concerning a particular policy have to bear the signatures of many ministers, to highlight the fact that they are joint responsibility.

It is one thing, however, to make decisions taking into account of many interests, and another to make joint decisions. In the latter case considerable bargaining must be made, and substantial resources, in terms of time of scarce professionals and politicians, may have to be spent.

However, one thing that can be done is to streamline the process, in terms of the types of decisions that must be made. In other words there is no reason that each and every decision that affects agriculture must be joint responsibility. There may be considerable room for streamlining the process, so that there are only few key decisions that require co-ordination and joint resolution, while for other decisions mere consultations may be sufficient. To identify, however, these institutional and administrative problems is a major task, that is much beyond the current exercise. **It is therefore, recommended that a study is carried out in the near future, focusing on the types of responsibilities of the MAAR in relation with other ministries**, **with a view of identifying areas where more efficient decision making can be pointed out.** Such a study will be much more effective if the strategy and policies of the MAAR are clearly set out, and the areas where MAAR decisions affect sectors where other ministries have a voice are clear. **It is, therefore, recommended that such a study is carried out only after the type of strategy and policies that are to be followed in the next ten years in the agricultural sector are identified and adopted**.

A matrix for a time phasing of programs and actions towards the implementation of the proposed strategy is indicated in the next few pages.

Matrix for the Implementation of the Proposed Agricultural Sector Development Strategy for Syria

Vision. Agricultural development in Syria should aim at an agricultural sector that is efficient and productive as well as sustainable in its use of resources, competitive in terms of external orientation, and providing adequate incomes to a large number of holders with equitable distribution of incomes and benefits.

Objectives

- Promote self-reliance for the agricultural sector and the economy via greater reliance on comparative advantage;
- Utilise fully and improve productivity of natural agricultural resources, especially those of land and water;
- Increase labour productivity in agriculture;
- Achieve equitable levels of income distribution, satisfactory targets of poverty alleviation in rural areas, and contain rural-urban migration;
- Secure adequate levels of employment to the rural labour force;
- Securing adequate food consumption of low income urban and rural populations;
- Provide adequate supply of raw materials at reasonable prices to domestic processing plants;
- Increase the value of agricultural exports;
- Promote private investments as a major instrument for achieving economic development;
- Develop and expand economic relations with foreign countries, with a view to promoting exports, acquiring new technologies, and becoming a regular member of international organisations, such as the WTO;
- Achieve better utilisation of water resources for irrigation and other uses;
- Maintain environmental balance;

Principles and Philosophy of proposed strategy

1. Agricultural development in Syria should be based on intensification of current production structures and methods, along lines of comparative advantage, coupled with more efficient, conservation minded, and labour intensive production methods.
2. Any planning of production or resource use should be based on providing to farmers appropriate incentives, and not through coercive mechanisms.
3. The orientation of agricultural and food production should be organised within a context of an open and export oriented agricultural sector.
4. Agricultural development should be seen as part of an overall rural development, and labour employment strategy.
5. The organisation of production, marketing and processing of agricultural products should allow in the short and medium term, both private as well as public agents to participate in a non-discriminatory way in all aspects of the agrofood chain.

6. The role of the public sector should be gradually redefined to include correction of market failures, regulation (not control) of markets, and redistribution.
7. The process of adaptation and transition to a more market oriented but regulated agricultural sector should proceed at a fast pace.

Program	Actions until end of 2003	Actions between 2003-2005	Actions between 2005-2010
Introduce a system of licenses to sell for strategic products	Complete study of the proposed system of sale licensing, with design of the types of licenses that are to be issued, the regional differentials, water charges, and all administrative details. Design of a monitoring and evaluation system	Pilot implementation of the proposed system in one or two water basins. Implementation of the monitoring and evaluation system in the same regions. Study of the outcomes, and adaptations and corrections as needed.	Implementation of the full licensing system, as well as the monitoring and evaluation systems, on a national basis.
Introduce on non-metered irrigation systems per-hectare water charges	Complete study of region and basin specific opportunity costs of water. Design and propose alternative pricing formulas	Pilot implementation of per-hectare water charges in certain regions. Monitor and evaluate, in order to adapt.	Implementation of full system
Revise formulas for setting domestic support prices for strategic products.	Design and conduct baseline farm management survey in all producing regions. Determine actual costs for each product under different agroecological and technological production systems. Implement study of border prices	Implement mixed system of pricing	
Price policy for non-strategic products	Conduct product-specific studies to estimate the tariff equivalent of all current policy interventions.	Substitute a tariff as the single instrument for pricing policy of each agricultural product, and abolish the other interventions.	Adjust tariffs towards a unified overall tariff rate.
Export promotion	Fully legalize the holding of foreign exchange. Abolish export taxes and export	Gradually liberalize foreign exchange market, by allowing freer convertibility of domestic currency. Implement system of grading and	

	licenses. Design system of grading and standards Conclude Syria-EU trade agreement. Design and pass law to allow multinational or national firms to produce under contract with farmers.	standards Organize and start and export promotion organization.	
Development of microfinance groups	Create on pilot basis rural savings and loan associations. Also implement pilot project on microfinance groups.	Adopt savings and loan association model on a large scale. Same with microfinance groups.	
Restructure co-operatives towards marketing and input delivery.	Implement study on co-operative restructuring, and propose and adopt new law.	Pilot restructuring of some co-operatives.	Restructuring of co-operatives on large scale
Establishment of more transparent agricultural land rights	Restore full ownership rights, including right to transfer, of former state or land reform lands that have been distributed to farmers and have been fully paid.	Introduce system of licenses to sell on all these lands. Distribute state land currently under rental agreement to farmers, with ownership like contracts. Establish in each Mohafaza center of legal land related information.	
Marketing of agricultural products	Abolish monopoly marketing of public organizations. Design a system of collection, organization, and public dissemination of market information for agricultural and food products. Abolish all price controls at the	Institute role of public organizations as buyers of last resort. Abolish all import bans, and liberalize both imports and exports, subject only to tariffs.	

	retail and wholesale level for all agricultural and food products		
Consumer subsidies	Conduct national household survey of expenditures, and incomes.	Design targeting mechanisms for the poor	Implement targeted subsidies through food coupons
Technological improvement	Conduct thorough study of comparative advantage of all Syrian agricultural products, under different technologies and irrigation structures. Conduct study of medium term agricultural research strategy.	Implement results of agricultural research strategy. Redefine role of extension, and reorganize in light of transition from the current state planning mechanism to a sale licensing system.	
Allocate responsibilities between relevant ministries	Conduct study of responsibilities of ministries, in light on new strategy		

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Annex 1. Terms of Reference

Agricultural Development Strategy (Second Phase)
International Consultant

The assignment shall be accomplished under the direct supervision of the Chief RNER Operations Services and the Technical supervision of Chief RNEP and of the CTA. Also, in close collaboration with the Director of NAPC/National Project Director, Agricultural Economist, the Co-ordinator and National Strategy Task Force for the preparation of the strategy and officials of MAAR and other concerned institutions, the international consultant shall prepare a long-term agricultural development strategy for Syria.

The preparation of the strategy shall be based on the work carried out during the first phase of this exercise, which involved production of a road map for the completion of the strategy as per the attached report. During this second phase, the international consultant shall carry out the following tasks:

Participate in the First National Agricultural Policy Workshop.

Review all studies carried out by the project for the preparation of the strategy.

Prepare a long-term agricultural development strategy including proposals for processes by which the policies and actions contained in the strategy can be internalised by MAAR and other concerned institutions.

Give seminars on the strategy, which will be attended by senior Government officials of MAAR, other relevant institutions and parastatal, concerned political and professional organisations, concerned agents in the private sector and representative of the donor community.

Prepare a complete written draft development strategy and forward to FAO for revision and comments.

Participate in the Second Agricultural Policy Workshop to be organised by the project, present the agricultural development strategy and lead discussions on it.

Finalise preparation of the draft long-term agricultural development strategy by incorporating the results of the discussions in the workshop.

Submit the draft agricultural development strategy document for FAO clearance.

Finalise the agricultural development strategy document within two weeks after receiving FAO comments.

To accomplish these tasks, two stages involving field visits and work at home base are envisaged. These stages are as follows:

<u>Stage (1) Visits to Syria:</u>

Undertake 6 visits to Syria, as follows:

First visit (duration 2 weeks) this travel the international consultant shall:

Hold meetings with the National Co-ordinator and members of the national task force to programme the work to be done in a manner to ensure effective and efficient involvement of task force members and their respective institutions,

promote with FAO (RNE and project management) the establishment of an informal network among the international consultants responsible for the planned individual policy studies to enhance discussion on policy issues, and

submit a tentative outline of the strategy report, based on the outline proposed by Mr. M. De Benedictis and included in the attached report.

Subsequent 3 visits (duration 2 weeks each) in which the consultant shall:

Meet with Co-ordinator and national task force to review and monitor progress,

discuss results and policy recommendations coming from studies recently completed and present preliminary results on specific components of the strategy, and

provide guidance to national strategy task force on follow-up actions needed including identification of additional specific documentation needed for the strategy to be obtained from the Country/ Project.

The first of these three visits shall coincide with the First National Policy Workshop in which the consultant shall also:

Participate in first National Agricultural Policy Workshop,

Make a presentation on the arrangements for preparation of the strategy and its likely structure, contents and elements, and,

hold meetings with the international consultants present in the workshop to sum up the implications for the strategy of the policy studies they carried out and presented to the workshop

Last visit (duration 2 weeks) shall coincide with the second national policy workshop. During this travel the international consultant shall

discuss the strategy with the national team,

present the complete written draft of the strategy document to the Second National Agricultural Policy Workshop, and

Follow-up, in light of the workshop, on discussion and revision of the strategy with the concerned government institutions.

Stage (2) Work at home base

(9 weeks spread through out the entire time of the assignment)

Activities:

careful assessment, from the point of view of the strategy, of the material produced by the individual studies,

identification of possible gaps between expected outputs of the studies and inputs needed for preparation of the strategy and suggest remedial actions to be taken,

summing up the implications (for the strategy) derived from the entire set of information and analytical material produced by the Project, and

prepare the strategy report.

Qualifications: Agricultural Economist with extensive knowledge in agricultural development and long and wide working experience (20 years) in agricultural economics and formulation of sustainable agricultural development strategies.