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## Part One

### **Agriculture in the Syrian Economy**

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**Chapter 1**

**Agriculture in the Syrian  
Macroeconomic Context**

*by*  
*Alexander Sarris*

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## CHAPTER 1

### **Agriculture in the Syrian Macroeconomic Context**

*by Alexander Sarris*

#### 1.1 INTRODUCTION

The purpose of this chapter is to place Syrian agriculture within the broad macroeconomic context and to illustrate the constraints imposed on Syrian agricultural policy by the macroeconomic developments.

In the past, agriculture was Syria's main industry. However, beginning in 1970's, trade followed by mining and to a lesser extent industry, started to grow at higher rates than agriculture. Nevertheless, agriculture continues to be the largest sector of the economy.

The major development paradigm governing Syrian development policy in general and agricultural development in particular since 1970, has been that of state-led import substituting industrialization. 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 modernization. Syria was to cease being an agricultural economy, and become mainly industrial. 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 agricultural 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.

During the late 1980s and 1990s, the government, in response to macro-economic crises, without explicitly abandoning the above strategy, modified it to what may be termed "state-led export promotion." This shift was evident by a series of measures, such as some attempts at "structural adjustment," reduction of

subsidies, trade liberalization, reduced expansion of public employment and the general role of the public sector.

Throughout the 1990's, the economy of Syria has been growing at a healthy pace, according to official statistics. In fact, during the period 1990-95 the per capita GDP grew by 4.6 percent annually. During the period 1995-98 the average annual per-capita GDP growth slowed to a respectable 2.5 percent. By international comparisons, these are very satisfactory numbers, and, if the benefits are widely distributed, suggest a continuous process of real income growth for the average Syrian during the period. During the last two years of the 1990s, GDP per capita declined by 4.6 percent in 1999 and 2 percent in 2000. This has been the result mainly of a general drought which has had a very negative impact on agricultural production, but also a decline in the world oil price. Thus agricultural production is a significant determinant of overall growth.

If the oil sector, which is largely publicly controlled, is exempted, it can be said that the economy of Syria is primarily agricultural based, as apart from the basic agricultural production, the bulk of exports are agriculture based, the bulk of manufacturing is based on agro processing, a large share of trade and commerce is based on agriculture, and many services are also 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 summarized 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 products as well as fertilizer 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<sup>1</sup>. It can also generate considerable income through explicit and implicit taxation, as well as foreign exchange earnings through exports or import substitution. Furthermore, it can use its control of agriculture to conduct domestic welfare policy, especially as it concerns food subsidies. One could argue that in an economic system of open exchange, taxation or protection of agriculture could be effected by an indirect price based mechanism, but in Syria the economic system is not open. Foreign exchange through official channels has always been severely limited, and hence control of trade in 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.

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<sup>1</sup> Currently strategic products include wheat, barley, cotton, tobacco, sugar beet, lentils and chickpeas.

The economy of the Syrian Arab Republic (SAR) is currently under transition from one that has been largely centrally planned to one that is more liberal. The general objectives of policy have been and will remain the achievement of a sustainable level of economic abundance, social welfare, and equity. However, some of the past overall themes underlying planning and policy might change. These themes have included the following:

- The state assures full employment of the whole labour force;
- The state undertakes measures to adjust income distribution in favour of labourers and small farmers;
- Production of goods and services are supreme objectives of the society;
- Price stability has high priority;
- All major resources are state-owned;
- The state plays a major role in domestic production and trade, especially with respect to major consumed products and inputs;
- Prices are fixed by the state and strictly controlled;
- Foreign trade is almost completely a state monopoly; and
- The private sector plays a limited role in the economy, mostly in agriculture, services and domestic trade, under strictly controlled conditions.

While elements of the above themes are evident in most areas of public policy, there have been a series of changes that suggest a general shift of emphasis. These include the following:

- Foreign exchange reform since 1989;
- Law No. 10 of 1991 for the encouragement of investment;
- Granting a wide range of incentives for mixed private-public companies;
- Significant declines in state intervention in foreign trade and price controls for agricultural products;
- Decrees encouraging private sector participation in several sectors; and
- Ministerial Decrees granting the private sector the right to import agricultural inputs from retained proceeds of own private exports.

Syrian agricultural development strategy has been guided by international considerations that seem to have changed in the 1990s. Such considerations were 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 Syrian agricultural policies that have been in place since the 1960s were developed with these considerations, and were implemented by a centrally planned system. The radical changes in all these political fronts over the last decade, the gradual worldwide realization that central planning has some inherent

weakness, and the conclusion of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT), which created new rules for the world trading system, have led the Syrian Government to change many aspects of its agricultural policies. However, in essence, the principles and underlying assumptions on the basis of which agricultural strategy and policies have been exercised have not undergone much change. Nevertheless, there is a growing awareness within Syrian policy circles that the old strategy has led to problems and a new agricultural development strategy is needed.

## 1.2 STRUCTURE AND EVOLUTION OF AGGREGATE PRODUCTION, CAPITAL FORMATION, AND PRICES

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 (Table 1.1). Mining, mainly oil and gas, accounted for 40 percent of the 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.

**Table 1.1 Structure and growth of real GDP (at 1995 market prices) for various sectors from 1985 to 1999**

|                             | Share in real GDP of different sectors |         |         |         |           | Average annual growth rates of sectoral real GDP |         |         |           |           |
|-----------------------------|--|---------|---------|---------|-----------|--|---------|---------|-----------|-----------|
|                             | 1985                                   | 1990/91 | 1995/96 | 1997/98 | 1999/2000 | 1985/90  | 1990/95 | 1995/98 | 1998/2000 | 1990/2000 |
| Agriculture                 | 26.8                                   | 29.6    | 29.2    | 30.5    | 29.0      | 0.6  | 6.8     | 10.8    | -3.8      | 5.7       |
| Mining & manufacturing      | 8.0                                    | 12.8    | 14.8    | 17.4    | 17.6      | 8.3  | 9.5     | 13.7    | -1.2      | 8.5       |
| Building & construction     | 9.5                                    | 4.1     | 4.3     | 4.4     | 4.1       | -17.0  | 9.3     | 5.1     | -1.9      | 5.7       |
| Wholesale & retail trade    | 26.5                                   | 24.6    | 24.6    | 20.8    | 20.0      | -3.1   | 9.3     | -2.9    | -3.5      | 2.9       |
| Transport & communication   | 8.3                                    | 10.1    | 11.6    | 12.1    | 13.2      | 3.0  | 10.4    | 5.7     | 6.9       | 8.3       |
| Finance & insurance         | 4.1                                    | 4.2     | 4.5     | 4.3     | 4.9       | -0.8   | 10.6    | 1.4     | 4.7       | 6.6       |
| Social & personal services  | 3.3                                    | 2.2     | 1.8     | 2.1     | 2.7       | -9.7   | 5.7     | 8.8     | 16.5      | 8.7       |
| Government services         | 13.4                                   | 12.4    | 9.1     | 8.4     | 8.4       | -3.5   | 2.5     | 1.3     | 1.1       | 1.8       |
| Private non-profit services | 0.0                                    | 0.0     | 0.0     | 0.0     | 0.1       | 6.7  | 8.3     | 11.5    | 14.0      | 10.4      |
| GDP at market prices        | 100.0                                  | 100.0   | 100.0   | 100.0   | 100.0     | -1.5   | 8.0     | 5.8     | -0.7      | 5.5       |

Source: Central Bureau of Statistics. Statistical Abstract 2000.

Table 1.2 exhibits the per capita real GDP figures, computed by dividing the aggregate figures by officially estimated population figures. These in turn were taken from the midyear projections of the population living in Syria in the 1999

Statistical Abstract. The table suggests that real per capita GDP in 1995 was lower than that of 1985 or 1980, but has improved substantially since 1995. For 1999, the table suggests that the real per capita GDP was 4.4 percent lower than in 1998. In 1999, real per capita GDP stood at lower levels than those of 1980, having fallen by 4.4 percent from the previous year. Table 1.3, which exhibits average annual growth rates, shows that the biggest decline was in the period 1985-90, while considerable growth was achieved for the period 1990-95, which however slowed in the period 1995-99.

Noticeable from the table is the result that 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 very low incomes. Compared to 1980, 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.

**Table 1.2 Evolution of real per capita expenditures on GDP (SP at 1995 prices)**

|   | 1980  | 1985  | 1990  | 1991  | 1992  | 1993  | 1994  | 1995  | 1996  | 1997  | 1998  | 1999  |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per capita real GDP                             | 42853 | 40863 | 32145 | 33542 | 36800 | 37448 | 39176 | 39970 | 41779 | 41693 | 43682 | 41765 |
| Per capita real private consumption expenditure | 32803 | 28804 | 26402 | 25502 | 28728 | 28128 | 25551 | 26519 | 26897 | 25976 | 26865 | 25135 |
| Per capita real private investment              | 5749  | 5195  | 4378  | 4403  | 6607  | 6215  | 6501  | 6120  | 5530  | 4105  | 4066  | 3867  |
| Per capita public consumption expenditures      | 8595  | 8541  | 5474  | 6107  | 5731  | 5619  | 5390  | 5370  | 5242  | 5168  | 5145  | 5173  |
| Per capita public investment expenditures       | 9725  | 10248 | 3251  | 3246  | 3197  | 3406  | 4784  | 4719  | 5038  | 5669  | 5767  | 5481  |

Source: Computed from Central Bureau of Statistics. *Statistical Abstract 2000*.

The figures of Table 1.3 also show that while real private investment exhibited considerable growth during 1990-95, most likely due to the passage of Law No.10 of 1991, its growth turned significantly negative during 1995-98, for a negative average annual growth rate for the decade of the 1990s. On the other hand, real per capita public consumption declined almost steadily in the 1990s, undoubtedly due to the efforts of the Syrian Government towards stabilization, while real per capita public investment has increased considerably.

It is somewhat surprising that with such strong increases in public investment expenditures, as well as significantly positive real per capita GDP growth, the growth of real per capita expenditures has not been larger. However, a major issue in Syria is the accuracy of the National Account (NA) figures. The IMF, in a recent review of the Syrian economy (IMF, 2000a), reviewed the state of macroeconomic statistics in Syria. They indicate that the GDP statistics suffer from undercoverage of the trade and private services sectors. This is because while the NA covers comprehensively the activities of the public sector and public

productive enterprises, they do not cover adequately the activities of the private sector. Given that the private consumption expenditures figure in the GDP statistics is computed as a residual, and also includes inventory changes, the IMF indicates that there are likely significant errors in the estimates of this variable.

In order to probe this issue further, an indication of the relevant magnitudes can be had by comparing the per capita expenditure from the NA with the directly observable per capita expenditure derived from the most recent (1996-97) Household Budget Survey (HBS) of the Central Bureau of Statistics (CBS). The information in that survey indicates that the average yearly per capita total private consumption expenditure is equal to SP25 140 in 1996-97 prices (the average in urban areas is 26 688, while the average in rural areas is 23 616). It is not clear whether the HBS figures include the imputed expenditure on food from products grown on people's own farms, and other imputed expenditures. Nevertheless, this figure is slightly below the average figure reported in Table 1.2, and suggests that the NA figures may not be too far from the truth.

**Table 1.3 Average annual growth rates of real per capita expenditures on GDP**

|   | Growth rates of various categories of real per capita expenditures |         |         |         |         |
|---|--|---------|---------|---------|---------|
|   | 1980-85  | 1985-90 | 1990-95 | 1995-99 | 1990-99 |
| Per capita real GDP                             | -0,95  | -4,69   | 4,45    | 1,10    | 2,95    |
| Per capita real private consumption expenditure | -2,57  | -1,73   | 0,09    | -1,33   | -0,54   |
| Per capita real private investment              | -2,01  | -3,36   | 6,93    | -10,84  | -1,37   |
| Per capita public consumption expenditures      | -0,13  | -8,51   | -0,38   | -0,93   | -0,63   |
| Per capita public investment expenditures       | 1,05   | -20,52  | 7,74    | 3,81    | 5,97    |

*Source: Computed from the data of Table 1.2.*

Table 1.4 exhibits the shares of the various types of expenditures on GDP from 1980 until 1999. It can be seen that the shares of both consumption as well as investment in GDP have declined considerably by about 14 and 13.7 percentage points respectively in the last 20 years, while the share of net external transactions has increased by an amount almost equal to the sum of the declines in consumption and investment. This has been achieved through both an increase in the share of exports, as well as a decline in the share of imports.

**Table 1.4 Shares of expenditures on GDP (in percent)**

|                             | 1980  | 1985  | 1990/91 | 1995/96 | 1997/98 | 1999  |
|-----------------------------|-------|-------|---------|---------|---------|-------|
| Total consumption           | 96,6  | 91,4  | 96,7    | 78,4    | 74,0    | 72,6  |
| Private                     | 76,5  | 70,5  | 79,1    | 65,4    | 61,9    | 60,2  |
| Public                      | 20,1  | 20,9  | 17,6    | 13,0    | 12,1    | 12,4  |
| Gross Domestic Investment   | 36,1  | 37,8  | 23,3    | 26,2    | 23,0    | 22,4  |
| Private                     | 13,4  | 12,7  | 13,4    | 14,3    | 9,6     | 9,3   |
| Public                      | 22,7  | 25,1  | 9,9     | 11,9    | 13,4    | 13,1  |
| Net External Transactions   | -32,7 | -29,2 | -20,0   | -4,6    | 3,1     | 5,0   |
| Export of Goods & Services  | 14,0  | 14,3  | 28,0    | 31,4    | 34,0    | 36,4  |
| Imports of Goods & Services | 46,7  | 43,5  | 48,0    | 36,0    | 31,0    | 31,4  |
| Gross Domestic Product      | 100,0 | 100,0 | 100,0   | 100,0   | 100,0   | 100,0 |

Source: Computed from Central Bureau of Statistics. Statistical Abstract 2000.

Table 1.5 exhibits the allocation and growth rates of gross fixed capital formation by sector and component. The most noticeable pattern is the increase in the share of total investment allocated to mining and manufacturing, and the decline in the share of investment for dwellings. While the share of investment devoted to agriculture has increased only slightly in the past 15 years (after a major increase in the 1990-91 period), the fact that the overall share of investment in GDP has declined (re: Table 1.4) implies that the real investment in agriculture has not increased by much. In fact, the average annual growth rate of real investment in agriculture during the period 1990-99 has been the lowest of all sectors, and was negative for the period 1995-99. This is an important observation and has implications about the long-run growth performance of agriculture.

**Table 1.5 Distribution and growth of real gross fixed capital formation by sector and component**

|                                   | Distribution of gross fixed capital formation (percent of total) |         |         |         |       | Average annual growth rates (percent) |         |         |         |  |
|-----------------------------------|--|---------|---------|---------|-------|---------------------------------------|---------|---------|---------|--|
|                                   | 1985   | 1990/91 | 1995/96 | 1997/98 | 1999  | 1985-90                               | 1990-95 | 1995-99 | 1990-99 |  |
| <b>Distribution by sector</b>     |  |         |         |         |       |                                       |         |         |         |  |
| Agriculture, forestry & fisheries | 13,0   | 22,0    | 14,9    | 15,3    | 14,3  | 0,31                                  | 2,07    | -2,15   | 0,17    |  |
| Mining & manufacturing            | 18,7   | 20,7    | 28,4    | 31,2    | 30,5  | -7,46                                 | 16,26   | 1,55    | 9,48    |  |
| Transport & communication         | 11,6   | 9,1     | 13,8    | 13,9    | 17,6  | -15,97                                | 23,30   | 4,60    | 14,61   |  |
| Dwellings                         | 26,7   | 23,2    | 18,9    | 16,4    | 15,1  | -12,91                                | 7,26    | -7,13   | 0,61    |  |
| Other sectors                     | 30,1   | 25,0    | 24,1    | 23,1    | 22,4  | -13,94                                | 10,85   | -3,00   | 4,46    |  |
| TOTAL                             | 100,0  | 100,0   | 100,0   | 100,0   | 100,0 | -10,23                                | 10,96   | -1,14   | 5,41    |  |
| <b>Distribution by type</b>       |  |         |         |         |       |                                       |         |         |         |  |
| Dwellings                         | 26,7   | 23,2    | 18,9    | 16,4    | 15,1  | -12,91                                | 7,26    | -7,13   | 0,61    |  |
| Industrial & commercial buildings | 11,7   | 6,9     | 6,2     | 7,3     | 6,6   | -20,62                                | 9,08    | 2,05    | 5,90    |  |
| Construction                      | 37,5   | 24,6    | 20,6    | 26,8    | 26,3  | -18,05                                | 5,65    | 7,77    | 6,59    |  |
| Transport equipment               | 6,5  | 8,2     | 19,1    | 13,8    | 14,2  | -12,09                                | 41,40   | -9,00   | 16,25   |  |
| Machinery & other equipment       | 17,5   | 37,1    | 35,2    | 35,6    | 37,8  | 6,41                                  | 8,34    | -0,19   | 4,46    |  |
| TOTAL                             | 100,0  | 100,0   | 100,0   | 100,0   | 100,0 | -10,23                                | 10,96   | -1,14   | 5,41    |  |

Source: Computed from Central Bureau of Statistics. Statistical Abstract 2000.

Prices are difficult to monitor in Syria, as there are few relevant published statistics. The retail price index published in the CBS annual Statistical Abstract is one published index, while the GDP deflators have to be inferred from the published figures for real and nominal magnitudes. The wholesale price index, also published in the Statistical Abstract, reflects mostly public enterprise prices, and is hence not representative of prices in all the economy. Table 1.6 indicates the evolution of retail food price indices, as well as the non-food price index (estimated from the published series of the Statistical Abstract, and the average weight of food in the overall index, which is 0,596), and the estimated GDP deflators for private consumption as well as total GDP. The last column exhibits the average annual growth rate of prices in various periods during the last decade.

**Table 1.6 Retail price indices for food and non-food items, GDP deflators, and respective average annual percentage growth rates (1990=100)**

| ITEMS                                | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 1990-95 | 1995-99 | 1990-99 |
|--------------------------------------|------|------|------|------|------|------|------|---------|---------|---------|
| 1. Foodstuff                         | 126  | 145  | 155  | 169  | 173  | 169  | 162  | 9,16    | 1,11    | 5,51    |
| A- Cereals                           | 136  | 187  | 213  | 216  | 222  | 226  | 227  | 16,33   | 1,60    | 9,54    |
| B- Legumes                           | 107  | 113  | 149  | 151  | 145  | 147  | 146  | 8,30    | -0,51   | 4,29    |
| C- Meat, fish and eggs               | 130  | 139  | 141  | 149  | 149  | 145  | 140  | 7,11    | -0,18   | 3,81    |
| D- Oils                              | 129  | 130  | 136  | 181  | 180  | 177  | 159  | 6,34    | 3,98    | 5,29    |
| E- Sugar and Sweets                  | 126  | 190  | 216  | 222  | 220  | 219  | 218  | 16,65   | 0,23    | 9,05    |
| F- Milk and dairy products           | 116  | 122  | 135  | 148  | 144  | 136  | 140  | 6,19    | 0,91    | 3,81    |
| G- Vegetables                        | 105  | 154  | 138  | 138  | 178  | 165  | 140  | 6,65    | 0,36    | 3,81    |
| H- Fruit and nuts                    | 116  | 137  | 144  | 165  | 160  | 153  | 149  | 7,57    | 0,86    | 4,53    |
| I- Other food stuff                  | 124  | 135  | 147  | 169  | 170  | 169  | 166  | 8,01    | 3,09    | 5,79    |
| J- Non-alcoholic drinks              | 111  | 157  | 191  | 170  | 173  | 176  | 166  | 13,82   | -3,45   | 5,79    |
| K- Alcoholic drinks                  | 146  | 173  | 189  | 196  | 198  | 200  | 204  | 13,58   | 1,93    | 8,24    |
| L- Cigarettes and tobacco            | 147  | 178  | 207  | 212  | 212  | 212  | 212  | 15,66   | 0,60    | 8,71    |
| 2. Non-food items (implied index)    | 153  | 167  | 192  | 209  | 213  | 216  | 216  | 13,95   | 3,03    | 8,96    |
| General retail price index           | 137  | 154  | 170  | 185  | 189  | 188  | 184  | 11,20   | 2,00    | 7,01    |
| GDP deflator for private consumption | 138  | 169  | 173  | 210  | 222  | 222  | 248  | 11,59   | 9,39    | 10,60   |
| GRP deflator overall                 | 120  | 136  | 145  | 164  | 172  | 171  | 180  | 7,74    | 5,47    | 6,72    |

Source: Computed from Central Bureau of Statistics. Statistical Abstract 2000.

It can be seen from the table that there are considerable discrepancies between the published retail price index, which has grown by an average annual rate of 7.01 percent during 1990-99, and the GDP deflator for private consumption, which has grown by an annual average of 10.6 percent during the same period. 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. 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. In 1999, average incomes must have dropped because of the major drought, as indicated above. If one considers the domestic supply demand situation for food, the decline in production should have led, if incomes were unchanged, to significant rises in domestic prices. The actual decline in the price index of food suggests that the income effect of the decline of per capita incomes on demand was stronger than the price effect, leading to overall price declines. Notice, also, that there are substantial variations in annual price changes among the different types of food items, and especially so in the more recent period indicated in the table.

The estimation of implicit price deflators for different sectors allows one to estimate the domestic terms of trade between agriculture and other sectors. Table 1.7 presents estimates of the domestic terms of trade between agriculture and the main sectors with private sector activity. These terms of trade are supposed to illustrate the relative incentives afforded to various domestic sectors by the policies followed. It can be seen that until 1995, agriculture was favoured by the evolution of the domestic terms of trade. However, from 1995 onwards, the domestic terms of trade have turned against agriculture relative to almost all sectors.

**Table 1.7 Internal terms of trade between agriculture and other sectors (1995=1)**

| Agriculture versus          | 1985 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Mining & manufacturing      | 0,40 | 0,60 | 0,74 | 0,95 | 0,96 | 0,92 | 1,00 | 0,67 | 0,65 | 0,68 | 0,60 |
| Building & construction     | 1,07 | 1,01 | 1,10 | 1,05 | 0,93 | 0,88 | 1,00 | 1,02 | 1,08 | 1,02 | 1,06 |
| Wholesale and retail trade  | 0,92 | 1,02 | 1,20 | 1,08 | 0,99 | 0,97 | 1,00 | 0,97 | 0,97 | 0,95 | 0,99 |
| Transport and communication | 0,65 | 1,04 | 1,03 | 0,99 | 0,93 | 0,96 | 1,00 | 1,02 | 0,98 | 0,93 | 0,90 |
| Total non-agriculture       | 0,71 | 0,93 | 1,06 | 1,05 | 1,00 | 0,96 | 1,00 | 0,89 | 0,87 | 0,87 | 0,84 |

Source: Computed from data in Central Bureau of Statistics. Statistical Abstract 2000.

### 1.3 POPULATION, LABOUR FORCE, EMPLOYMENT AND WAGES IN THE ECONOMY AND AGRICULTURE

The estimate of the population actually living in Syria in 2000 was, according to the CBS Statistical Abstract, 16 320 thousand. However, according to civil registration records, the registered population of Syria at the start of 2000 was 17 938 thousand. This leaves an estimated 1.6 million Syrians living abroad in 1999, or 9 percent of the registered population, a very large share by international standards. Of the population living in Syria in 1999, 44.8 percent was estimated to be of age less than or equal to 14 years, and only 3 percent was older than 65 years. Of the total population 51.1 percent is female.

Labour force statistics in Syria have many definitions for similar concepts and several conflicting estimates of the same aggregates. In the sequel an attempt is made to paste together a picture based on available information.

The Statistical Abstract does not mention figures for the labour force, or employment but these can be inferred from the figures of the total governmental employment at the end of 1998 (833 981 persons), and the reported percentage of the labour force (which, in fact, must mean employment) that this accounts for in 1999, namely 26 percent. Hence, the implied labour force is 3 207 thousand. If we consider those above 15 years and less than 65, as potential members of the labour force, and this amounts to 9 202 thousand in 1999 from the figures in the Statistical Abstract, and if we add in this implied potential labour force the number of those aged less than 14 years and more than 65 years that are actually employed (and these can be estimated from the age specific activity rates and the respective population figures to be equal to 299 thousand), then the estimated potential labour force is equal to 9 500 thousand.

If we take the employment implied above and divide it by the estimated potential labour force, the implied labour force participation rate seems to be a very low 34.6 percent. The published statistics mention that the labour force participation rates (or activity rates as mentioned in the statistics) by different age classes are between 29.1 percent for those aged 15-19, rising to 59.1 percent for those aged 30-34, and then declining to 41.3 percent for those aged 60-64. This suggests an average activity rate (including the participation rates of those aged 10-14, and over 65) of about 39.1 percent, which is much higher than what is estimated in the previous paragraph. The estimates from the published statistics mentioned above would suggest a labour force of 4 702 thousand. This substantial discrepancy suggests either that the proportion of the government employees in the total labour force is overestimated, or that the published proportion includes also the employment of public enterprises.

Incidentally, the IMF in another report (IMF, 2000b) mentions that total Syrian employment is around 4.6 million, which is not far from the implied figure of the labour force from official sources of 4 702 thousand. They also mention that total public employment, including employment of public enterprises is 1 162 thousand, which is only 17.3 percent of the estimated above total employment of 4 702 thousand persons, and considerably higher than the figure of 834 000 for government employment reported officially. It is not clear whether the discrepancy is due to the different classification of public enterprise employment or to the inclusion or not of armed forces.

The relatively low labour force participation rate, by any measure, 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. However, 1999 rates 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 these latter 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 rates (which must mean 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 inferred that the total labour force employed in agriculture in 1999 was equal to 828 thousand people (114 thousand female and 704 thousand male). This amounts to 17.6 percent of the estimated above active labour force, and compares with official figures for employment in agriculture and food of 1 081 thousand in 1998 and 918 thousand people in 1991, or 28.2 percent of the total employment in 1991. The above figures are not strictly comparable as it is not clear that they measure the same thing or refer to the same sectors.

Nevertheless, the apparent significant decline of agricultural employment in 1999 compared to 1998 by 23.5 percent, 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 of agricultural wages for part of their income. Incidentally, the IMF (IMF, 2000b) estimated the employment in agriculture in 1998 at 1 233 thousand (1 200 thousand private and 33 thousand public), which is about 14 percent higher than what is estimated above, and accounts for 29 percent of the total employment.

The conflicting numbers on agricultural employment perhaps are an indication of the fact that agriculture is not always a permanent source of employment but in many cases a source of part-time employment. They may also signify that agricultural employment is highly variable depending on supply conditions in agriculture, and demand conditions in other parts of the economy.

The published statistics do not allow a classification of the labour force or population by rural and urban areas. Earlier studies (Sarris, 1995) estimated the proportion of the population living in rural areas at 49.1 percent in 1993, down from 53 percent in 1981, with annual growth rates in urban and rural areas of 4 percent and 2.7 percent respectively for the period 1981-93. Nevertheless, it is estimated that with the growing population, there are about 150 000 to 200 000 new entrants to the active labour force each year, and absorption of these is becoming an increasing problem with the slowdown of the economy.

The above statistics are only a rough indication of the actual employment situation. Many public employees have more than one job. Many more people working in agriculture are unpaid and uncounted family members. In addition,

there is seasonal migration of workers depending on the harvests, and of agricultural workers seeking casual work in the towns during the off-peak seasons. There has also been a substantial migration of people to neighbouring oil-rich Arab countries. In the mid-1990s, it was estimated that the number of Syrian nationals living abroad was about 2 million. This is higher than the 1 600 thousand Syrians estimated here to be living abroad in 1999, and may have to do with the decline in economic activity in the oil rich Arab countries during the post 1995 period. This must have had significant implications for the size of private transfers from abroad.

Private wages are related to the public sector wages. These in turn are legally mandated to increase every two years by 9 percent, and in addition, ad hoc further increases are given. In 1994 there was a 30 percent such increase, and in 2001 another 25 percent. In real terms [namely deflated by the retail price index, which in Syria is the definition of the Consumer Price Index (CPI)], average real wages of civil servants have fallen between 1992 and 1999 by 21 percent (IMF, 2000b, Table 33), at the same time that total civilian employment has risen by 13.9 percent (to an estimated 834 thousand persons in 2000). This must have led to increasing pressures on civil servants to seek additional income-earning activities.

## **1.4 THE PRODUCTIVE SECTORS**

### **a) Agriculture**

Agriculture is the largest productive sector, as seen above, and its direct and indirect impact on the economy is considerable. Syria has achieved self-sufficiency for the main agricultural products, and the Government sets procurement prices for the strategic products at prices that are deemed to be attractive to farmers. Exporters of agricultural products are allowed to retain 100 percent of their export proceeds, unlike other exporters. There was an agricultural production tax, applied to agricultural products at the processing stage at rates that ranged from 10 to 12 percent. Over the past decade a number of exemptions were introduced and the tax was finally abolished for all products in 2001. Commercial credit and inputs are provided to farmers through the Agricultural Co-operative Bank (ACB), and the state plays a significant role in setting the cropping patterns through the planning mechanism. While these policies have been successful at diversifying the production structure, and increasing production, in recent years of declining international prices they have been putting an increasing strain on the budget. Of particular importance from a macroeconomic perspective is the high level of stocks (cotton, sugar beet, and wheat), that may be placing a high cost on the budget.

### **b) Industry**

The industrial sector (comprising mining, manufacturing, and utilities) is dominated by mining, which accounts for about 60 percent of the sector's value added. Manufacturing accounts for 35 percent, and utilities for the remaining. The

**petroleum** sector boomed in the past fifteen years with oil production more than doubling between 1988 to 1993, due to discovery and production of light crude oil. In 1995, oil output was at its highest at 617,000 b/d but has been declining ever since. Syria became a net oil exporter in the late 1980s, but due to increasing domestic consumption and stagnant production, is facing the prospect of becoming a net oil importer by 2010.

Considerable recent **natural gas** finds have led to expanding production, and the construction of several plants to manufacture gas-using products, such as cement and nitrogenous fertilizer. All gas is consumed locally, with two thirds used by gas-fired power stations, and the rest as fuel in industrial plants and for fertilizer production.

In manufacturing, the main activities are based on food processing, cotton, textiles, sugar, and fertilizers. Hence agriculture is an important provider of raw materials for this sector. Manufacturing provides 15 percent of total employment (about 605 thousand jobs in 1998), and 81 percent of this is in the private sector.

### c) **Other sectors**

Construction activity boomed between 1991-1995, and slowed markedly since then. This is the result of overconstruction in the preceding years, particularly high-income housing, as a result of remittances and other foreign capital inflows, in expectation of future demand and incomes that did not materialize. As a result many buildings are vacant or unfinished in many parts of Syria. A contributor to this slowdown is the rental law, which renders it unprofitable for landlords to rent their properties, and results in many houses being empty rather than rented.

The services sector accounts for 45 percent of GDP. Thirty-eight percent of service GDP is accounted for by public sector activities, including government administration. The private services are dominated by wholesale and retail trade, as well as transport and communications.

## 1.5 **PUBLIC FINANCE**

The public sector of Syria consists of central, regional and municipal governments, a number of non-financial public enterprises, and financial institutions. The budgetary accounts consolidate the gross financial transactions of the central government with the net transactions of the regional and municipal governments, as well as the operating surpluses of some public enterprises. Military expenditures are included in the budget as current expenditures for military and security. Some significant public sector operations are not included in the budget. These include (a) the consumer subsidies effected through the Price Stabilization Fund (PSF); (b) some operations of the Public Debt Fund (PDF); and (c) borrowing by the public sector enterprises. To a large extent borrowing from the banking system finances losses of public enterprises.

Table 1.8 summarizes the fiscal operations of the Syrian Government. The following major observations can be made. First, the oil related revenues make up about 45 percent of total revenues. Second, the biggest contributor to the overall fiscal negative balance is the deficit of the PSF. Third, the bulk of the financing of the overall deficit has come from the external sector, largely through borrowing to finance development projects.

On the revenue side, of the non-oil tax revenues, taxes on business (mostly public which make up 70 percent of these taxes) make up about 32 percent of the total, taxes on wages and salaries only 6.6 percent (again these represent mostly taxes on public sector employees), and taxes on imports 16.2 percent. Export taxes are small, making up only 1.3 percent of total non-oil tax revenues. Temporary exemptions, renewed on annual basis, were introduced for fruits and, more recently, for raw and processed cotton. In 2001 the export taxes were cancelled for all agricultural products. Of the remainder, the majority comes from non-petroleum surcharges on natural gas, tobacco and construction materials, and stamp fees. The non-tax revenues consist mostly of public enterprise surpluses. Taxes related to agriculture include the unimproved land tax, the livestock tax, and the tax on agricultural products (applied at the processing stage and ranging from 10 to 12 percent). This tax has been cancelled in 2001. All these taxes accounted in 1998 for only 3.5 percent of all non-oil related tax revenues, or only 1.4 percent of all revenues.

**Table 1.8 Syria. Summary of fiscal operations 1994-99**

|                             | 1994             | 1995  | 1996  | 1997  | 1998  | 1999<br>(est.) |
|-----------------------------|------------------|-------|-------|-------|-------|----------------|
|                             | (percent of GDP) |       |       |       |       |                |
| Total revenue               | 24,1             | 25,4  | 24,6  | 26,5  | 25,7  | 24,5           |
| Oil related revenue         | 9,5              | 9,2   | 10,6  | 11,2  | 10,7  | 11,1           |
| Non-oil tax revenue         | 10,6             | 11,9  | 9,5   | 10,7  | 10,3  | 10,0           |
| Non-oil non tax revenue     | 4,0              | 4,3   | 4,4   | 4,6   | 4,7   | 3,4            |
| Total expenditure           | 27,3             | 26,7  | 24,8  | 25,6  | 26,2  | 24,9           |
| Current expenditure         | 14,5             | 14,9  | 13,4  | 13,4  | 14,4  | 14,8           |
| Development expenditure     | 12,8             | 11,9  | 11,5  | 12,1  | 11,9  | 10,1           |
| Budget balance              | -3,2             | -1,4  | -0,2  | 0,9   | -0,5  | -0,5           |
| Total financing             | 3,2              | 1,4   | 0,2   | -0,9  | 0,5   | 0,5            |
| External                    | 5,0              | 3,5   | 2,5   | 2,1   | 1,5   | 2,5            |
| Domestic bank financing net | -1,7             | -0,7  | -2,8  | -2,6  | -1,2  | -5,5           |
| Non bank financing          | -0,1             | -1,3  | 0,5   | -0,4  | 0,3   | 3,4            |
| Memorandum items            |                  |       |       |       |       |                |
| PSF deficit                 | 2,8              | 2,4   | 3,0   | 2,9   | 2,7   | 2,3            |
| Overall fiscal balance      | -6,0             | -3,8  | -3,2  | -2,0  | -3,2  | -2,8           |
| Nominal GDP (billion SP)    | 506,1            | 571,0 | 690,9 | 745,6 | 795,7 | 795,5          |

Source: IMF, 2000b.

The share of import taxes in total taxes has been declining since 1994, basically because the valuation of imports is still done at highly overvalued exchange rates. In spite of a weighted average nominal tariff rate of 35 percent, the import duties

accounted for only 2.1 percent of GDP in 1998. This is low, given that imports amounted in 1998 to about 30 percent of GDP. This suggests that there are considerable exemptions from the tariffs or that there is some tariff avoidance.

Concerning public expenditures, about 67 percent of current expenditures are for wages and salaries, of which more than half is for defense and security. Subsidies, mostly transfers to the PSF, rose from 1.5 percent of GDP in 1994 to about 3 percent of GDP in 1999. In 1997 and 1998 a large amount (about 0.6 percent of GDP) was transferred to the General Organization for Cereals Production and Trade (GOCPT) for exports of surplus wheat at world prices, which were much below prices paid to producers. Concerning development expenditures, agriculture has been receiving amounts ranging from 1.86 percent of GDP (in 1994) to 2.29 percent of GDP in 1995, and is the third-largest recipient of development funds after utilities (2.5-4.5 percent of GDP), and the social sector (2.6-2.95 percent of GDP).

The management of public finances has been conservative, and this, along with the availability of external financing, has allowed the government to reduce its domestic debt since 1994. Steady sources of financing for the government include the sale of investment certificates to the public, the build-up of household savings through deposits to the Post Office Savings Fund (POSF), and the obligation of commercial and specialized banks to invest in government paper an equivalent of 7.5 percent of their deposits.

## **1.6 THE MONETARY SECTOR AND DEVELOPMENTS**

The financial sector of Syria consists of the central bank (CeBS), one commercial bank [the Commercial Bank of Syria (CoBS)], four specialized banks [the Agricultural Co-operative Bank (ACB), the Popular Credit Bank (PCB), the Real Estate Bank (REB) and the Industrial Development Bank (IDB)], and the POSF. All financial institutions are state-owned. The ACB finances all agricultural production activities, deals directly with farmers, and organizes the distribution of inputs to farmers according to detailed plans drawn by the Ministry of Agriculture and Agrarian Reform (MAAR).

Monetary 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. The plan is implemented flexibly to allow for unforeseen developments. Instruments such as discount rates and reserve requirements have not been used in recent years. All interest rates are set administratively and have not changed for many years.

Foreign assets make up a substantial part of total monetary assets of the banking system. Claims on public enterprises are the second largest item, accounting for about 70 percent of outstanding loans. The money supply [consisting of money, (currency outside banks and demand deposits) and quasi-money)] has grown between 1994 and 1999 at an average annual rate of 9.4 percent, with the currency

outside banks growing at 6.2 percent annually. This may account partly for the inflation observed between 1995-98 (see Table 1.6).

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 Organization of Cotton Ginning and Marketing (GOCGM), and the General Organization for Cereals Trade and Processing (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 organizations. This situation implies that the marketing and price policies towards cereals and cotton, which include three of the seven strategic crops, and the corresponding marketing organizations 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 since 1995.

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 utilize their savings. These include investments in gold, investments in land, investments in agricultural operations (by the so-called "entrepreneurs," which will be analyzed in another chapter), deposits abroad, etc. This tends to deprive the economy of much needed formal capital for domestic investments. It is clear that formal private savings mobilization has still a long way to go, and substantial room to grow in Syria.

## 1.7 THE EXTERNAL SECTOR

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. While the trade balance has been positive in the last few years, the service account has been negative for a long time, and is largely counterbalanced by workers remittances. The capital account has been positive all throughout the period 1994-99, largely because of substantial receipts of short term and long term loans. Foreign direct investment (excluding the large natural gas related project in 1999) has averaged about US\$ 80 million a year since 1996.

### a) Exports

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. Other primary agricultural products (mainly lentils, raw hides and skins, wool, and tobacco) accounted for another 3.3 percent of exports. Thus, about 82 percent of total exports are accounted for by primary products, a very high ratio by world standards. Among non-primary products 7.2 percent of exports are textiles, and these in turn are based on cotton. Thus the bulk of non-oil exports is agricultural raw materials or based on agricultural inputs. Non-oil public sector exports (mainly raw cotton and miscellaneous manufactures) comprised 31 percent of total exports during 1997-99. However, in 1999 the private sector share of non-oil exports reached 80 percent.

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. These restrictions have led to substantial increases of "suitcase exports", which are personal exports allowed without restriction since 1997, and consist mostly of textile and artisan products. These have been estimated (IMF, 2000b) at around US\$ 300 million annually, equivalent to about 20 percent of non-oil exports.

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.

**b) Imports**

Imports have gradually been liberalized, 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.

Syria's **exchange rate** policy is likely to be the single most important macroeconomic policy affecting the development of the country's agricultural sector. In fact, it has the potential to counteract or overcompensate for the effects of various sector-specific policies. Therefore, an assessment of the exchange regime and the effects of various exchange rate policies are imperative.

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. For instance, imports of agricultural food staples had to be made at the market exchange rate while the total value of imports in Syrian pounds (SP) was recorded at the designated exchange rate for agricultural imports. Furthermore, the use of foreign currency has been restricted by controls (see below). 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.

As of late 2002 the multiple exchange rate system has been substantially unified, and Syrians are allowed to retain foreign currency that can be sold to the Commercial Bank of Syria, at a rate that is closely adjusting to the market rate prevailing in Lebanon.

The use of foreign currency revenues on both the import and the export side has been controlled in the 1990s. Foreign currency earning from exports, for instance, could be used either for the imports of products which are not on the list of products prohibited to be imported, or could be sold to other dealers or the Commercial Bank of Syria, or it could be saved in a foreign currency account and used later on. At the same time, an exporter was obliged to exchange 25 percent of foreign currency earnings at the official exchange rate which at SP11.25/US\$ was far below the respective black-market or neighbouring country rate during most of the 1990s and therefore constituted a clear discrimination of exporters.

On the import side, each importer had to prove that the foreign currency needed for imports was earned from exports. Another peculiarity was applied to imports of important food staples such as wheat, sugar, rice etc. While the exchange rate

The AA between Syria and the EU could be complementary with other liberalization schemes faced by Syria and push for a deep integration that includes an action programme for economic reform, and not only tariff liberalization.

However, multilateral liberalization is by no means contradictory with the regional strategy. Regarding the trade impact of the Association with the EU, several forces threaten the potential benefits for Syria to enter in a regional arrangement with the EU. Firstly, as will be seen below, the expected improvement in trade preferences of the new AA is limited, compared with the existing situation. A comprehensive multilateral reform of horticultural trade will benefit Syrian exporters, given the possible dismantling of the remaining non-tariff measures in the EU. Secondly, the multilateral reduction of tariff barriers, within the framework of the WTO negotiations, is eroding the preference margins enjoyed by developing countries in the EU markets. Erosion in preferences granted to Syria could also arise from concessions granted by the EU to developing countries, such as the AAs, the Generalized System of Preferences and the Lomé/Cotonou Agreement. EU trade measures are not static and they may change as trade agreements are renegotiated, as happened in a recent review for Tunisia (2000) and it might result from the current talks with Morocco. In one sense, Syria may gain from the multilateral liberalization while, at the same time, it pursues an integration strategy with the EU<sup>5</sup>.

Consequently, Syria might find desirable a trade strategy including the integration into the WTO as well as the signature of bilateral trade agreements. Before analysing the Association Agreement, the trade exchanges between Syria and the EU will be reviewed.

## **2.5 THE PHOTOGRAPHY OF EURO-SYRIAN TRADE RELATIONS**

### **a) Overall trade balance**

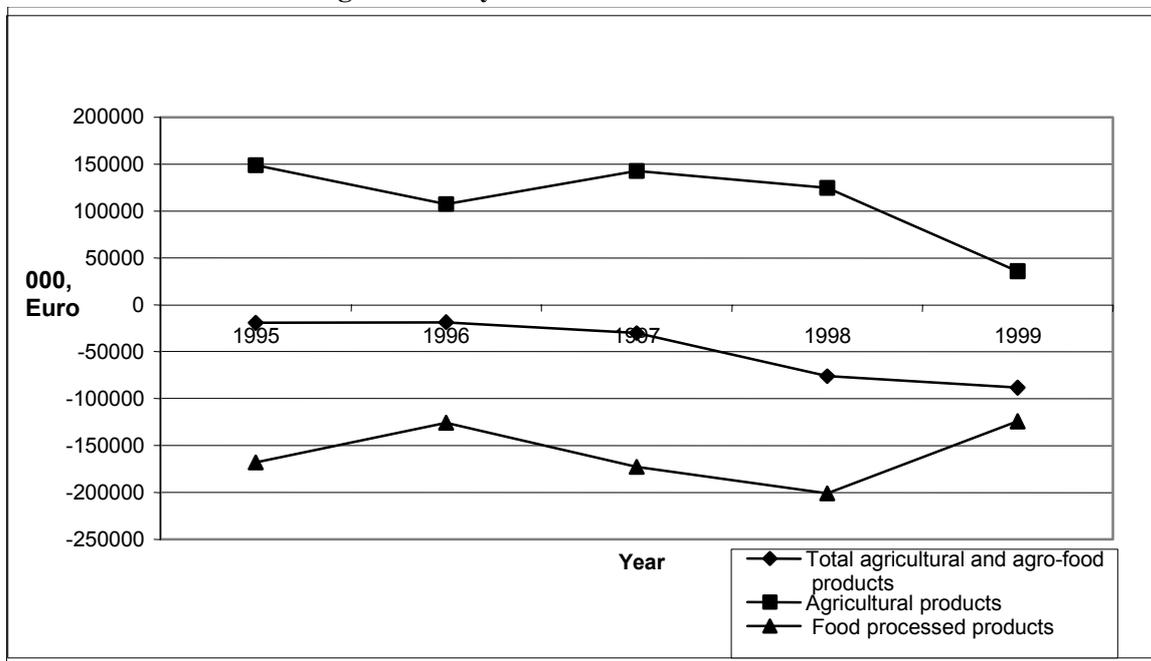
The pattern of bilateral trade between Syria and the EU is quite consistent with a “North-South” pattern of exchanges. Thus, the share of processed products in total Syrian agro-food exports to the EU is relatively low (3.6 percent as a 1997-1999 average). At the same time, the share of processed products in total Syrian agro-food imports from EU sources remains high (85.3 percent for the same period). Moreover, the EU sells more agricultural products to Syria than it buys from Syria. The total agricultural bilateral trade balance of Syria against the EU dropped from –22.5 million Euro in 1995-1997 to –64.8 million Euro in 1997-1999 (Figure 2.4). This sharp worsening of the bilateral trade balance of Syria against the EU reflected, of course, the impact of the drought suffered by Syrian agriculture during 1999. However, the Association Agreement between Syria and the EU should take into consideration the persistency of the bilateral trade deficit

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<sup>5</sup> See Yamazaki (1996) for more details on the quantification of the erosion of preferences.

with the EU, and the traditional specialization of Syria as an importer of processed (high-value) products and exporter of basic (low-value) products.

**Figure 2.4 Syrian-EU bilateral trade balance**



Source: COMEXT. Author's calculations.

### b) Syrian exports to the EU

There is a high degree of concentration of Syrian exports to the EU on a limited number of products. At the CN four digit level, in 1997-1999 five products accounted for 89.7 percent of total agricultural exports to the EU. The main developments during the second half of the 1990s are:

- (i) the concentration of exports on raw cotton (73 percent of Syrian agricultural exports to the EU);
- (ii) the boost of Syrian cotton yarn exports to the EU (from 7 million Euro, in 1995-1997, to 19 million Euro in 1997-1999);
- (iii) the general drop in traditional exports (guts and blades, raw skins, wool, olive oil, dried legumes and locust beans); and
- (iv) the emergence of Syria as an exporter of horticultural products and potatoes. Exports of potatoes grew from a share of 0.09 percent in 1995-1997 to a share of 2.8 percent in 1997-1999.

The Syrian export specialization becomes clear when it is compared to the export composition of a reference group of Mediterranean countries (Syria included)<sup>6</sup>. In the period 1997-1999, 42.7 percent of Mediterranean Countries exports to the EU were fresh fruit and vegetables (against 5.4 percent for Syria); 12.9 percent were processed horticultural products (against 0.4 percent for Syria); 7.7 percent were fats and oils (0.4 percent for Syria). Cotton exports only represented 4.7 percent (against 73 percent for Syria). In spite of the location of Syria in the Mediterranean area, and its climatic conditions for Mediterranean cultures, the country has not been able to build a more balanced structure of exports.

### c) EU exports to Syria

EU agricultural exports to Syria also show a high degree of concentration on a few products but at a lesser extent than the case of Syrian exports to the EU. The first five leading exported products from the EU to Syria accounted for 73.7 percent of total EU agricultural export value to Syria in 1997-1999. The structure of EU exports to Syria is more balanced than in the other direction: 14 products had a share over one percent of total agricultural export value from EU to Syria in 1997-1999. However, sugar accounts for about 54 percent of the EU export value to Syria. Other significant EU exports to Syria are: barley (5.8 percent), butter and other fats (5.4 percent), milk and cream (5.2 percent), flours, meals and pellets of meat (3.3 percent), seeds for sowing (3.1 percent), malt extract (3 percent), rice (1.8 percent) and potatoes for sowing (1.8 percent). Sixty-four agro-food European products showed a positive export growth to Syria between 1995-1997 and 1997-1999. Out of them, 44 were processed or semi-processed products.

## 2.6 ISSUES OF THE SYRIAN-EUROPEAN ASSOCIATION

The co-operation between the EU and Syria dates back to 1977, with the signature of the Co-operation Agreement. This provided for free access to EU markets for manufactures, for some tariff concessions for agricultural products and for financial assistance to Syria through the Financial Protocols. The Syrian European Association Agreement corresponds to a “new-generation” of agreements, launched in the Barcelona Conference in November 1995, which have taken further steps for trade liberalization on a bilateral basis. The AA is considered to be a part of the programme for long-term economic reform needed to encourage private sector exports and orient Syria towards global markets<sup>7</sup>. By the end of 2002, negotiations between Syria and the EU aiming at signing an AA were in their final stages. The economic target of this process is to create an FTA, although the AAs also refer to a number of issues that go beyond trade liberalization. The AA will also enable Syria to commit to a harmonization process of their domestic laws and standards with international rules - thereby

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<sup>6</sup> Morocco, Tunisia, Egypt, Turkey, Lebanon, Jordan, Cyprus, Libya, West Bank and Syria.

<sup>7</sup> A recent paper by Abdel Nour (2001) explains the main Syrian interests in the AA, with focus on the economic-wide impacts and the need for European assistance to facilitate the adjustment.

making it easier for Syrian producers to penetrate foreign markets. On the other hand, the EU is committed to the provision of financial assistance for the adjustment costs resulting from the free trade agreement. It is a kind of “North – South” integration that is well justified as a way of modernizing the Syrian economy and economic growth. However, the process will involve some risks for the Syrian economy. Three main sources of risks need be considered. First, the reciprocal trade liberalization; second, the fiscal losses derived from trade diversion; and third, the agricultural exclusion from the free trade arrangements.

#### **a) Reciprocity**

Trade liberalization of imports originated in the EU is a key element of the AA, not just for the agricultural sector, but also for all the Syrian productive activities. “Reciprocity” is a key word that involves the obligation of eliminating tariffs on EU manufactures, within a defined schedule of 10 to 12 years. Syrian industrial exports already have duty-free access to the EU market. Tariff dismantling on EU exports will begin once the AA is in force. The short-term impact of free trade on local industries, which have benefited from decades of protection, is not easy to anticipate. Agro-food processing has a significant weight in the manufacturing sector, particularly some products such as food processing, cotton and sugar. Some of the largest industries are public enterprises. The promised modernization by the AA will not prevent the relatively high adjustment costs likely to face the industrial sector. There are not reliable estimates on the impact of the AA on the Syrian industry and the final result will depend on the agreed schedule for tariff elimination. However, liberalization impacts could be softened if the Syrian-European AA follows a pattern similar to other AAs between the EU and Mediterranean countries. This includes: (i) an initial phase of four years in all cases with elimination of import duties on intermediary products and equipment goods, and (ii) opening up to the finished products competing with the local products. A sufficiently long transition (10 to 12 years) period will provide leeway to undertake the necessary reforms, including industrial rehabilitation.

#### **b) Trade diversion**

A second risk arises from the potential loss of public revenues derived from international trade with the EU. The preferential elimination of tariffs is likely to lead to a welfare loss from trade diversion, largely reflected in the substantial loss of tariff revenue. Abed (1998) reports that import taxes on the exchanges with the EU during 1994-1996 accounted for significant shares of the fiscal revenue in most MCs, up to 19.2 percent in Algeria, 7.9 percent in Egypt, 12.1 percent in Jordan, 28.8 percent in Lebanon, 10.3 percent in Morocco, 15.9 percent in Tunisia, but only 7.2 percent in Syria. In fact, the share of total taxes on imports has been declining in recent years, falling from 2.4 percent of GDP in 1994 to 2.0 percent of GDP in 1997-1998. The IMF attributes this development to the significant depreciation in the average effective exchange rate. The Syrian share of tariff revenues on GDP is lower than most countries that have significantly liberalized their foreign trade and reduced their tariffs (IMF, 2000).

### c) Special treatment for agriculture

The third risk originates in the special treatment given to agriculture in the AAs signed between the EU and Mediterranean partners. “Sensitive” agricultural products are usually excluded from the full liberalization schedule and market access in the EU is only limited to a progressive opening. This is a direct outcome of the present EU’s Common Agricultural Policy (CAP), which has been shaped by the interests of EU producers.

There are justified concerns in Syria that the AA might not add too much to the limited market access provided by the EU in the 1977 Cooperation Protocol (see Box 2.1). The AA will probably extend preferential agricultural trade in the form of tariff concessions, with or without quantitative limits. Agricultural preferences granted by the EU in the AAs are generally limited to fruit and vegetables, flowers, spices, wine, olive oil, durum wheat, fish and some meats, and certain processed products. For continental products like meat, dairy products and cereals, the EU applies most favoured nation (MFN) tariffs, which are prohibitive in many cases. In any case, EU tariff concessions are still far from full liberalization due to the impact of largely non-tariff measures. These include: tariff-rate quotas (TRQs); the entry price system, which acts as a minimum price; and other trade barriers such as rules of origin and tariffs on food products.

Seasonality still remains as an important factor of the horticultural trade to the EU, as entry prices and tariffs vary significantly along the year. Syrian tomatoes and citrus fruits can be cultivated along the whole year, depending on the production method (protected and field tomato), the variety and the producing region. For example, entry prices for tomatoes peak during April, when a significant EU domestic production is available, but are relatively low between May and December. Seasonality of the EU imports from third countries suggest that there are “windows” opened to Syrian products into the EU markets and that this situation will improve with the negotiation of new tariff concessions. In some markets, MCs enjoy significant market shares of the extra-EU import market, for specific seasons. That is the case of Egyptian and Moroccan potatoes (24.5 percent and 8 percent of the EU imports from January 1 to May 15); of Moroccan tomatoes (17.6 percent from December 20 to December 31). Given all these examples, Syria should also be in a position of exploiting possible “windows” to increase its exports to the EU. Of course, this brings the question on the domestic conditions that make it difficult for Syria to compete with other Mediterranean countries that enjoy similar natural conditions for the production of fruit and vegetables (see below).

As regards other trade measures, rules of origin (ROO) deserve particular attention. ROO have, of course, their logic, which is to avoid “arbitraging”, i.e. the preferred country re-exporting an imported commodity to the country granting the preference. However, the EU has very strict ROO that define degrees of “sufficient transformation” to be met for a product to be declared as “originated in country X.” Cumulating of ROO allows that some processing operations carried out in any given country of the region are counted as local content. Nevertheless,

regional cumulating to the Near East countries is conditioned by the conclusion of the free trade area among countries in the region.

As far as food products are concerned, the AA maintain the so-called “agricultural component” of the tariff for processed products, and most of the tariff concessions are granted only for the industrial component. Almost no “basic agricultural products” receive any preferential treatment because these are sensitive products in the EU (dairy products, cereals, rice and sugar). Consequently, a considerable basic component of the tariff is imposed on processed imports and it is not clear to what extent this estimated component creates tariff escalation, although it is perceived by Syrian exporters as a real obstacle to export diversification towards processed foods.

In summary, Syrian agricultural exports to the EU still face significant trade barriers. Trade preferences in the AAs tend to freeze market shares in line with traditional trade flows, and there is little leeway for exploiting the export potential of key Syrian products such as citrus, cut flowers, tomatoes and olive oil. The management of import measures usually involves “red tape” that reduces transparency and normally acts against the exporting country, taking into account that horticultural trade involves perishable products. Trade concessions and seasonality appear to make room for imports in the EU, but licensing systems and TRQs can easily neutralize the market access theoretically improved by tariff preferences<sup>8</sup>. Even with relatively small tariffs, the introduction of a licensing system becomes a psychological barrier for exporting countries (see Box 2.1).

There is also the question of possible export interests of the EU in the Syrian market. In the period 1997-1999, EU agricultural exports to Syria were significant in the case of barley and sugar, although the drought suffered by the country during the season 1998-1999 severely affected the barley culture, which is 99 percent cultivated in rain-fed areas. The EU could ask for a further opening up of Mediterranean import markets for EU grains and other food products (livestock, beef, dairy products, sugar and processed products). Market access for EU agricultural exports to other Mediterranean Countries, in the context of AAs, is improving through preferential tariffs without limits (Jordan) or through TRQs (e.g. Morocco and Tunisia). This raises the question about the possible impact of a further opening of Syrian agricultural markets to EU products.

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<sup>8</sup> See Garcia-Alvarez-Coque (2002) for a more detailed analysis of the remaining constraints applied by the EU on Mediterranean countries’ exports. See Abbot (2002) for an in depth study of TRQs operation after the conclusion of the Uruguay Round.

**Box 2.1 Previous experience with the 1977 Co-operation Agreement**

Describing the benefits for Syrian agriculture from the previous Co-operation protocol with the EU seems to be a single task. Only 13 agricultural products (at the CN six digit level) benefited from tariff concessions under the agreement. At present, seven of them have a MFN tariff equal to zero, and the remaining six with tariff preference. Out of these products, only dried onion represents a significant trade flow. It is clear that the nature of preferences have influenced the export orientation of Syria. Thus, cotton exports represent around 73 percent of total agricultural export value to the EU and the MFN tariff already applied to these exports is zero. Thus, Syrian exports to the EU have tended to adapt to the EU tariff structure and do not necessarily reflect the revealed comparative advantages of Syrian foreign exports. Product coverage or value of total exports really benefiting from preference only accounted for 3.1 percent of the Syrian agricultural export value in 1995-1997, and this proportion went down to 1 percent in 1997-1999 (Garcia-Alvarez-Coque, 2001). With the 1977 provisions, there is no point in discussing whether Syria has been able to take full advantage of the system tariff concessions granted by the EU. Simply, the system has not existed, at least for agricultural trade. Consequently, there are reasons for Syria not to be fully satisfied with the existing system of agricultural preferences.

Looking at the trade performance of the preferential products, it is striking that Syrian export value to the EU of these products was very small or insignificant. Some interviewed reported that the Syrian exporters have not made full use of trade preferences because some of the EU requirements (in particular in connection with the formal requirements of the certificate of origin called EUR1) were not properly understood by many Syrian traders. However, the poor trade performance makes us reflect about the variables, beyond tariff preferences, affecting export performance. Preferences may be a necessary, but not sufficient, condition for export growth.

A final hard experience in the last year has been the risk of anti-dumping actions taken by the EU against Syrian exports. Any surge in exports to the EU risks being accused of dumping. The EU sometimes treats the problem with the surveillance system, exporters being forced to request an import license, which is systematically delivered. For example, in April 2001, the European Commission introduced import licenses as a tool for a monitoring system. While the Commission's theoretical intention was to track the exports, the import licenses were observed in Syria as an indication that more stringent measures could be taken. The fact that Syria is not a WTO member made it difficult to find a balanced solution to the dispute. The General Organization for Textile Industry, the public holding managing the cotton production, announced its intention to lower cotton output, by paying farmers a price closer to international levels. The AA could offer a more stable trading framework. Provisions are made for a conciliation procedure and that "priority must be given to measures that least disturb the functioning of the Agreement" (Article 24 of the AA between the EU and Egypt).

## **2.7 ISSUES OF THE SYRIAN TRADE REFORM**

Trade policies in Syria will have to adapt to a more open environment, framed by multilateral and bilateral agreements. Three areas require special attention during the reform process: (i) border protection and its coherence with domestic interventions; (ii) the links between trade and investment; and (iii) domestic factors influencing export competitiveness.

### **a) Border protection and its coherence with domestic interventions**

Reform of trade policies will require some time of preparation (the time until the entry in force of the AA might provide some space for adaptation). Discussions have taken place in Syria on the schedule for elimination of the import ban list. Five years after the conclusion of the AA is the period normally suggested by Syrian committees and working groups in charge of studying the consequences of the AA. What has to be clarified is the way the removal of the import ban list will take place for a number of agricultural or agro-food products. A possible transition could envisage the phasing out of the import ban list through the implementation of tariffs and a moderate tariff reduction on EU products within defined quantitative limits or TRQs. It is worth noting that many countries that have faced agricultural trade liberalization have started with a reform of the policy instruments, leading to a tariffication of border measures (e.g. the case of WTO members). Tariff reductions have often come as a second priority, after the full tariffication has been adopted. What has to be stressed here is that both the AA and the WTO memberships would allow leeway for Syria to apply a large range of trade policies and degrees of border protection. It is more a question of choice of trade instruments than a question of degree of support to the agricultural sector.

However, coherence between trade and price policies will be an issue for the domestic administration of the transitional period, under the AA. A further opening of the Syrian foreign markets should maintain consistency with the price regulations in force. Import prices might not be consistent with the public price guidelines and any decrease of import price could create an increasing burden on public budget. This may be the case for some of the strategic crops for which procurement prices have been above the corresponding international parity prices.

Table 2.2 illustrates the need for consistency between domestic and foreign policies. Westlake's study (2000) provided detailed information in order to account for all the adjustments needed to make international and farm-gate prices comparable. In our case, unit values of French exports to intra-EU destinations were taken to define a proxy of the highest price for which French exports can be carried out, taking into account that the domestic "intra-EU" market is still protected by the EU border measures and price regulations. Comparison between the three first rows in Table 2.2 indicate that for cereals, French farm-gate prices are close to the unit value of French intra-EU exports, and also to the Syrian import parity price (international price, at the farm-gate level, extracted from the Westlake's study). In fact, the EU is intending to export cereals in the future without the support of export subsidies, which will probably be possible with the

programme of reforms initiated by the Agenda 2000 and the Mid-Term Review proposals, presented by the EU Commission in July 2002.

The last two rows in Table 2.2 supply ratios between:

- Unit values of French exports (adjusted to make them comparable with the farm-gate level in Syria) and Syrian farm-gate prices (official prices). That yields the ratio a/b; and
- French farm-gate prices and Syrian farm-gate prices. That yields the ratio c/b.

The Table's results suggest that France has a price advantage in both kinds of wheat (soft and hard). In barley, Syrian prices are close to parity, and this fact balances the competitive position of both countries, although farm-gate prices are relatively low in France and this could allow France to export barley at a price close to parity. Therefore, the price comparisons suggest that the improvement of market access for EU exports to Syria should be managed with care. Of course, this does not mean that those products should be kept as a part of a Syrian import ban list. They could rather be fully tariffed and subjected to a schedule of tariff liberalization, with the help of TRQs, which could be progressively wider.

**Table 2.2 Price comparison between French and Syrian prices of selected cereals (\*)**

|   | Soft Wheat | Hard Wheat | Barley |
|---|------------|------------|--------|
| French farm-gate price (ECU/MT) /c              | 104        | 124        | 99     |
| French intra-EU export unit value /f (EUR/MT)   | 126        | 149        | 138    |
| Syrian import parity price (ECU/MT)             | 122        | 135        | 137    |
| Adjustment /e (**) EUR/MT                       | 14.4       | 11.5       | 31     |
| Adjusted French unit value / a = e + f (EUR/MT) | 140.4      | 160.5      | 169    |
| Syrian farm-gate price (SP/MT)                  | 10 800     | 11 800     | 7 500  |
| Syrian farm-gate price (EUR/MT) /b              | 203        | 221        | 141    |
| <b>Ratio French to Syrian prices</b>            |            |            |        |
| Ratio a/b                                       | 0.69       | 0.73       | 1.20   |
| Ratio c/b                                       | 0.51       | 0.56       | 0.70   |

(\*) Prices correspond to 1999; (\*\*) Net adjustment to make farm-gate prices comparable with import prices.

Source: Farm-gate prices are taken from New Cronos database (Eurostat); intra-EU export unit values are calculated from data extracted from COMEXT database. Syrian prices and costs are extracted and elaborated from Annex Tables 3.2, 3.3, 3.5 and 3.9, in Westlake (2000). Prices and costs in SP/MT are converted into EUR/MT by using the following exchange rates: SP/US\$ = 50; US\$/EUR = 1.06578, corresponding to the 1999 average.

The progressive opening of Syrian markets could offer some opportunities for a further deepening of the price policy reform in Syria. A gradual opening of foreign markets, as suggested in the last pages, would not force a dramatic

dismantling of the regulating role of the Syrian State. Official procurement prices have not been subjected to significant changes since 1996, and there is a declared intention to reduce the number of commodities classified as strategic. However, the producer prices should be put more in line with international parity prices, in order to reduce the burden on the budget and to improve competitiveness in a more open trading environment. The generalized subsidy on wheat has been the largest expenditure item within the Price Stabilization Fund (PSF) amounting to 3.8 percent of GDP in 1999, reflecting the differences between the farm prices of wheat and the flour sold to bakeries. The opening of the agricultural import markets should be then accompanied by a number of actions addressed to bring more flexibility to the domestic price system. Intervention prices would have to play a role more like a “safety net” than a direct orientation for the resource allocation in the agricultural sector. Lower import prices, under a gradual opening of the Syrian agricultural markets, would help to keep consumer prices down and to counteract the inflating effects of a devaluation of the exchange rates used for custom valuing. The public savings in the agricultural reform could help the government implement measures to alleviate local impact on rural areas, if possible within development programs and the EU assistance.

#### **b) Understanding links between FDI and trade**

The signature of international agreements should contribute to enhance incentives for increased foreign direct investment (FDI) in Syria. Given the importance of agriculture in Syria, including agricultural trade in the multilateral and bilateral agreements, becomes crucial to create opportunities for private investment. Potentially, the Syrian “assets” for attracting foreign capital are the appropriate natural conditions for the culture of Mediterranean products, relatively low labour costs, and relative proximity to Europe and the Arab countries. Available information does not report on significant European investments in Syrian agriculture and agribusiness. Many interviewed stakeholders referred to the Nestle food processing facility as the “European” exception that confirmed the rule. However, things seem to be moving slowly to the preparation of investment plans of European companies, some of them in process of execution, in particular in the olive oil sector.

Of course, the lack of expectations imposed by the limited access for Syrian products to the EU markets may provide an explanation for the little European investment in Syrian agricultural and food industries. Increased market access in the EU for a large number of products would become a right sign to guide future investments in the future. EU investments could be based on the potential for a large regional market (including intra-Arab integration), and not on the high protection of the domestic market, as has been the case of some US firms which have licensed products for Syrian production, such a fruit juice, fertilizer and pesticide.

However, not all the responsibility for the lack of European investment can be attributed to the closeness of the EU agricultural markets to foreign products. In recent years, diminished foreign aid, drought, and regional recession have hurt the

Syrian economy. Furthermore, an uncertain Middle East peace process has surely influenced the investor's confidence.

Some important elements of the Syrian reform program directly affect foreign investment (Maletta, 2001). These include the provision of fiscal incentives to private investors (Law n° 10 of 1991, and its amendment Decree n° 7 of 2000); exchange rate simplification with a progressive shift to a fewer and more depreciate exchange rates; opening of previously monopolized sector to the private initiative; export tax elimination; and import measures liberalized. Foreign investment will be facilitated with the now open possibility, after Decree n° 7 of 2000, that a company may be 100 percent foreign-owned, and the owners may be allowed to specify their own company laws, and assign their own management. This will open the door not only to the penetration of European companies, but also to the possibility of joint ventures with Arab capitals.

There is also the question of the general climate of the Syrian economy to attract FDI. The absence of organized capital, foreign exchange, and financial markets continues to be an important impediment to private investment, both domestic and foreign. The systematic overvaluation of the official rates, the complication of the system and the constraints to currency convertibility do not help to attract foreign investors. The private sector has had no access to official foreign reserves since 1984. All foreign exchange operations must be generated from company exports and transacted through the investor's foreign exchange account at the Commercial Bank of Syria. Except for transfers made under the 1991 Investment Law No. 10 and 2000 Decree 7, capital outflow is absolutely prohibited. Investors authorized under these laws may repatriate their capital or transfer their profits, but the hard currency must then be generated from export proceeds. Foreign companies operating outside the two investment laws may transfer capital only in accordance with special agreements, usually in the form of a presidential decree, which allow their operation in Syria. All Syrian banks are government-owned and offer only rudimentary banking services. In June 2000, the Syrian government took a further step toward financial modernization, permitting the operation of private foreign banks in Syria's free zones. Another step is the recently passed Law N° 28 of 2001, to allow the opening the activities of private banks in Syria. However, Government plans foresee certain limits to the participation of foreign investors and to the exercise of commercial and industrial activities by the authorized banks.

Syrian Government has declared its intentions for removing the remaining constraints on foreign investment, including further steps to liberalize the current exchange rate regulations. While the direction of the reforms seems right, their speed must accelerate for Syria to take full advantage of the trade agreements. Full currency convertibility is needed to attract EU firms interested not only in performing exporting activities, but also in obtaining profits from sales of goods and services at the Syrian domestic market. Wholesale traders and retail distribution in Europe, and even small and medium enterprises, could be interested in setting branches in Syria, which could improve the efficiency of the Syrian marketing system. Reports on the food distribution in Europe do not show

significant negative impacts on employment, while the coexistence of big distribution firms with modern wholesale markets and specialized small and medium enterprises is still possible.

### **c) Removing constraints to export activities**

At the farm gate level, Syrian production shows cost advantage for horticultural products, especially for some seasons of the year. Thus, Syrian potatoes addressed to Germany, mainly of the Nicola and Diamond varieties, already take a significant market share during January when wholesale prices are high during few weeks. By contrast, studies on the Syrian olive oil market (Malevolti, 1999) have stressed the relatively high prices of Syrian olive oils, and their high production costs, compared with those of Syria's direct competitors in the Mediterranean (Turkey, Tunisia and Morocco). However, the fact that the Syrian domestic market keeps being considered by the farmers and oil producers as a «safe shelter» against foreign competition, does not help to promote price competitiveness (SEBC, 1998, p. 73).

Moreover, farm cost advantage is not sufficient for the export success. In fact, assessing foreign competitiveness means to take into account non-price factors, related to quality standards, grading, marketing organization and human skills. This is particularly important if an improvement of Syrian exports to EU markets is pursued. Studies undertaken under the GCP/SYR/006/ITA project, suggest that most of the fruit and vegetable exports by Syria, mainly addressed to Gulf countries, are mostly sold under consignment, and they normally lack regularity and volume. In the short term, this export behaviour does not suit to the EU markets. International competitiveness is also influenced by the availability of an efficient marketing system, and by harvest and post-harvest technologies, refrigerated facilities and transport to the main markets. Present studies in Syria suggest that transport and marketing costs of fruit and vegetables represent a heavy constraint, mainly to the EU destination. According to a study carried out by the Syrian European Business Centre (SEBC, 2000), the costs of delivery from a packhouse in Syria to the international markets (including trading commissions, transport and other marketing costs) may account for very high percentages of the international wholesale market price, up to: 45 percent for oranges, 69 percent for stone fruit, 51 percent for vegetables, and 42 percent for potatoes. With growing concentration at the retail distribution in Europe, the Syrian exporter could still aim at targeting traditional outlets, such as wholesale markets. But this strategy, mainly based on a price advantage, has its limits.

In addition, exporters have to satisfy the specifications laid down by the distribution firms. That means responding to constraints as to quantity and quality, processing and services imposed by the purchaser. Syrian horticultural production for export to the EU has to comply with environmental regulations and standards required by the distribution firms. As regards the quality of citrus sent to foreign markets, the reputation of Syrian citrus has improved during the last years due to an increase in biological control, post-harvest preparation and waxing. A wider

access to the EU could create the right incentives for further implementation of grades and standards accepted in the EU markets.

The opening of agricultural and agro-food markets in Syria would also promote the price competitiveness of some products with export potential, such as processed fruit and vegetables, olive oil and cotton. Domestic prices of cotton delivered to domestic spinning plants are 30 percent above international prices, which has negatively influenced the competitiveness of Syrian textile industry. Olive oil and cotton should gain price competitiveness in order to increase their position in foreign markets. This also leads to the need for facilitating an adequate environment for private and foreign investments in agriculture, in particular in the cotton sector, where private investment is still restricted for some operations.

## **2.8 CONCLUDING REMARKS**

The present chapter has underlined the crucial moment faced by the Syrian agricultural sector, with regard to trade liberalization. In fact, the Syrian position is motivating for trade researchers, given three facts: (i) the relatively high degree of trade intervention that still characterizes Syrian agricultural policies; (ii) the declared willingness of the Government to opening the Syrian economy; (iii) the mixed strategy of Syria, which combines the regional integration (with Arab countries and with the EU) with the insertion in the multilateral trading system.

A first assessment of the potential of Syrian agricultural trade invites moderate optimism. Low labor costs, comparative advantage in Mediterranean crops and advantageous geographical location, conform a good basis for the future. However, for this potential to become a reality, the agricultural sector should benefit from the reform process of the Syrian economy. A quick assessment of the regional integration with the EU suggests that the AA would involve some efficiency gains by decreasing the import costs of equipment. There are risks, of course, but with a long transition period (10-12 years), the Syrian manufacturing and agro-food sectors could soften the adjustment costs and maintain effective protection. A scheme of deep regional integration with the EU would assist the modernization of the Syrian economy, with relatively low social costs. However, long transition does not mean an argument to slow down the path of policy reform. It is clear that a reform of trade practices, in line to the WTO rules, would be needed to ease the regional integration with other Arab countries and with the EU, and to introduce transparency in agricultural trade. A reform of policy instruments, leading to a full tariffication of border measures, could be undertaken. The opening of the agricultural import markets should be accompanied by a number of actions addressed to bring more flexibility to the domestic pricing system, more in line with a market economy. The gradual but progressive trade liberalization would also be a way of promoting price competitiveness of Syrian products, also for those with export potential, such as processed fruit and vegetables and cotton.

Increased market access in the EU and the progressive intra-Arab integration are crucial for transforming Syria in an appealing destination of FDI. However, this could be complemented by the continuation of the process of economic reforms in Syria, including the banking system, the currency regulations, the movement of capitals and the administrative procedures for foreign commercial transactions. While the current direction of the reforms seems to be right, their timetable should be clearly defined and speeded. The Euro-Syrian joint ventures in the agricultural sector will surely react positively to the removal of existing constraints to FDI. The AA includes a series of provisions establishing clear commitments for economic reform, which represent an “intangible” asset of the Syrian-European co-operation. However, the actual rate of reforms, independently of the multilateral and bilateral choices taken by Syria, will remain a Syrian responsibility.

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## **Chapter 3**

# **Private Investment in Syrian Agriculture and Agribusiness**

*by*  
*Hector Maletta*

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**CHAPTER 3**

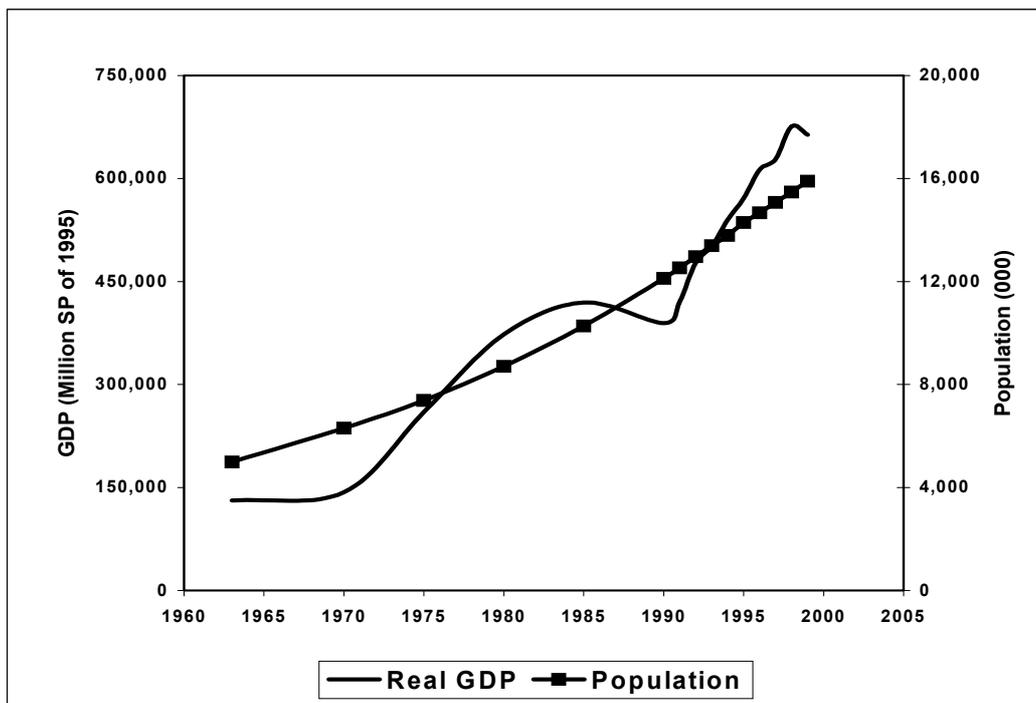
**Private Investment in Syrian Agriculture  
and Agribusiness**

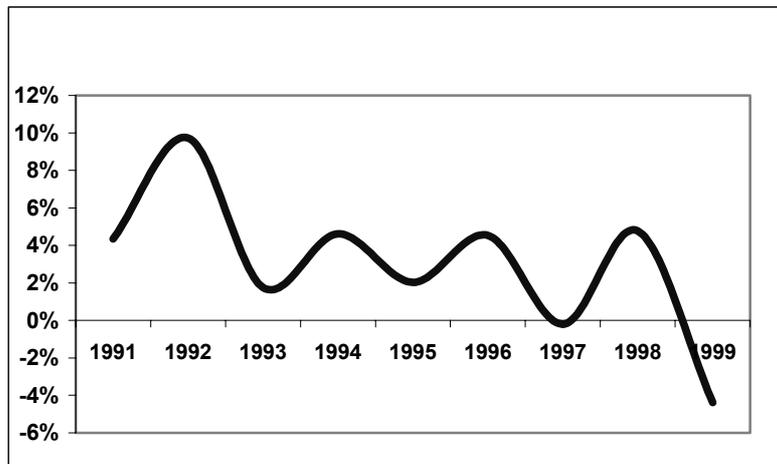
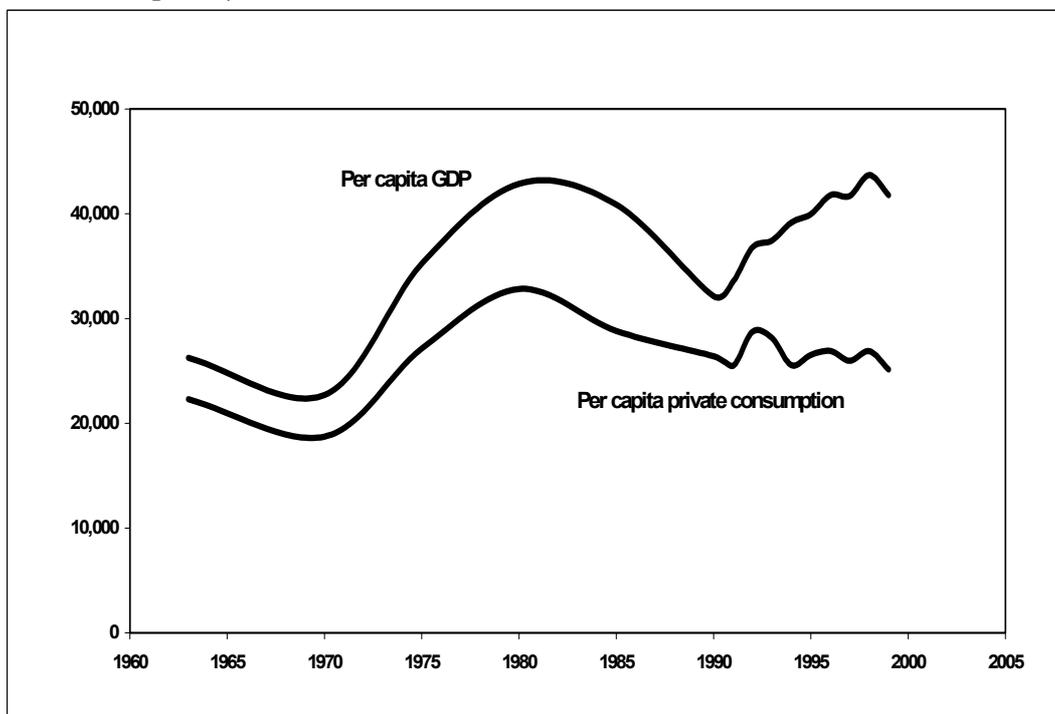
*by Hector Maletta*

**3.1 GROWTH AND STAGNATION IN SYRIAN AGRICULTURE**

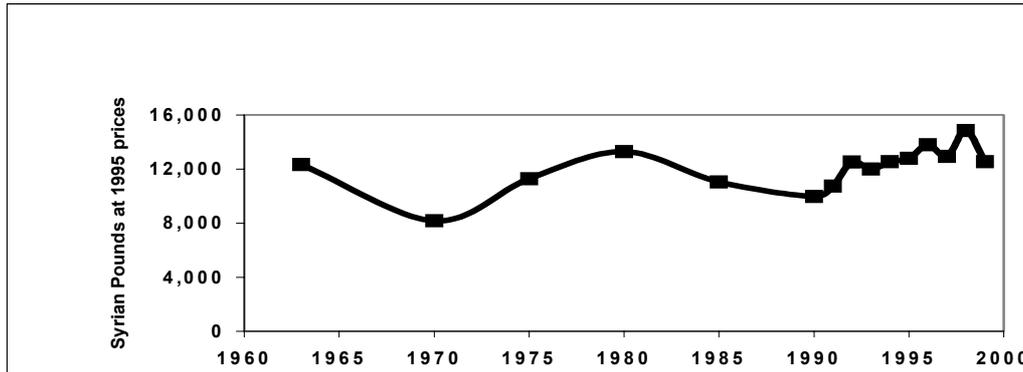
During the last four decades economic growth in Syria has advanced at a rate of 4.6 percent per year on average (between endpoints of the 1963-1999 period). This is a good rate of growth in the long term for many countries. Unfortunately, the growth in population in Syria is also quite high (3.3 percent average over the same period). Growth has accompanied the rapid growth in population, which is a real achievement, but per capita income has remained stagnant in the long-term, alternating ups and downs. The economy has progressed on a cyclical pattern of periods of rapid growth followed by periods of stagnation or decline. The 1990s have been a period of growth, but a decreasing rate, and not strong enough to go beyond the per capita product of 1980, and several factors constrain the continuation of the growth trend in subsequent years. The growth of agricultural production has followed a similar path.

**Figure 3.1 Population and GDP in Syria, 1965-2000**



**Figure 3.2 Per capita GDP: Annual growth rate, 1990-1999****Figure 3.3 Per capita GDP and private consumption (Syrian Pounds at 1995 prices)**

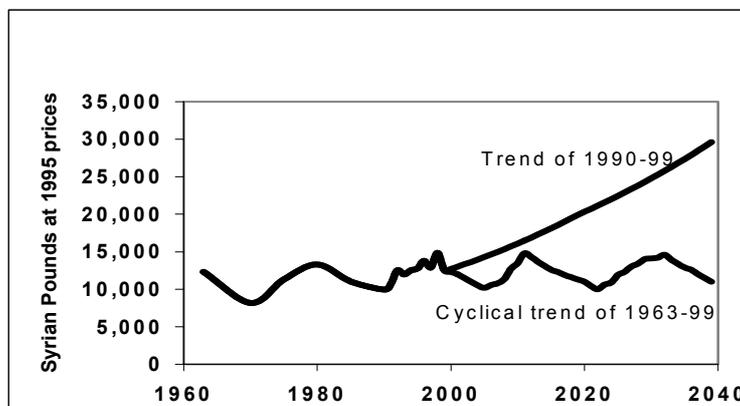
**Figure 3.4 Real agricultural GDP per capita**



Growth in Syria, both in general and in agriculture, has shown a markedly cyclical path along the past forty years. Periods of growth, such as before 1963 and in the 1970s, have been checked by large increases in foreign-trade deficit, forcing an adjustment and leading to a period of declining per capita growth, as happened in the early 1980s.

After the long decline of the 1980s, growth in per capita gross domestic product (GDP) and per capita agricultural GDP during the 1990s has been encouraging. The linear trend of the decade indicates a rate of agricultural growth per capita of 2.4 percent per year, and more than 5 percent in total agricultural GDP. In two good years (1996 and 1998) per capita agricultural GDP has actually been slightly above the level of 1980. But the performance of the 1990s has not been enough to overcome the long-term stagnation: the average level of per capita agricultural product in 1996-1999 is about the same prevailing in 1980 or 1963. The agricultural sector seems to be struggling to run fast, just to stay in the same place. Whether the future will show a new oscillation or sustained growth, taking off in per capita terms also, will depend on policies adopted now and in the coming years. The same is valid for overall GDP growth.

**Figure 3.5 The future of agricultural GDP per capita: stagnation or take off**



There are, in fact, grounds for doubt about the possibility of maintaining or increasing the level of per capita growth in the immediate future, unless some more fundamental changes occur in the agricultural sector and the macroeconomic system. The main constraint limiting agricultural growth is water, but also the general economic scenario. Regarding agricultural production and the water supply, it is evident that water utilization is already dangerously above the recommended levels, and thus an extensive expansion of production based on enlarging the irrigated areas would not be feasible or sustainable. The only way is to increase the productivity of water, i.e. economizing on water per hectare, increasing yields per hectare, and shifting to more profitable crops to make better use of the scarce water available. As these objectives require substantial and sustained private investment, changes in the economic scenario are required to make those investments more attractive.

Irrigating more hectares with less water and increasing the yields and the economic returns of irrigated crops are imperative challenges for Syrian agriculture in the 21<sup>st</sup> Century. Such developments will not be achieved without a vigorous increase in private investment both in agriculture itself and in related agro-industries. And such flows of private investment will not occur without further economic reforms.

Since the 1980s, piecemeal reforms were gradually introduced in macroeconomic policy, without altering much the overall macro scenario, and joint ventures with foreign investors where undertaken, chiefly in the hotel sector. In the 1990s, while macro policy innovations were somewhat expanded, new and specifically pro-investment legislation allowed and encouraged private investment in agriculture, industry and transportation. Under such a regime, more than 1 600 projects have been approved, though not all have been implemented yet. However, the implementation of one-third of the projects in the industrial sector, including more than 250 in the agribusiness sector, has implied a number of positive impacts. The projects have increased total investment, have contributed to the balance of payments and to the trade balance, and have increased production and exports, especially in the agribusiness sector. Impact on employment, however, has been generally very low, though somewhat more significant in the case of agro-industry, because of its lower capital intensity as compared with other sectors, and because of the strong positive backward linkage of agribusiness with agricultural employment.

Apart from direct promotion policies giving investors tax holidays and other advantages, there has been a sustained tendency to liberalize the economy after several decades of rigid central planning. This process, initiated timidly in the 1980s, and continued during the early 1990s, suffered a deceleration from about 1993 to 1999, but has accelerated lately with new laws authorizing private banking and other significant measures to improve the macro environment for private investment. However welcome these developments are, much remains to be done.

### **3.2 PRIVATE INVESTMENT PROMOTION IN THE 1990s**

After some legislation allowed for joint-ventures and other limited private investments in the 1980s, the first real attempt to foster private investment was Law No.10 of 1991 and its attendant Decree 7/91 containing operational details about the implementation of the Law. More recently, Decree 7/2000 has partially modified the regime established in 1991.

Law 10/91 applies to private investment projects in agriculture, manufacturing and transportation. So far, farming projects have been exceptional, and mostly linked to some related investment in the processing of agricultural products. However, a substantial number of projects dealt with agro-industry. Projects eligible under Law No.10 should involve investments of at least ten million Syrian Pounds (about US\$200 000). Granting benefits to specific projects rests on the Investment Council, a body formed by several Cabinet Ministers, and the selection process is the responsibility of the Investment Office, a technical body acting under the President of the Council of Ministers.

Approved projects enjoy several benefits. All equipment needed for the project can be imported duty-free, and the project is granted a tax holiday of five years (extendable for a few more years under special circumstances) covering income tax and real estate tax. Also, the company may open a foreign currency account at the Commercial Bank of Syria, though no provisions are made for the company to be able to buy foreign currency with Syrian funds.

Law No.10 allows for foreign capital repatriation and profit remittances. It authorizes non-resident investors to transfer abroad (after at least five years of commencement of operation) their capital invested in the project, on the basis of the project net worth but not exceeding the original amount of the investment brought from abroad. They are thus not authorized to transfer abroad any capital accumulated through reinvestment or otherwise not brought to the country from abroad (this significant limitation was later relaxed by Decree 7/2000). The Law also authorizes the transfer abroad of interest and profit accruing from the investment of foreign capital.

Decree 7 of 2000 corrects some shortcomings of the 1991 legislation that had become evident during the subsequent years. Investments were given a guarantee of no confiscation or expropriation, and also, they were given the right to sell their land rights and all constructions thereon, thus permitting investors to recover their investment in infrastructure in case they decide to sell or liquidate their company. The new decree also established stronger legal protection for investors, e.g. giving them the right of appeal before the Arab Investment Court or any other international jurisdiction arising from agreements signed between Syria and the country of the investor.

### **3.3 THE MACROECONOMIC ENVIRONMENT FOR INVESTMENT**

#### **a) The planning system**

During the 1960s and 1970s, Syria became a centrally planned economy. While certain private companies, established much before, remained in operation, most key aspects of the economy were firmly in the hands of the State. The main sector that remained private was farming, but even micro-economic farming decisions, in a wide variety of “strategic” crops, were dependent on the local implementation of national production plans. Farmers were assigned short-term credit in cash and kind, enabling them to plant specified amounts of land with specified crops, and the product was to be sold to specific state companies for processing and marketing. Most of these regulations have been gradually relaxed since the economic crisis of the early 1980s, and especially during the 1990s, but some still remain in place.

All investment projects that look for the benefits granted under Law No.10 must be authorized by the concerned Ministries, certifying that they are in agreement with the National Development Plan. This is often a formality, but in some cases authorization has been delayed or denied because the new project somehow was perceived as unwanted competition for state-owned companies.

The most important and relevant impact of the planning system on private investment is the fact that a large portion of the economic activity has been for many years under strict planning and reserved to the state sector, thus in effect precluding any private investment. Many such restricted sectors still exist at the moment, including purchasing, processing and marketing strategic crops, which directly affects agribusiness. For instance, a cereal milling company can only operate as an outsource for the state company that has a monopoly of milling operations.

Another very important impact is that most prices are based on compulsory or indicative official prices set by the public sector. Even the indicative prices are in effect almost compulsory because many traders, farmers or other agents take them as their base price and do not alter them easily or very often. Apart from being fixed and sometimes involving an implicit tax or subsidy, the official prices are usually the same for all varieties and qualities of the product, and thus do not permit the development of finer grading of the products or the establishment of much-needed standards of quality. Insofar as the rigid price system is in place, little can be done to develop in Syria a more adequate system of quality standards and thus help introduce Syrian products in world markets. Under the present system, such improvements are to be introduced by the companies themselves on a one-by-one basis, and they often cannot obtain raw materials of the required quality because the price system is not discriminative enough to reward higher quality with a higher price.

Also, even for prices that are theoretically free, authorization must be sought from the government to change the price of the product (either to raise it or to lower it).

The license to adjust prices is presently granted easily, but it could in theory be denied. Many companies resort to "special promotion" or "special discount" schemes to sidestep the requirement of governmental authorization for price decisions.

#### **b) The monetary and banking systems**

The banking system in Syria is still characterised by features fairly different from those generally found in market economies. Its most salient characteristic is its public ownership. Despite the recent introduction of legislation to allow for private banks, until the time of writing the entire banking system is state-owned. The present condition of the state-owned banks is unsuitable to serve as a conduit of private business. Much is to be done to improve the efficiency of the public-sector banks, if they are to have any participation in fulfilling the financial needs of the private sector.

Besides, much of banking credit is taken by the public sector. The share of private borrowers on total credit has been increasing, but still now more than two-thirds of the available funds are allocated to the public sector. Most public corporations borrow from the Commercial Bank of Syria. More than 90 percent of credit to the public sector, and nearly two-thirds of total credit, goes to the state-owned organizations in charge of purchasing and marketing cereals and cotton. Thus, in effect, the intervention of the public sector to control and subsidize strategic crops creates a crowding-out effect in the entire financial system.

Interest rates are administratively set by the Government and have remained unchanged for years, in spite of changing levels of inflation. In fact, the decline in inflation and the period of deflation in recent times meant that real interest rates have gone up. The lending rates for private sector borrowing are 7.5 percent to 9 percent, which, for instance, in 1999 implied a real rate of 9.6 percent to 11.1 percent, given a deflation rate of 2.1 percent (consumer prices).

Spreads between active and passive rates are small, about 1 percent, meaning that banks cannot adequately cover their operation costs, which are difficult to assess precisely but should be higher than that small spread. This is a further factor reducing the banks' ability to improve their administrative efficiency. Apart from detracting from the banks' profitability and requiring support from the public budget to keep the banks functioning, much of the real consequences of this deficit in covering administrative costs is borne by customers in the form of delays and difficulties in banking operations, and acts as a drag in the overall efficiency of the economic system.

Besides the authorization for private banks to operate, other reforms are pending regarding monetary policy and foreign exchange. The most significant one is an adequate and updated legislation about Central Bank functions and autonomy, and most crucially about bank oversight and regulation. More adequate and transparent norms and practices to conduct monetary policy are also still absent.

### **c) The foreign exchange system**

Foreign exchange has been tightly regulated for decades. Holding or exchanging foreign currency has been considered a crime punishable with prison. Liberalization of the foreign exchange market has also been gradually taking place, but it still remains partial and the procedures cumbersome. Holding foreign currency is no longer a crime, but dealing in foreign currency is still punishable with prison. In particular, private companies have no legal access to foreign currency unless they bring it from abroad or buy it at the export proceedings market. This has been a problem for companies that cater to the domestic market, especially when the export proceedings market had a rate of exchange below the rate applicable for imports (this problem have been recently made less relevant as the gap between the two rates narrowed). In 2001 the Commercial Bank of Syria was authorized to buy and sell foreign currency at market rates for personal (mostly tourism and remittance) purposes, but not yet for business purposes.

Thus the overall economic environment in which private investors operate has been changing in the direction of a more liberal system during the last ten years or more. But many features of the old centrally planned, state-led system remain in place. A decision to create a stock market was taken nine years ago, but it has not yet been implemented. Procedures related to business and trade remain complicated and uncertain, which creates many delays and difficulties, and creates incentives to proceed through informal channels when possible. The general picture is of a very rigid system on its way to gradually becoming friendlier to private investment. However, the process of liberalization has not proceeded at a constant pace. The liberalization process that started in 1991 with the investment law and other measures, has not advanced at a steady pace. Measures have been adopted piecemeal, with advances in one area checked by failure to advance in others. After a decade, several key pieces of economic reform are still pending. As a result, private investment has been largely dependent on the short-term incentives given by the Investment Law, and not on long-term growth expectations based on a stable set of rules of the game.

### **3.4 TRENDS IN AGRIBUSINESS INVESTMENT, 1991-2000**

From late 1991 to December 1999, the Investment Council approved a total of 1 613 investment projects in all sectors. The rate of approval of projects in this period was of about 16 projects per monthly session of the Council. The total approved investment was SP352.7 billion, roughly equivalent to 7.67 billion dollars (the official rate of SP46 per dollar is used for this conversion). As the figure covers little more than eight effective years (the Investment Law was promulgated in mid-1991), this implies an average committed investment of US\$0.95 billion per year. On an average GDP of about US\$13 billion in the period, it would amount (if materialized) to some 8 percent of GDP per year. The evolution of approvals over time is showed in the following table.

**Table 3.1 Projects approved and capital committed by sector, 1991-1999**

|       | Projects     |          |                 |       | Capital committed in billion SP |          |                 |       |
|-------|--------------|----------|-----------------|-------|---------------------------------|----------|-----------------|-------|
|       | Agri-culture | Industry | Transp. & other | Total | Agri-culture                    | Industry | Transp. & other | Total |
| 1991  |              | 63       | 40              | 103   | 0.0                             | 13.2     | 5.5             | 18.7  |
| 1992  |              | 106      | 158             | 264   | 0.0                             | 16.5     | 14.0            | 30.5  |
| 1993  |              | 113      | 45              | 158   | 0.0                             | 19.0     | 4.7             | 23.7  |
| 1994  | 7            | 146      | 53              | 206   | 0.7                             | 77.5     | 1.6             | 79.8  |
| 1995  | 16           | 81       | 65              | 162   | 2.9                             | 40.4     | 13.0            | 56.3  |
| 1996  | 11           | 82       | 116             | 209   | 1.6                             | 60.6     | 3.7             | 65.9  |
| 1997  | 5            | 73       | 95              | 173   | 0.6                             | 33.5     | 2.8             | 36.9  |
| 1998  | 13           | 40       | 160             | 213   | 4.0                             | 15.9     | 2.5             | 22.4  |
| 1999  | 4            | 42       | 79              | 125   | 0.7                             | 22.6     | -4.8            | 18.5  |
| Total | 56           | 746      | 811             | 1613  | 10.5                            | 299.2    | 43.0            | 352.7 |

Note: In 1999 a number of transportation projects were cancelled or adjusted, resulting in a negative net commitment of capital in that sector.

Source: *Investment Office*.

The 1 613 projects approved over the decade of the 1990s committed a total SP352.7 billion, equivalent to about US\$7.67 billion at a rate of SP46 per dollar. Agricultural projects are few (3 percent), including mostly production of ancillary inputs such as irrigation pipes, or projects involving plant or animal production in view of some ulterior industrial development. The Investment Council, in fact, has not favoured direct investment in agricultural production under Law No.10. The vast majority of the amounts committed were for projects in the industrial sector (about 85 percent of total investment). Transportation projects were very numerous, about one half of the total, but of lesser size, so that they represent only 12 percent of total investment.

The following tables show the details of the projects by sub-sectors as well as the committed totals of investment in foreign currency, investment in imported equipment, and new jobs.

Approved projects included a programme total of SP204.86 billion of equipment to be imported, which means about US\$4.45 billion, at a rate of nearly 550 million dollars per year. One salient feature of the precedent table lies in the final columns. The creation of nearly 100 000 new jobs by means of a total investment of 7.67 billion dollars means that the cost of one additional job is US\$76 705 on average, mounting to almost US\$100 000 in the manufacturing sector and up to US\$249 112 in some specific sectors like "Non-metal products and building materials", concerning mainly cement production plants. Agricultural production and processing shows somewhat lower average figures, at US\$65 866 and US\$78 818 per job respectively, but still quite high even for mechanized modern agriculture and high-tech agro-industry.

**Table 3.2 Projects approved by the Investment Council, 1991-1999**

| Sector                                    | Projects     | Total investment (SP 000) | %            | In foreign currency (SP 000 equiv) | %            | % in foreign currency |
|---|--------------|---------------------------|--------------|------------------------------------|--------------|-----------------------|
| Crops and trees (*)                       | 34           | 5 777 197                 | 1.6          | 2 984 155                          | 1.1          | 51.7                  |
| Livestock & dairy production (**)         | 17           | 4 353 877                 | 1.2          | 3 077 845                          | 1.1          | 70.7                  |
| Irrigation equip., wells & farm inputs    | 5            | 406 661                   | 0.1          | 337 277                            | 0.1          | 82.9                  |
| <b>Total of agricultural sector (***)</b> | <b>56</b>    | <b>10 537 735</b>         | <b>3.0</b>   | <b>6 399 278</b>                   | <b>2.3</b>   | <b>60.7</b>           |
| Food and animal feed (****)               | 265          | 68 869 064                | 19.5         | 41 595 016                         | 15.3         | 60.4                  |
| Textiles & clothing                       | 110          | 36 988 610                | 10.5         | 28 809 308                         | 10.6         | 77.9                  |
| Wood products, furniture                  | 5            | 408 856                   | 0.1          | 255 101                            | 0.1          | 62.4                  |
| Paper products, printing, publishing      | 20           | 5 034 052                 | 1.4          | 4 210 041                          | 1.5          | 83.6                  |
| Chemical industries, paint                | 99           | 27 324 432                | 7.7          | 22 665 484                         | 8.3          | 82.9                  |
| Non metal products & bldg materials       | 60           | 127 941 408               | 36.3         | 110 461 984                        | 40.5         | 86.3                  |
| Basic metal industries                    | 45           | 8 463 135                 | 2.4          | 6 524 844                          | 2.4          | 77.1                  |
| Metal products & tools                    | 100          | 18 120 405                | 5.1          | 12 216 617                         | 4.5          | 67.4                  |
| Various industries inc. jewellery         | 2            | 115 505                   | 0.0          | 57 704                             | 0.0          | 50.0                  |
| Medicine & medical products               | 32           | 5 367 473                 | 1.5          | 3 508 295                          | 1.3          | 65.4                  |
| Tourism, entertainment & cinema           | 9            | 564 280                   | 0.2          | 277 630                            | 0.1          | 49.2                  |
| <b>Total of the manufacturing sector</b>  | <b>746</b>   | <b>299 197 984</b>        | <b>84.9</b>  | <b>230 582 016</b>                 | <b>84.6</b>  | <b>77.1</b>           |
| Electricity & power                       | 2            | 1 735 432                 | 0.5          | 1 633 887                          | 0.6          | 94.1                  |
| Land transportation & car rental          | 801          | 39 257 632                | 11.1         | 32 217 824                         | 11.8         | 82.1                  |
| Marine transportation                     | 2            | 1 197 018                 | 0.3          | 1 178 793                          | 0.4          | 98.5                  |
| <b>Total of transportation sector</b>     | <b>805</b>   | <b>42 190 080</b>         | <b>12.0</b>  | <b>35 030 504</b>                  | <b>12.8</b>  | <b>83.0</b>           |
| <b>Mining</b>                             | <b>1</b>     | <b>50 000</b>             | <b>0.0</b>   | <b>43 000</b>                      | <b>0.0</b>   | <b>86.0</b>           |
| <b>Other activities</b>                   | <b>5</b>     | <b>750 787</b>            | <b>0.2</b>   | <b>571 819</b>                     | <b>0.2</b>   | <b>76.2</b>           |
| <b>TOTAL</b>                              | <b>1 613</b> | <b>352 725 824</b>        | <b>100.0</b> | <b>272 626 624</b>                 | <b>100.0</b> | <b>77.3</b>           |

Notes: (\*) Most projects in this group include also livestock activities and related processing plants (e.g. olive trees and olive oil factory; olive trees and raising sheep). (\*\*) Most dairy and livestock projects include related processing plants (e.g. milk and processed dairy products). (\*\*\*) Includes agricultural production plus the production of agricultural equipment, inputs and services. (\*\*\*\*) Includes some projects for producing agricultural inputs, breeding animals or providing services to farms, which should have been classified in the agricultural sector for the sake of consistency.

Source: Investment Office. Percentages may not add up to 100 because of rounding.

**Table 3.3 Programmed imported equipment, expected employment, and planned capital/labour intensity: Approved investment projects, 1991-1999**

| Sector                                   | Imported equipment (SP 000 equiv) | %            | % of total invest. | Jobs          | Investment per job |                |
|--|-----------------------------------|--------------|--------------------|---------------|--------------------|----------------|
|  |                                   |              |                    |               | SP                 | US\$           |
| Crops and trees                          | 2 176 385                         | 1.1          | 37.7               | 2 043         | 2 827 801          | 61 474         |
| Livestock                                | 1 758 647                         | 0.9          | 40.6               | 1 111         | 3 918 881          | 85 193         |
| Irrigation equip., wells & farm inputs   | 190 434                           | 0.1          | 46.8               | 324           | 1 255 127          | 27 285         |
| <b>Total of the agricultural sector</b>  | <b>4 135 466</b>                  | <b>2.0</b>   | <b>39.2</b>        | <b>3 478</b>  | <b>3 029 826</b>   | <b>65 866</b>  |
| Food and animal feed                     | 28 559 015                        | 13.9         | 41.5               | 18 995        | 3 625 642          | 78 818         |
| Textiles & clothing                      | 20 827 950                        | 10.2         | 56.3               | 19 311        | 1 915 417          | 41 639         |
| Wood products, furniture                 | 150 346                           | 0.1          | 36.3               | 199           | 2 054 553          | 44 664         |
| Paper products, printing, publishing     | 2 635 902                         | 1.3          | 52.4               | 1 243         | 4 049 921          | 88 042         |
| Chemical industries, paint               | 15 123 887                        | 7.4          | 55.3               | 5 053         | 5 407 566          | 117 556        |
| Non metal products & bldg materials      | 87 975 480                        | 42.9         | 68.8               | 11 165        | 11 459 150         | 249 112        |
| Basic metal industries                   | 3 245 672                         | 1.6          | 38.4               | 2 901         | 2 917 316          | 63 420         |
| Metal products & tools                   | 6 716 988                         | 3.3          | 37.1               | 6 919         | 2 618 934          | 56 933         |
| Various industries inc. jewellery        | 48 165                            | 0.0          | 41.7               | 103           | 1 121 408          | 24 378         |
| Medicine & medical products              | 2 188 817                         | 1.1          | 40.9               | 1 905         | 2 817 571          | 61 252         |
| Tourism, entertainment & cinema          | 203 975                           | 0.1          | 36.1               | 317           | 1 780 063          | 38 697         |
| <b>Total of the manufacturing sector</b> | <b>167 694 224</b>                | <b>81.9</b>  | <b>56.0</b>        | <b>65 111</b> | <b>4 595 199</b>   | <b>99 896</b>  |
| <b>Electricity &amp; power</b>           | <b>1 423 350</b>                  | <b>0.7</b>   | <b>82.0</b>        | <b>196</b>    | <b>8 854 245</b>   | <b>192 484</b> |
| Land transportation & car rental         | 30 083 752                        | 14.7         | 76.6               | 30 591        | 1 283 307          | 27 898         |
| Maritime transportation                  | 1 104 894                         | 0.5          | 92.3               | 257           | 4 657 658          | 101 253        |
| <b>Total transportation sector</b>       | <b>31 188 646</b>                 | <b>15.2</b>  | <b>73.9</b>        | <b>30 848</b> | <b>1 367 676</b>   | <b>29 732</b>  |
| <b>Mining</b>                            | <b>37 500</b>                     | <b>0.0</b>   | <b>75.0</b>        | <b>70</b>     | <b>714 286</b>     | <b>15 528</b>  |
| <b>Other activities</b>                  | <b>383 932</b>                    | <b>0.2</b>   | <b>51.1</b>        | <b>264</b>    | <b>2 843 890</b>   | <b>61 824</b>  |
| <b>TOTAL</b>                             | <b>204 863 040</b>                | <b>100.0</b> | <b>58.1</b>        | <b>99 967</b> | <b>3 528 423</b>   | <b>76 705</b>  |

Notes: Rate of exchange used: SP46 per US\$. See notes of the precedent table regarding the classification of projects by sector.

Source: Based on data from the Investment Office.

As estimated before, the proposed investments would represent (if executed) about 8 percent of GDP per year, and aim to create about 10 000 jobs per year on average. With a labour force of about 4.5 million in 1999, this involves a 0.22 percent direct increase in overall employment by investing 8 percent of GDP, or a direct investment elasticity of employment of about 0.028 percent, a very low direct impact indeed. Even allowing for a reasonable employment multiplier in other sectors, both backwards and forwards, say a multiplier of 2 or 3 which would be quite good, investing 1 percent of GDP in this kind of projects would entail a (direct plus indirect) increase in overall employment of about 0.056 percent (with a multiplier of 2) or 0.084 percent (with a multiplier of 3). Investments authorized under Law No.10, therefore, have a very low expected impact on overall employment.

The low employment impact of these investments should be a matter of grave concern. Such investments should create vastly more employment, especially in a country with a growing population, an abundant labour supply, and a severe

scarcity of capital, where moreover local capital is fleeing the country and foreign capital seldom comes except when given exceptional incentives. But it is not so. The projects are programmed to have little effect on employment. This calls for some explicit considerations in order to explain the high capital intensity of the projects approved.

The first consideration is that the figures concern planned investment, not actual investment. Some projects may have invested less than programmed, or may have made economies when actually purchasing the buildings and equipment required. However, almost all the companies interviewed for this study declared that they had invested as much as programmed, and in some cases even more. Though the survey did not involve any attempt to audit the investments, it is noticeable that seldom a company appears to be investing below its allotted authorization. It may well be that some companies may have overstated their investment needs to get a safe level of authorized tax exemption, since the amount they could subsequently invest without taxes is determined by the investment authorized at the time of approval. If they ask for a lower amount, they may face problems later when their actual investment must be higher than the authorized level. Anyway, it is conceivable that part of the tax exemption may have been used to purchase goods not directly necessary for operating the company, or that some investments may have been overstated, and these factors may have contributed to the high capital/labour ratios apparent in the investment schedule.

A second consideration is that, if the above suspicions are untrue and thus planned investments reflect the true level of capital intensity of the projects, then the existing investment framework must be encouraging an exceedingly high level of mechanization at the expense of creating employment, which is hardly a desirable policy in a country with an abundant and rapidly growing labour force. One possible explanation could be that the incentives granted by the Investment Law are determining that investments are disproportionately capital-intensive at the expense of the creation of employment. But that cannot be the whole explanation. The Investment Law allows for importing equipment at a zero tariff, but that hardly compensates for the very low dollar-equivalent wage rates prevailing for industrial workers in the country (significantly less than one dollar per hour in most cases). The machines imported in Syria under Law No.10 are usually the same expensive machines operated in Europe by workers earning ten or twenty times more than in Syria. A rational choice of techniques of production should never lead to the adoption of heavily capital-intensive technologies, even if no taxes are levied on the imported equipment.

If that previous explanation is thus not fully convincing, then other explanations should be found, such as the hypothesis outlined before about overstatements of investment needs. One of the promising avenues for research is to ascertain whether the existing investment framework contains incentives for overstating the amounts invested. Those amounts may be overstated through over-invoicing the capital goods purchased for the project, or by illegally selling part of the imported goods to other companies that do not enjoy the tax exemptions granted by Law No.10 (a transaction forbidden by Article 30 of the Law), or by diverting part of

the goods purchased under the tax exemption towards other purposes (e.g. diverting vehicles, ostensibly imported for car-rental or taxi companies, towards private use).

Apart from the case of making gains from selling tax-exempt items at much higher domestic prices, such overstatement may serve also the purpose of justifying eventually a higher amount of profit remittances and capital repatriation (thus facilitating future capital flight). Another similar purpose may be to legitimize the possession of undeclared capital held abroad, by way of declaring an investment higher than the actual cost of the imported equipment brought into the country. This purpose might be attractive to some Syrian investors with capital held abroad. The Syrian authorities apparently do not perform any audit on the actual value of the equipment imported for the approved projects, and they probably do not have the means to perform such checks on so many projects. If this kind of explanation were true, then the actual relative impact on employment of the investments effectively made by the authorized companies may be higher than it appears to be. This matter should be studied more closely, and in the meantime a recommendation is in order for the Investment Office: it should intensify its efforts to audit the value of the equipment and infrastructure invested in the projects. It should also enforce the rule that projects be prioritized according to their impact on employment, as stipulated by the Investment Law. Another sensible recommendation is to revise the set of incentives established in the Law in order to avoid excessively encouraging projects with high capital/labour ratios.

**Agribusiness projects.** About a third of the industrial and agricultural projects are in the agribusiness sector. The most frequent category of agribusiness project is the production of edible oils, including olive oil and other vegetable oils. Second is the dairy sector, including dairy farms and dairy processing. Vegetable processing and marketing is also important. Surprisingly, fruit processing is not that important on the whole. At the beginning of the 1990s, most of the initial projects for processing farm products were primarily concerned with fruit juice production (since there was interest to absorb the current and expected citrus output surplus), and also sorting, packing and cooling fruits and vegetables, and with the production of pasta and canned food. Such projects were reserved to the public sector before the issuance of the Investment Law, as was also the case of vegetable oil from cottonseeds. Many of these initial projects, however, did not continue because local markets were soon saturated and there were no accessible foreign markets to absorb the surplus, especially in citrus and the fruit and vegetable sectors. As a result, agro-related investments shifted to dairy products, olive oil and milling cereals. The latter, however, has lately stopped because the installed milling capacity already exceeds Syria's current needs. The following table shows a distribution of 227 agriculture-related projects approved up to 1998.

**Table 3.4 Approved agricultural production and processing projects, 1992-98**

| Activity                                    | Projects   |
|---|------------|
| Crops and fruit trees (mostly olives)       | 34         |
| Livestock & dairy production                | 17         |
| Irrigation equip., tube wells & farm inputs | 5          |
| Olive oil + animal feed                     | 23         |
| Other vegetable oils + animal feed          | 38         |
| Sorting, storage and cooling (*)            | 33         |
| Dairy products                              | 20         |
| Pasta                                       | 8          |
| Canned food                                 | 7          |
| Milling cereals                             | 15         |
| Fruit juice                                 | 5          |
| Appetizers & baby-food preparations         | 6          |
| Animal feed                                 | 12         |
| Yeast                                       | 2          |
| Other agricultural processing               | 2          |
| <b>Total</b>                                | <b>227</b> |

(\*) For fruit and vegetables.

Source: Investment Office.

The process of having a project approved and operating is a long and complicated one. As a result, many projects drag on for years before they are fully operational.

**Table 3.5 Implementation of approved agricultural and industrial projects (as of 31 Dec. 2000)**

| Year of approval | Number of projects |                    |                 |                            | Percent of projects |                    |                   |                            |
|------------------|--------------------|--------------------|-----------------|----------------------------|---------------------|--------------------|-------------------|----------------------------|
|                  | Approved           | Started procedures | Operational (*) | Still pending in Dec. 2000 | Approved            | Started procedures | Started operation | Still pending in Dec. 2000 |
| 1991             | 62                 | 62                 | 56              | 6                          | 100.0               | 100.0              | 90.3              | 9.7                        |
| 1992             | 98                 | 98                 | 88              | 10                         | 100.0               | 100.0              | 89.8              | 10.2                       |
| 1993             | 82                 | 56                 | 39              | 17                         | 100.0               | 68.3               | 47.6              | 20.7                       |
| 1994             | 144                | 53                 | 34              | 19                         | 100.0               | 36.8               | 23.6              | 13.2                       |
| 1995             | 90                 | 34                 | 12              | 22                         | 100.0               | 37.8               | 13.3              | 24.4                       |
| 1996             | 95                 | 35                 | 12              | 23                         | 100.0               | 36.8               | 12.6              | 24.2                       |
| 1997             | 71                 | 35                 | 8               | 27                         | 100.0               | 49.3               | 11.3              | 38.0                       |
| 1998             | 83                 | 59                 | 5               | 54                         | 100.0               | 71.1               | 6.0               | 65.1                       |
| 1999             | 85                 | 18                 | 0               | 18                         | 100.0               | 21.2               | 0.0               | 21.2                       |
| <b>TOTAL</b>     | <b>810</b>         | <b>450</b>         | <b>254</b>      | <b>196</b>                 | <b>100.0</b>        | <b>55.6</b>        | <b>31.4</b>       | <b>24.2</b>                |

(\*) Partial or total industrial license as of December 31, 2000.

Source: Investment Office. Excludes transportation projects.

From the available data it could be estimated that among the projects that have started the procedure towards becoming operational after having been approved by the Investment Council, 41 percent remain mired in the administrative process after two years of struggle, and 33 percent are still in that situation after three years of initiating the process<sup>1</sup>. The fact that a project does not advance may also be due to voluntary reasons. Investors have indeed abandoned some of these projects, as a result of delays and the changing investment climate alluded above. Following initial enthusiasm after promulgation of the Investment Law in 1991, investor optimism ebbed after 1993, possibly motivating some to abandon the projects or to delay them indefinitely. Stalled growth in the late 1990s should not have given them more encouragement.

The main feature transpiring from these data, then, is that 44 percent of the projects never went beyond the approval stage, and a large number of projects that initiated implementation were not yet operational by the end of 2000. In addition to no-starters, by the end of 2000, there were still projects from all the years back to 1991, that had initiated the administrative procedures for implementation after the Investment Council's approval, but were still stranded at some point in the many-step process described above, and probably abandoned by the investors long ago<sup>2</sup>.

The Investment Office has not prepared a table showing the amount of committed capital corresponding to implemented and non-implemented projects, nor does it monitor the actual process of investment in the implemented companies, thus the amount of capital actually invested under Law No.10 is not directly known. However, based on the number of projects involved, it can be estimated that only about 31 percent of the committed capital had been invested by the end of 2000 (this assumes that small and large projects have the same likelihood of being abandoned or delayed).

The total committed investment from projects approved up to 1999 was about US\$7.67 billion, of which US\$6.73 billion were industrial and agricultural, with a rate of execution of 31 percent. Assuming the implemented projects are of average size, this means the implemented investments amount to about US\$2.11 billion. The 811 projects in transportation (with a few also in other sectors), with a committed capital of US\$0.93 billion, have a rate of execution of 70 percent. Thus the presumed effective investment resulting from projects approved until 1999

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<sup>1</sup> Of a total 810 industrial and agricultural projects, excluding no-starters, and also excluding 168 approved less than three years before the end of 2000 (i.e. approved in 1998-99), there remain 373 projects that did start implementation and should have completed it by the end of 2000. Of those, 123 (33 percent) were still not operational by the end of 2000. By the same token 41 percent of projects approved up to 1998 remained non-operational by December 31, 2000. In conclusion, 41 percent of the projects that effectively start the administrative procedures after approval remain non-operational for delays in the administrative process after two years of approval, and 33 percent of them are still "in process" after three years of approval.

<sup>2</sup> From the information available it is not possible to distinguish between delayed projects that are still "alive" and those that have been abandoned by the investors. The Office often cancels projects after two years or more of inactivity following approval, but many incomplete projects remain on the books even several years after approval.

under Law No.10 should be about US\$3.05 billion, or an average of US\$338 million per year from 1992 to 2000. The agricultural and industrial projects alone would have generated a total investment of US\$235 million per year along the 1992-1999 period.

### 3.5 THE ECONOMIC IMPACT OF PRIVATE INVESTMENT

#### a) Impact on employment

If all the approved industrial projects had been carried out to completion, some 65 000 new jobs would have been **directly** created. As shown before, this represents a negligible increase in existing employment. Even allowing for **multiplier effects** in other sectors, the impact would still be low, though in the particular sub-sector involved the effect could be relatively larger. Besides, the **actual** employment created as a result of industrial projects under Law No.10 is lower than 65 000 jobs, because there are many approved projects that never started, projects that ended up hiring fewer workers than expected, and projects approved very recently that are still in the process of implementing the investment itself and are not yet operational. There are no exact figures about these aspects, but at least the no-starters can be identified, and also the projects that are still in the implementation phase without having entered the production stage or without having reached full production regime. As has been shown before, only 31 percent of the projects have become operational.

Based on those results, and assuming that actual implementation is not related to the size of the projects, it can be estimated that between the inception of the Investment Law in 1991 and the year 2000, manufacturing projects under the Investment Promotion regime have **directly** created about 20 000 jobs, i.e. 31 percent of the total number of jobs foreseen in all manufacturing projects approved by the Investment Council. With an optimistic hypothesis of an overall employment multiplier of about three, the total (direct plus indirect) impact on employment should be 60 000 jobs approximately along the period considered (1992-2000), i.e. some 6 700 new jobs per year. This may be still an overstatement, since the actual multiplier may be lower and, besides, many of the companies are not yet working at full capacity, and have recruited only part of the labour they would eventually need when they attain full capacity utilization.

If those numbers were true, however, they would mean an annual increase of 0.16 percent in total employment, with a total investment equivalent to US\$2.11 billion or US\$234 million per year (1.8 percent of the average GDP in the period). The estimated total investment-elasticity of employment is, as anticipated before, very low, with a value of about 0.089 (an increase of 0.089 percent in employment is directly or indirectly achieved by investing one percent of GDP in this kind of industrial projects). To create a 3 percent increase in employment, as needed to keep pace with the increase in the labour force, the total investment necessary would be 33 percent of GDP (the usual investment ratio in Syria is only 20 percent of GDP).

The specific impact of **agribusiness projects** on agricultural and food-industry employment is also relatively small. Projects in that sector have created, as estimated before, some 740 new jobs per year. It is difficult to estimate the actual size of employment in the agro-industry sector, but based on partial evidence from employment data, the structure of production and the output/labour ratios in the public industrial sector, it should be about 33 percent of all industrial employment, i.e. about 170 000 workers, of which about 100 000 are in the public agro-food sector and 70 000 would be in the private agro-food industry (agricultural production employment in the approved projects is very small and is neglected in this estimate).

Thus, the new jobs created by the implemented projects represent a yearly increase of about 1 percent on private employment in agro-food industries, and a 0.4 percent increase on the overall agro-food sector employment. Again, the increase is quite small compared to an expected increase of 3 percent in the labour force. The Law No.10 projects would cover only 13 percent of the annual increase in agro-industry employment. Since the private sector is increasing faster than the public sector in this industry, the 1 percent annual increase in employment coming from the Law No.10 projects represent probably not more than 20 percent of the total increase in the number of workers employed in the private agro-food industry<sup>3</sup>.

The indirect impact of agribusiness projects on employment is only a matter of speculation. It is well-known that agro-industry normally has a much larger employment multiplier than other branches of the manufacturing sector, because of the higher labour intensity of agriculture, especially for fruit, vegetables and other non-mechanized parts of agriculture. If a multiplier of about three is acceptable for the manufacturing sector as a whole, a multiplier of five is realistic for agro-industry, especially for factories related to labour-intensive agricultural products such as fruit, dairy products and vegetables. This means that the 740 new jobs per year created directly by the agribusiness firms established in 1992-1999 may have a total effect of creating about 3 700 new jobs per year in the economy. On a total labour force of 4.1 million (average for the 1990s), this would mean an annual increase of employment of 0.09 percent, achieved with an investment of US\$62 million per year. As this amount of investment is about 0.47 percent of the average GDP of the 1990s, the resulting direct and indirect investment elasticity of employment is  $0.09/0.47 = 0.19$ . This is substantially above the 0.089 elasticity estimated before for total manufacturing. According to this result, investing one percent of GDP produces a 0.19 percent increase in overall employment, if the investments are in agro-industry. Investments in all branches of industry would need to invest an amount equivalent to 33 percent of GDP to get a 3 percent increase in employment, as needed to keep pace with the demographic increase of

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<sup>3</sup> The main reason for this is that private bakeries (largely untouched by Law No.10 because they are mostly small establishments, below the Law's threshold) are growing fast: the private production of bread has increased its participation in total bread production from 45 percent in 1990 to 62 percent in 1999. Thus, increase in agro-industry employment is largely explained by increases in bakery jobs, outside the effects of Law No.10.

the labour force. Investing 33 percent of GDP is of course quite unrealistic. Investments in agro-industry would achieve the same goal by investing only 15.8 percent of GDP, which is much more feasible. In other words, a way of increasing the employment impact of projects under Law No.10 would be to encourage projects in agro-industry<sup>4</sup>.

In conclusion, therefore, it may be stated that the employment impact of private investment projects under Law No.10 for the 1992-2000 period has been very small, but projects in agro-industry have a significantly larger impact.

#### **b) Impact on investment**

To ascertain the impact of Law No.10 on private industrial investment, the total amount of private industrial investment should first be estimated from available statistics. Gross fixed investment in the industrial sector of Syria was about US\$0.95 billion per year during the 1990s. Gross **private** fixed investment in all sectors was about US\$1.5 billion during the same period. The latter figure includes residential investment, which amounted to about US\$500 million, thus leaving an estimate of **non-residential** private investment of about US\$1 billion per year. Total (public and private) investment in industrial and commercial buildings and in machinery and equipment was about US\$1.2 billion per year on average. Considering budgeted investments by the state-sector industrial companies, it may be estimated that private industrial investment registered in the National Accounts amounted to about US\$400 million per year.

In fact, prior to Law No.10 investment was much lower. In 1990-91 total investment was US\$2 billion, total private investment was US\$1 billion, total private non-residential investment was US\$700 million, total industrial investment was US\$400 million, and private industrial investment could be estimated at about US\$120 million only. The following table shows the estimated impact of the Law on the increase in investment, during the period 1992-2000, related to various concepts of investment. For this table, only manufacturing projects are considered.

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<sup>4</sup> For the indirect effects to materialise, however, additional investment might be needed in agriculture. If a new fruit juice plant pulls the farmers to grow new fruit trees and hire more workers, the investment in new trees should also be taken into account for a more accurate estimate of the multiplier effects of investment. Also, this shows that investing in agro-industry implies investing also in agricultural production.

**Table 3.6 Estimated impact on annual investment of industrial projects under Law No.10, in the period 1992-1999**

|                                   | 1990-1991 average (US\$) | 1992-1999 average (US\$) | Increase between averages (US\$) | Invest. Law No.10 (US\$) | Increase (%) |
|-----------------------------------|--------------------------|--------------------------|----------------------------------|--------------------------|--------------|
| Total Nat. Acc. investment        | 1 091 m                  | 3 092 m                  | 2,001 m                          | 338 m                    | 16.9         |
| Industrial Nat. Acc. investment   | 210 m                    | 886 m                    | 676 m                            | 235 m                    | 34.8         |
| Private Nat. Acc. investment      | 1 180 m                  | 1 673 m                  | 490 m                            | 338 m                    | 69.0         |
| Private industrial investment (*) | 120 m                    | 400 m                    | 280 m                            | 235 m                    | 83.9         |

(\*) Estimated. Not published in National Accounts tables. Investment by public industrial companies deducted from total industrial investment, both reported in National Accounts statistics.

Source: Based on National Accounts and data from the Investment Office.

The last column shows the estimated direct impact of industrial projects resulting from the implementation of Law No.10, as a percentage of the total increase in each concept of investment. Thus, these projects have contributed 16.9 percent of the total increase in investment, 34.8 percent of the increase in industrial investment, 69 percent of the increase in private investment, and 83.9 percent of the increase in private industrial investment. Therefore, and unlike the conclusion concerning employment, private industrial investment under Law No.10 has had a significant impact on investment. Multiplier investment effects are not included, and are hard to estimate with the information at hand. However, it is clear that the impact would look even larger if the indirect or multiplier effects were considered.

### c) Impact on production

It is not possible to evaluate the actual or expected production of the companies licensed under Law No.10. Only projected capacity (in physical terms) was included in the projects' documentation, and even that information has never been processed nor given a monetary value for the purpose of aggregation. No record exists of the production levels attained by those projects that effectively are operating. There is only aggregated information for the public and private sector. The following analysis concentrates on the food, beverages and tobacco industry, and a number of specific commodities.

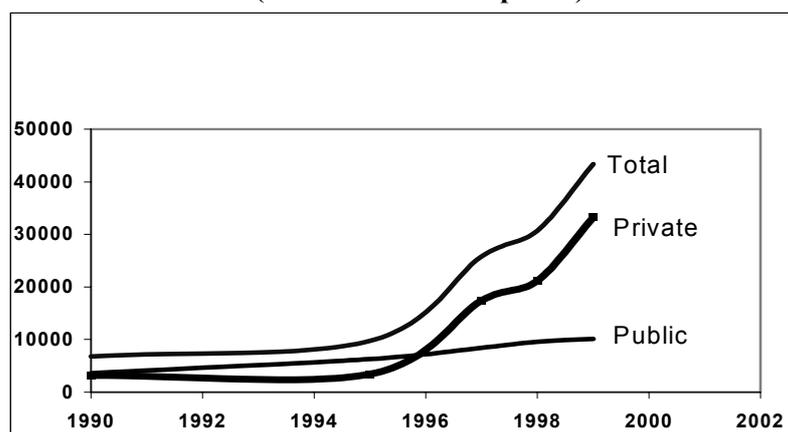
The data shows clearly that little progress was made until 1994 in this respect, chiefly because the new investments resulting from projects approved since 1991 took about three years on average to start operation. Growth of private production accelerated in 1994-1999, while the state sector mostly stayed behind, and the percent participation of the private sector in the total output of each commodity shows its growing importance within the industrial sector.

**Table 3.7 Food, beverages and tobacco industry: Net Domestic Product by sector, 1990-1999 (million SP)**

| Sector                                 | Price base     | 1990   | 1995           | 1997           | 1998           | 1999           |
|--|----------------|--------|----------------|----------------|----------------|----------------|
| Net Domestic Product                   |                |        |                |                |                |                |
| Total                                  | Current prices | 6 813  | 8 255          | 16 038         | 19 413         | 31 851         |
| Private                                | Current prices | 3 199  | 2 938          | 10 802         | 13 363         | 22 296         |
| Public                                 | Current prices | 3 614  | 5 317          | 5 236          | 6 050          | 9 555          |
| % private (*)                          |                | 46.95% | 35.59%         | 67.35%         | 68.84%         | 70.00%         |
| Wholesale price index, foodstuffs      |                | 100    | 118            | 161            | 158            | 149            |
| Real Net Domestic Product              |                |        |                |                |                |                |
| Total                                  | 1990 prices    | 6 813  | 9 740          | 25 821         | 30 673         | 43 353         |
| Private                                | 1990 prices    | 3 199  | 3 467          | 17 391         | 21 114         | 33 221         |
| Public                                 | 1990 prices    | 3 614  | 6 274          | 8 430          | 9 559          | 10 133         |
| Index of real NDP                      |                |        |                |                |                |                |
| Total                                  |                | 100    | 143            | 379            | 450            | 636            |
| Private                                |                | 100    | 108            | 544            | 660            | 1 038          |
| Public                                 |                | 100    | 174            | 233            | 264            | 280            |
| <b>Annual growth rates of real NDP</b> |                |        | <b>1990-95</b> | <b>1995-97</b> | <b>1997-98</b> | <b>1998-99</b> |
| Total                                  |                |        | 7.4%           | 62.8%          | 18.8%          | 41.3%          |
| Private                                |                |        | 1.6%           | 124.0%         | 21.4%          | 57.3%          |
| Public                                 |                |        | 11.7%          | 15.9%          | 13.4%          | 6.0%           |

(\*) 1999 estimated.

Source: Industrial sector statistics in *Statistical Abstract, 1995, 1996 and 2000*.

**Figure 3.6 Food and beverage industry net domestic product, 1990-99 (million SP at 1990 prices)**

The rapid growth in private industrial food production contrasts with the comparatively sluggish state sector, but even the State sector grew noticeably in the 1990s. Whereas the private sector in 1990-1999 grew at an average yearly rate of 29.7 percent, the state food sector increased its Net Domestic Product by an annual 12.1 percent. The whole sector grew at 22.8 percent per year. The trend

towards a larger participation of the private sector is evident in many agribusiness sectors as shown in the following table.

**Table 3.8** Percent participation of the private sector in the production of selected foods, 1990-98

| Products            | 1990 (%) | 1994 (%) | 1995 (%) | 1998 (%) |
|---------------------|----------|----------|----------|----------|
| <b>Cereals</b>      |          |          |          |          |
| Bread               | 45.00*   | 54.00*   | 56.43    | 62.46    |
| Biscuits            | 64.90    | 60.99    | 58.86    | 75.07    |
| Macaroni            | 74.52    | 73.98    | 66.10    | 85.47    |
| Beer                | 0.00     | 0.00     | 0.00     | 0.00     |
| <b>Edible oils</b>  |          |          |          |          |
| Olive oil           | 100.00   | 100.00   | 100.00   | 100.00   |
| Vegetable oil       | 0.00     | 0.00     | 0.81     | 35.14    |
| <b>Dairy</b>        |          |          |          |          |
| Pasteurized milk    | n.a.     | n.a.     | 10.46    | 9.80     |
| Chocolate           | 100.00   | 100.00   | 93.45    | 96.57    |
| <b>Beverages</b>    |          |          |          |          |
| Mineral water       | 0.00     | 0.00     | 0.00     | 0.00     |
| Arak**              | n.a.     | n.a.     | 20.07    | 16.91    |
| Wine ***            | 0.00     | 0.00     | 0.00     | 0.00     |
| Other alc.bev.      | n.a.     | n.a.     | 92.35    | 95.79    |
| Soft drinks         | n.a.     | n.a.     | 89.60    | 93.23    |
| <b>Fruit juices</b> | n.a.     | n.a.     | 100.00   | 100.00   |
| <b>Canned food</b>  | 7.32     | 21.78    | 18.84    | 41.11    |

Notes: (\*) Estimated, based on the estimated increase in wheat consumption, and estimates of a stable state production of bread in 1990-1995. (\*\*) A distilled alcoholic beverage. (\*\*\*) There are indications that some private wine producers exist. They are not included in the source.

Source: Data from the Ministry of Industry, taken from the *Statistical Abstract*, issues of 1995 and 2000.

#### d) Impact on foreign trade

Investments affect foreign trade in several ways: increasing exports of finished products, increasing imports of inputs and machinery, and by import substitution, i.e. substituting national goods for formerly imported products in the domestic market.

The impact of the projects on the import of inputs is more important, from the point of view of policy, than the impact on the import of equipment, since the latter is financed normally with foreign investment, and puts no pressure on the country's supply of foreign currency. Imported inputs, instead, are a regular and recurrent cost, which would increase in volume and value as the projects develop. Those inputs may include raw materials such as imported oilseeds for a vegetable

oil factory, ancillary inputs such as chemicals or packaging materials needed in the process of making vegetable oil or fruit preserves, and machine spare parts (the latter may also be classified as capital goods). They may even include intangible inputs such as payments for foreign licenses. The indirect impact on input importation includes the new inputs needed in sectors related to the investment (e.g. more fertilizer for farms producing the oilseeds locally). Unfortunately, available data are not sufficient to estimate this kind of impact in any meaningful way.

The impact of the projects on the imports of capital goods, instead, can be estimated from the committed investments in machinery and equipment and the rate of actual implementation of the projects. Approved industrial and agricultural projects involved programmed equipment imports (for projects approved up to 1999) of SP171 billion or about US\$3.73 billion, of which about 31 percent or US\$1,171 million would have been already invested. As these imports have been implemented during a period of nine years (1992-2000), the added flow of machinery and equipment imports per year would be about US\$130 million (not counting the importation of vehicles for projects in the transportation sector). The annual average value of imports of machinery and equipment (or its parts and accessories) in 1992-1999 was about US\$190 million. Since the annual amount of private imports of equipment in 1990-1991 was much lower (about US\$23 million), the increase in private annual imports of machinery and equipment between 1990-1991 and 1992-1999 was about US\$167 million. Machinery imports generated by projects, estimated at US\$130 million per year, are thus responsible of about 78 percent of the increase in private imports of equipment.

The impact on exports is also hard to assess, since no data are available on the level of production or the destination of the projects' output. Several products of agribusiness projects such as processed fruit and vegetables have a clear orientation to foreign markets, but the exports of such products has not increased significantly in recent years (they have been stagnant since 1994, though somewhat higher than in 1990-1991). It is probable that most of the potential increase in exports derived from private investment projects licensed under Law No.10 would only occur in subsequent years, as more companies learn to access foreign markets and adapt their production to foreign demand, and the government also achieves trade agreements with potential destination countries (mainly the European Union, but also other Arab countries and those formerly in the Socialist bloc)<sup>5</sup>. In the meantime, assessment of the impact of the Investment Law on exports is premature. However, some idea may be gathered from the behaviour of private-sector exports of processed agricultural products during the 1990s.

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<sup>5</sup> This would be an instance of the well-known "J-shaped curve" for the trade balance resulting from a process of investment in the production of exportable goods. The trade balance worsens before improving, because input and machinery imports grow immediately, while exports start growing only after a certain "maturation and learning" period has elapsed.

Between 1994 and 1999, the current dollar value of exports of processed food and beverages fell from 183.8 to 125.2 million dollars, a fall of 32 percent. It affected both private and public exports, but on average the private sector fell much less (-16 percent) than the public sector (-91 percent). The decline was due mainly to large falls in international prices for food products and a shift in the export commodity mix towards products that have a lower price/volume ratio. In fact, the private sector increased its volume by 50 percent in the period, whereas the public sector decreased it by 93 percent. The fall in prices hit (on the whole) only the private sector, whose unit values fell by -44 percent, while the unit export value for the state actually increased by 23 percent.

**Table 3.9 Private and State exports of food and beverages, 1994-1999**

| <b>Value (US\$ 000)</b>          | <b>1994</b> | <b>1999</b> | <b>% variation</b> |
|----------------------------------|-------------|-------------|--------------------|
| Total                            | 183 778     | 125 241     | -32                |
| Private                          | 143 384     | 121 075     | -16                |
| Public                           | 40 394      | 3 625       | -91                |
| Share of private sector          | 78.0%       | 96.7%       |                    |
| <b>Quantity (MT)</b>             |             |             |                    |
| Total                            | 209 033     | 138 370     | -34                |
| Private                          | 86 042      | 129 380     | 50                 |
| Public                           | 122 991     | 8 990       | -93                |
| <b>Unit values (US\$ per MT)</b> |             |             |                    |
| Total                            | 879         | 905         | 3                  |
| Private                          | 1 666       | 935         | -44                |
| Public                           | 328         | 403         | 23                 |

*Source: Central Bureau of Statistics, Statistical Abstract (1995 and 2000).*

As a consequence, the participation of the private sector in exports of food and beverages actually increased from 78 percent to nearly 97 percent over the same period. In real (quantity) terms, state exports decreased 93 percent while private exports increased by 50 percent. This implies that among food and beverages exporters, those in the private sector were more competitive, and therefore they weathered the decline in foreign markets purchases better than the public sector, in spite of the explicit or implicit subsidies available to the latter.

In the future, private food exporters are not expected to make large gains in market share, since they already control 97 percent of all Syrian food-industry exports. Their progress will be seen in the expansion of food exports, which may grow significantly when more companies recently licensed enter into exports. A trade agreement with the European Union (EU), as well as more aggressive marketing in Arab countries and Eastern Europe, and the establishment of better grading and standards, would greatly enhance that prospect.

**e) Impact on the balance of payments**

The impact of the projects on the balance of payments can only be gauged through their impact in the inflow of private capital in the form of private flows of foreign direct investment and unregistered private capital flows. Impacts on the current account occur under the form of increased imports and exports of goods and services, and also through profit remittances, but these are not directly measurable at the moment.

The projects licensed up to 1999 contained a total commitment to invest US\$5.92 billion in foreign currency, of which it could be estimated that not more than US\$1.8 billion correspond to projects that have started operation, at a rate of as much as US\$300 per year along the period 1994-1999<sup>6</sup>. The actual figure is in all probability significantly lower, since not all projects have implemented their full investment schedule, some foreign currency entered the country it before 1994, and some investment was not made by bringing the foreign currency to the country but by directly importing the equipment, as permitted by the Law. A reasonable estimate of foreign currency actually brought to the country for investments authorized under Law No.10 would be about US\$200 million per year in the 1994-1999 period.

Comparison with balance of payments figures is problematic, since such figures are far from clear in Syria, and significant flows are apparently not registered, or are registered under other headings than normally expected. According to the Central Bank of Syria and IMF estimates, foreign direct investment (FDI), which was quite low at the beginning of the 1990s, increased sharply to US\$251 million in 1994, but fell to US\$100 in 1995 and remained between US\$80 and US\$90 thereafter, for an average of US\$115 million (excluding the start in 1999 of foreign investment in gas extraction, which is independent of Law No.10)<sup>7</sup>.

Errors and omissions, usually interpreted as net unregistered flows of private capital, were positive in 1994-98, varying around an average of US\$95 million per year. Added to the former figure for registered FDI, this adds up to about \$210 million per year of FDI, which is consistent with the previous estimate of US\$200 million per year in foreign currency inflows determined by foreign direct investment connected to Law No.10. In other words, it appears that the Investment Promotion Law is responsible for about 90 percent of all monetary flows attributable to private direct foreign investment flowing into Syria during the 1990s.

According to the same sources, during the 1994-1999 period the net foreign currency position of the banking system increased at a rate of US\$466 million per

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<sup>6</sup> Given the time required to complete administrative procedures, to acquire land and to build the facilities, little if any import of machinery originated in Law No.10 would have taken place in 1992-93.

<sup>7</sup> Based on IMF, Syrian Arab Republic - Recent Economic Developments, August 2000, p.50. The figures are the result of a rearrangement by the IMF of data from the Central Bank of Syria, plus some IMF estimates.

year, of which the estimated US\$200 million contributed by the projects represented about 43 percent. Thus, foreign direct investment in projects licensed under Law No.10 contributed about 43 percent of the increase during the 1994-1999 period of net foreign assets held in the Syrian banking system.

### **3.6 IMPROVING CONDITIONS FOR PRIVATE INVESTMENT**

The existing regime for private investment in Syria, including the agribusiness sector, has several drawbacks that have so far impeded a more vigorous and sustainable process of investment and growth. The general problem is that the regime grants special temporary benefits for new investments, without altering much the general macroeconomic and institutional environment, or making those benefits permanent. This encourages the pursuit of short-term advantages, but hardly promotes long-term growth.

Granting special benefits is indeed a necessity for the time being. The existing investment promotion regime in Syria was enacted without major modifications of the basic centrally planned system developed during the 1960s and 1970s. In the 1980s and 1990s a gradual process of liberalization started, but its progress has been partial, and with alternating and unpredictable shifts between accelerating and putting the brakes on economic reform. Thus, uncertainty is still present, and the economic system is afflicted by many shortcomings. Therefore, apart from the need of proceeding with economic reform, securing sustainable growth in Syria still calls also for a substantial amount of specific policies for promotion of private investment.

The various Investment Promotion Decrees and Laws (from 1981 to 2000) gave investors a number of temporary privileges, such as import licenses or tax exemptions, in an effort to make the investment projects look more profitable, in spite of the shortcomings of the overall system. These policies had two major defects:

- The advantages in the promotion policy were mostly temporary; and
- Direct promotion was strong, but macro reforms were weaker

The benefits granted were temporary. This is generally thought to be correct as regards special privileges such as tax exemptions, but long-term projects should be viable even after the privileges are removed. A deadline for the benefits means that after a certain number of years the private companies would have to operate in the same rigidly controlled environment of a centrally planned economy, with heavy explicit or implicit taxation and restriction of private economic activity, and then much of their initial profitability may disappear. This important limitation of the policy option chosen by Syria in the 1980s and 1990s severely affected the nature and extent of the projects. If the rigidities were meant to remain in place, it would not be wise to encourage investments that are only profitable if rigidities are removed or investors are exempted from their consequences. Investors, under

those conditions, would prefer projects that yield most of their profit in the very first years, disregarding long-term growth, and this would be a very negative feature with grave implications for Syrian economic development.

Under such an arrangement, a rational businessman would look for immediate advantages to be obtained during the period of construction and tax exemption, disregarding long-term gains because, in the long term, the company would have to work in a centrally planned economy that may be supposed to be hostile to private investments. This tends to stimulate investments that aim at reaping most of their profits within the period of exemption or "tax holiday", and less incentives to develop extended business plans for the long term. There might be investments, but their long-term impact on growth and employment would be very limited. Investment and growth created by a purely specific policy of direct promotion with temporary benefits tend to be spasmodic and not sustainable.

That has been in fact the case. In spite of liberalization measures starting as early as 1981, the Syrian economy has had nearly zero net per capita growth in 1980-1999. There has been growth in the 1990s, much of it due to private investment and the Investment Law, but in ten years it has not been sufficient to offset and overcome the decline of the 1980s. Many projects were abandoned, the sustainability of projects after the expiry of tax holidays is problematic, many companies are not utilizing their full capacity, and the subsistence of macro impediments for private economic activity hinders the enterprises in manifold ways. The employment impact of the projects licensed under the Investment Promotion Law was extremely small. Since the benefits were concentrated on favouring imports of machinery, capital investment per worker tended to be higher than expected for an economy like Syria, thus defeating the purpose of creating employment. Excessive reliance on capital-intensive technologies, apart from not creating employment, means probably that excessive resources are used for the investments when more production could be obtained with less capital. It may also create conditions for an excessive flow of profit remittances and capital repatriations in the future.

Although the resulting growth of the private sector in manufacturing and transportation has had many positive effects in the Syrian economy, much more would be needed to spark sustainable growth in output, income and employment. Something can be achieved by modifying some stipulations in the Investment Law, but even that would not be enough. The missing element is deeper and wider change at the macro level. Unless major institutional and macroeconomic reforms are enacted, the operation of an investment promotion regime is not enough to sustain growth, and may even cause deleterious effects.

#### **a) Procedural and micro reforms**

After examining the workings of the existing regime, and holding extensive talks with a sample of investors, a number of recommendations for improving the existing legislation and conditions for private investment can be proposed.

One of them points to upgrade the autonomy and flexibility of the Investment Office, transforming it into an autonomous self-financed Agency, with enlarged functions and governed by a Board of Directors comprising the existing Investment Council plus representatives of the private sector. Another major recommendation is simplifying the authorization process for new projects, eliminating various steps in the procedures. A third recommendation is further flexibility in legal access to foreign currency at market rates.

One problem faced by many projects was the rigidity of the five-year term the Law establishes for the tax holiday. It could be extended for two more years, but even this may not be enough (for instance, some projects involving olive trees have a maturing period of up to 15 years). Expansions through reinvestments later in the project life cycle are not explicitly foreseen in the legislation. To address these and related issues, a recommendation can be made to replace the time-bound tax holiday by the granting of tax credits for every investment, made either initially or later. As profits start accruing, the investor would use available tax credits (determined as a percentage of previous investments) to fulfill profit tax obligations. This solution solves at one stroke all problems concerning the different timing of investments, tax holidays and profits.

Also, it should be recommended that the minimum size of eligible projects be revised, at least regarding agricultural production projects, and that priority be given to projects oriented to modernizing farming production, in view of the urgent need of modernization in the Syrian farming sector (especially as concerns irrigation equipment).

Other micro reforms and improvements, though not explicitly involving existing legislation for the promotion of private investment, may also be recommended. They include the following:

- Facilitate access to land, especially publicly owned land, including the development of industrial zones provided with all basic services (chiefly electricity and water).
- Facilitate the development of co-operative enterprises for joint development of farming projects (not necessarily involving joint production, but chiefly joint input procurement and joint processing and marketing).
- Facilitate the development of rural micro-finance institutions to expand the use of credit in the countryside, and introduce further flexibility in the banking system to improve credit conditions for private investors.

## **b) Improving the macro environment**

Correcting the shortcomings of existing legislation is necessary but not sufficient. As long as Syria remains basically committed to a macroeconomic scenario dominated by state planning and intervention, the development of private investment cannot but be embryonic and spasmodic. Continuing its efforts

initiated in the late 1980s and during the 1990s, the Government should complete a number of reforms to completely overhaul the existing macroeconomic setting of the country.

The macro environment comprises the **institutional** bases for a market economy, and adequate economic conditions that favour private economic activity. Also, it includes a state sector that accomplishes specific functions, essential for the existence of private investment, as well as for the existence of society under a market economy.

The institutional requirements for a market economy comprise:

- Protection of private property. For private companies to compete with each other, they should have the right to dispose of their property, including intangible assets and intellectual property, and an effective legal protection of their property rights.
- Economic freedom. Companies should enjoy the free choice of their economic activity, of their suppliers, and of fixing the prices of their products or services.
- The rule of law. This requires respect for contracts, a competent and independent judiciary, and sufficient transparency in the conduct of public affairs. All contracts should be deemed obligatory to all parties concerned, and all private or public actors should be held accountable before the law.
- Limited roles of the state. The state has specific functions that it must accomplish for the market economy to work properly. Most of those essential functions of the state in a market economy are covered by the following list: to enforce the law and provide legal security; to ensure the provision of basic social services and public infrastructure; to promote equity in society; to regulate certain private activities (especially due to market failures); to provide a sound monetary system; and to promote competitiveness.

Some of these institutional requirements touch upon the economic conditions necessary for a market economy to work properly. For instance, a sound monetary system rests not only upon the institutional arrangements governing it (such as an independent Central Bank) but also on the maintenance of basic macroeconomic equilibrium (especially a sound fiscal balance).

An economic system allowing the market to work properly should at least secure mobility of resources, adequate incentives, low overhead costs and predictability.

The mobility of resources can be improved by removing obstacles to mobility. These obstacles include trade barriers, inadequate banking system, foreign exchange restrictions, lack of active capital markets, restrictions to foreign investment, rigidities in the labour market, restrictions in the land market and restrictions for accessing and exchanging information.

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An adequate banking system is an essential component of a program to increase the mobility of resources. Without efficient banks no business can operate, and much less can it prosper and be competitive.

Any set of government policies implies incentives to private agents, leading them in one direction or another. What counts is not the intention or wishes of the government, but the actual economic incentives created by its policies, and the kind of reaction that economic agents can be expected to have when confronted with such incentives. Taxes and subsidies are the main forms available to the government to create incentives. However, it is easy to develop grave distortions by way of ill-conceived taxes or subsidies, which often achieve the opposite of what was intended.

Taxes should be simple, moderate in size and moderately progressive. When taxing corporations, they should fall more on fixed assets than on outcomes. When taxing individuals, they should fall more on idle resources and consumption than on savings and investment. Taxes should be easily collected, possibly involving incentives for taxpayers to check on each other, and avoid pyramidal effects or double taxation.

A simplified tax structure based on a Value Added Tax (VAT) and income tax should replace the complex collection of specific taxes that still plagues the Syrian tax structure. Two other categories of tax, which may stand in the new tax structure, are a tax on fixed registrable assets and of course customs duties, the latter at a moderate average level and with reduced dispersion. Price subsidies (e.g. paying wheat producers at prices above international levels) should be replaced with direct payments to producers.

Another economic condition of an efficient market economy is to have low overhead costs. This is achieved through improved basic services (better roads, better electricity, better telecommunication services) and through a more efficient and less expensive government. Even if a company is able to contain costs within its boundaries, it should still be paying the cost of being in an inefficient country. This country cost increases the cost of all products, imposes the added cost on domestic consumers, and lowers the country's competitiveness in foreign markets.

Finally, a market economy should be predictable. Two main factors contribute to this: a stable macroeconomic framework (especially after stability has been maintained for a number of years), and expectations that future political and social events will have no perturbing effects on the macroeconomic environment. The latter requires a basic social and political consensus, so that alternation in power would not mean a radical departure from existing policy.

The absence of predictability makes investment too risky. Investors would demand exceptionally high rates of return to accept bringing capital into the country, or would require exceptional guarantees, that may prove too heavy for the public budget. Creditors would apply higher rates of interest to any loans taken by the country's banks, or by the country's public or private sectors in

international financial markets. The difference between those rates of interest and the rates charged to "predictable" countries is a measure of the so-called country risk. Country cost and country risk, the results respectively of high overhead costs and low predictability, are the main factors affecting a country economic performance in the world economy.

The reforms to the macro scenario have had, so far, a piecemeal approach. They are adopted one by one, in a non-integrated manner. This creates an unequal economic structure, where some aspects are more advanced than others, like a person with one foot on the ground floor and another in the third floor, and thus subject to unbearable strains.

The opposite course of a sweeping and sudden reform of everything would also be unwise. A country suddenly passing from a centrally planned economy to a fully deregulated market economy would face disaster and possibly major social and political upheaval.

Reforms should be gradual but integrated, advancing on all fronts at once. The following are the main aspects to be included in the process of reform:

- Resource allocation policies, implying taxes, trade, prices and subsidies;
- Money and banking, implying foreign exchange liberalization and currency convertibility, banking reform, independence of monetary institutions and policy and development of capital markets; and
- Reduction of inefficiencies and overhead costs, implying administrative reform of the public sector, simplification of administrative procedures, and improvements in basic infrastructures and services.

### **c) Promoting agricultural investment**

Specific recommendations for agricultural investment are listed below:

- (i) to improve and decentralize agricultural planning.
- (ii) to introduce more initiative and innovation in the strategic-crop sector in a gradual manner, continuing and deepening the process of flexibility in agricultural planning that has begun in recent years. A growing percentage of available land, water, credit and inputs presently allocated to strategic crops should not be allocated by plan, but on demand, letting farmers decide on the best allocation of those funds. Some 10 percent of the resources could initially be allocated in this manner, and gradually progress towards higher percentages.
- (iii) to promote foreign investment in agricultural export products. Foreign capital and technology is needed to expand production of specific high-quality agricultural products, especially fruit and vegetables, for export to the EU and other markets.

- (iv) to develop improved rural finance; to improve and diversify sources and modes of financing agricultural activity and rural industry and marketing; to promote rural micro-finance and the development of adequate banking techniques to reach small farmers through group credit at reasonable administrative costs with sustainable rates of interest and credit conditions; and to promote the gradual upgrade of small producers to the status of normal bank customers.
- (v) to promote marketing of agricultural products; to promote integration of farmers into vertical commodity chains for production, processing, domestic marketing and export of selected agricultural products; and to improve administrative procedures for export, and logistic and port facilities, for rapid dispatch of perishable commodities to their destination by ship or air.
- (vi) to foster on-farm investment for modernization of irrigation systems. Modernization of irrigation systems in Syria involves shifting all gravity and flood systems to pressurized sprinklers and drip irrigation. Metering water is essential to create incentives for investing in the modernization of systems. The form of payment for irrigation should consist of a basic fee for the use of irrigation water, plus penalties of increasing value for exceeding allotted amounts of water.

To modernize irrigation systems, government policy should secure credit funds and promote private investment for financing the conversion of 50 percent of irrigated lands to sprinklers and drip irrigation in ten years<sup>8</sup>. The cost is about US\$120 million per year, only for new irrigation equipment. Another US\$30-40 million per year are necessary for other related investments: improvements in off-farm irrigation infrastructure; technical assistance to farms to modernize cultivation systems, change crop schedules, and learn to access new markets. Upgrading the equipment is only one step: upgrading the farms and improving the skills of farmers should follow.

This may be taken also as a general concept for the modernization of agriculture and agribusiness in Syria. Investment in machines and infrastructure should not imply neglecting the main sources of economic innovation and growth, human ingenuity and skills, of which Syrians over many centuries have shown they have

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<sup>8</sup> In 2001, the Government decided to modernise the whole irrigated area in only four years. This involves 30 percent in public irrigation schemes and the rest in private schemes (mostly wells). The recommendation of this report is more moderate, as it is limited to modernise only 50 percent of the whole irrigated area, and that over a period of ten years. The goal set by the Government (100 percent in four years) may necessitate more funds than are currently available, and impose much strain on the implementing agencies. However, any efforts to accelerate the modernisation of the whole irrigated area are welcome and should be encouraged. The Government goal may be more realistic if restricted to public irrigation schemes, but this would not overcome the water constraint. The recommendation in this paper may be construed as involving all public schemes (30 percent of all irrigated land) and 2/7 of privately irrigated land for a total 50 percent of all irrigated land. The author is not aware of any data with clear evidence about the distribution of water losses and inefficiency, but it is highly likely that public schemes, most of which are gravity driven, involve more waste than private schemes mostly dependent on underground water.

an inexhaustible supply. They only need the right macroeconomic environment to release those forces and make them work.

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**Chapter 4**

**Agricultural and Food Policies in  
Syria: Financial Transfers and  
Fiscal Flows**

*by*  
*Peter Wehrheim*

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**CHAPTER 4****Agricultural and Food Policies in Syria: Financial Transfers and Fiscal Flows***by Peter Wehrheim***4.1 INTRODUCTION**

One obvious difference between agriculture and other sectors of the economy in most countries around the world is the significant degree of policy interventions. In many developed countries, policy interventions in agriculture are common practice and have yielded levels of farm subsidies among the highest in the world (OECD, 2002). In contrast, trade policies and overvalued exchange rates in many developing countries have resulted in a taxation of agriculture, and agriculture -in the 1970s and 1980s- was often effectively discriminated against (e.g. Wiebelt *et al.*, 1992). However, more recent analyses of this so-called agricultural policy bias in 15 developing countries indicate that such generalizations today are difficult; country specific circumstances affect the relative impact of trade policies on agriculture and the rural economy (Jensen *et al.*, 2003).

In 1987 the Syrian Government started to gradually reform the country's agricultural policy. The objective was to phase out centrally planned features and to gradually switch to indicative planning procedures, which are associated with more liberal agricultural sector policies. This approach has shown positive results in terms of output development in the 1990s, with the exception of the years 2000 and 2001 when serious droughts reduced agricultural production. At the end of the 1990s, Syria became a net exporter for many agricultural products; at the same time, significant amounts of staple products, such as sugar, rice, vegetable oil, maize, dairy products such as milk powder and butter, as well as meat have to be imported. Furthermore, it is worth pointing out that this gradual approach to reforms has prevented a sharp decline of agricultural output in Syria. In contrast, the countries of central and eastern Europe and the former Soviet Union generally have chosen a rather sudden abolition of the central plan, and have experienced significant agricultural output decline in the first years after liberalization. Many of these countries have not yet recovered from this. It is also worth mentioning that the liberalization of agricultural policies is very high on the international policy agenda.

In spite of the agricultural policy reforms initiated in Syria since 1987, the country's agricultural sector remains in a transitory stage and market distortions are abundant. Against this background it is important to systematically quantify the transfers and fiscal flows which are associated with various agricultural

policies, and thereby quantify the level, structure, and evolution of taxation of agriculture in Syria. In a country where agriculture contributes between 28-30 percent to total national gross domestic product (GDP) and where households have to spend on average about 35 percent of their income on food, agricultural policies are likely to have significant effects throughout the economy as well. In addressing these issues, this paper asks ‘How has subsidization or taxation of the agricultural sector in Syria developed in the most recent past?’ and ‘Which further agricultural policy reforms could foster further integration of Syria into the world agricultural markets?’<sup>1</sup>

The remainder of this chapter is structured as follows: section two briefly describes the conceptual framework used to quantify the financial transfers to agriculture that are associated with agricultural and food policies; section three provides an overview and qualitative review of the most important policies that have affected Syria’s agricultural sector in the past decade; section four presents the results of the quantitative assessment of transfers associated with various policy areas; section five concludes with a summary and some policy recommendations.

## **4.2 CONCEPTUAL FRAMEWORK FOR ASSESSING THE DEGREE OF TAXATION OF AGRICULTURE IN SYRIA**

### **a) Classification of agricultural policies affecting the taxation of agriculture**

From an economic point of view, any effective policy is linked with a transfer. However, the means of transfers and the economic groups that finance the respective transfers vary widely. With respect to a particular sector such as agriculture, policies can result either in subsidization or in taxation of agriculture. In this context, a fruitful categorization of different types of agricultural policies is to make a distinction between direct, indirect, and general subsidies. The criteria for classifying policies accordingly are the means of transfers associated with specific policies: (i) *direct policies* are those associated with direct government transfers and which are directly linked to agricultural output; (ii) *indirect policies* are policies not associated with direct government transfers but instead with transfers from consumers, or other sectors in the economy, to agricultural producers. Hence, the indirect policies affecting agricultural producer prices are effectively supported by other market participants: this form of support is normally called *market price support* (MPS); (iii) *general subsidies* are those which fund general support services provided to the whole sector and not to specific producers (e.g. agricultural research, extension services etc.).

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<sup>1</sup> The effects of all agricultural policies will be assessed whenever applicable for the following agricultural products: Syria’s strategic crops (wheat, barley, cotton, sugar-beet, cotton, chickpeas, lentils, and tobacco). Furthermore, for other agricultural commodities which are important for Syria’s agricultural sector: citrus fruits (oranges and lemons), vegetables (tomatoes), fruits (apples), potatoes, beef, sheep meat (from Awassi sheep), and poultry meat. The time period covered in the study are the years between 1990 to date. In many cases, the most recent year for which data was available was 1999.

Because of the high economy-wide importance of agriculture and of the macroeconomic variables such as interest rates or exchange rates, a *general equilibrium framework* is most appropriate for such an analysis. However, due to data constraints, the major approach that will be used in this study is a *partial equilibrium approach*. That implies that the level of support granted to specific agricultural product markets will be quantified separately and then aggregated to get an estimate of the total transfers associated with the agricultural policies between 1990 till 1999 (2000).

### **b) Measures for estimating the extent of support to agriculture**

The analysis will start out by calculating product-specific *Nominal Protection Coefficients* (NPC) which will be extended to calculate product-specific Producer Subsidy Estimates (PSEs) as defined by the OECD (OECD, 2000). NPC express the ratio between the domestic producer prices ( $P^d$ ) to the border, or parity price ( $P^w$ ) of the respective commodity (indicated with the index  $i$ ):

$$1) NPC_i = \frac{P^d}{P^w}$$

Calculations of PSE's are also based on the difference between domestic and international prices, but allow the quantification of the total annual transfers, which can be attributed to a specific product by multiplying the per unit subsidy with the quantity of the respective commodity ( $Q_i$ ) produced in a given year. The absolute value of product-specific PSEs that comprises only the MPS component is calculated according to the following formula:

$$2) PSE_i = (P_i^d - P_i^w) \cdot Q_i$$

By summing the product-specific PSEs over all products ( $i$ ), one gets the total transfers that are associated with the MPS in the country. Furthermore, the relative PSEs could be calculated by relating the absolute level of PSEs that is expressed in units of the domestic currency to gross agricultural output (GAO) as a proxy for total farm revenues. However, formula 2 only allows the quantification of the product-specific level of MPS, which is due to indirect policies in a given country. These transfers will be estimated for the major agricultural commodities produced in Syria. At the same time, Syria has implemented agricultural policies which can not easily be attributed to any specific product such as credit, input or general support policies. In an attempt to assess the total transfers associated with agriculture, the OECD complemented the above-mentioned concept of PSE with the calculation of General Services Support Estimate (GSSE) and Consumer Support Estimate (CSE). By summing up the transfers associated with the respective support components, one could then assess the total Agricultural Support Estimate (ASE) of a country. By estimating the transfers associated with the specific areas of agricultural and food policies relevant in a given country such as Syria, it would be possible to quantify the total extent of transfers, the composition of transfers, and their development over time<sup>2</sup>.

<sup>2</sup> The quantification of the transfers associated with the agricultural policies in Syria and the analysis of the effects of the respective policies is associated with substantial data needs. Some of the information used for this study relies on official publications from the Ministry of Agriculture and Agrarian Reform, the Ministry for Economics and Foreign Trade, the Ministry of Supply and the Syrian Customs Office. Furthermore, data on credit disbursement was received from the Agricultural Cooperative Bank. Data on international prices

### **4.3 QUALITATIVE REVIEW OF AGRICULTURAL POLICIES**

This section provides a qualitative review of the most important policy areas having an effect on agriculture. The discussion will show that not only sector-specific and direct policy interventions, but very often economy-wide policies such as exchange rate alterations have the biggest effect on agricultural sector development. Before addressing some specific policy areas, the official agricultural policy objectives are briefly discussed and the question asked as to how helpful these policies are in exploiting Syria's comparative advantage.

#### **a) Agricultural policy objectives**

The Syrian Government has defined the following major agriculture and food policy objectives:

- Enhancing self-sufficiency and improving the trade balance by reducing agricultural imports and increasing exports.
- Promoting the integration of the agricultural sector into the economy.
- Increasing the contribution of the agricultural sector to GDP and employment.

Policy objectives normally serve a variety of different purposes in order to meet the expectations of different interest groups (e.g. consumers, producers, different state organizations, and policy-makers). However, the above mentioned objectives have also some economic implications.

The first policy objective is closely linked to an attempt to better exploit the agricultural production potential of Syria and enhance the competitiveness of the agricultural sector. Given the production conditions, Syria's agriculture competitiveness on international standards is indeed potentially substantial for some commodities, particularly Mediterranean products. Removing various policy constraints and over-regulation for such sectors should therefore increase the social benefits from agricultural production.

The second objective seems to be directly linked with the first objective. Improving the backward linkages of the agricultural sector, i.e. the efficiency of all input operations by further privatizing the respective services, will contribute to better integration. Furthermore, by increasing the efficiency in the marketing chain between the farm gate and the point of export (normally the major harbors), the prices of Syrian agricultural products can be reduced and improve competitiveness on international markets.

With respect to the third policy objective, let it be clear that it is generally difficult to increase the contribution of the agricultural sector in any country, for the

following reason. In most countries of the world, technological progress in the last decades has strongly increased the productivity of land, labour, and capital employed in agriculture. While technological progress can result in significant increases of supply, demand for agricultural products normally grows less quickly. Cochrane, an American economist, labeled this phenomenon the *agricultural treadmill*: because farmers use ever more efficient production technologies, they themselves contribute to declining prices for the products they are producing. To remain competitive in spite of declining real prices, the major strategy of farmers around the world has been to increase the average size of farms, while at the same time an out-migration of labour from agriculture took place. Out-migration and increasing farm size is possible only if legislation on land and inheritance law favours structural change. However, the competitiveness of agriculture in relation to other sectors declined in most developed countries, with the result that the contribution of agriculture to GNP tends to decline in the course of economic development. If the share of agriculture in the economy would indeed be increased, then other sector's share would need to decline. It is questionable which sectors it would be and how the government would intervene into the economy to actually shift resources from other sectors to agriculture. Instead of trying to artificially increase the share of agriculture in the economy, a policy objective could be to identify those sub-sectors of agriculture that deserve expansion based on comparative advantage. Therefore, this third policy objective would, at least from an economic point of view, deserve reconsideration.

## **b) Centrally planned features**

Ever since 1987, the Syrian Government has chosen a policy of gradual reforms under which the economy is supposed to be liberalized in consecutive steps. This included a gradual move from central planning to indicative planning, which basically involves the determination of quantities and prices for the so-called strategic crops (wheat, barley, cotton, sugar beet, tobacco, lentils, chickpeas) on the basis of national priorities and of the availability of natural resources. Various features of this indicative planning procedure are still rather important for the way the agricultural sector in Syria operates.

Particularly for the seven strategic crops, the indicative planning procedure is associated with a high degree of Government intervention. However, the degree to which the Government still determines production quantities and prices for these crops differs significantly. While the Government sets the prices for all strategic crops, these prices are not always compulsory. For wheat, barley, sugar beet, cotton and tobacco the official prices are normally set above respective parity prices in world markets. For chickpeas and lentils the government has set prices recently below parity prices and allowed private traders to bid prices up to the respective parity prices. Only in the case of cotton, sugar beet and tobacco the farmers have to sell their production to the state processing plants, and at the prices that reflect production cost plus a profit margin determined by the "central planner" and not world market prices. In the case of other strategic crops, farmers can also sell to private traders. Particularly the production and price determination

of chickpeas and lentils has been liberalized to a relatively high degree already<sup>3</sup>. Quantities are fixed in accordance with annual plans and are based on annual specifications of the area allocated by each farmer with specific strategic crops. Furthermore, the area of irrigated and non-irrigated land use per crop is specified. These production obligations are negotiated on the various levels of government and with the farmer associations. It is obvious that such production controls limit the flexibility of farmers to react to market developments and to changes in relative prices.

Furthermore, it is notable that Syria's "central planner" not only interferes in agricultural production but also in the marketing system of agricultural and food commodities. For instance, farmers and private traders have to obtain certificates of origin from a local branch of the Peasants Union Federation, a parastatal organization, in order to transport any quantities of strategic crops to the nearest elevator. Furthermore, the Ministry of Supply and Internal Trade (MSIT) continues to monitor, and at occasions to control, food prices at the wholesale and retail level (SOFA, 2002). These and other forms of regulations at all levels of the domestic marketing system contribute to higher transaction costs and thereby reduce the efficiency of the Syrian food marketing system.

### **c) Exchange rate and currency policies**

Syria's exchange rate policies are likely to be the single most important macroeconomic policy affecting the development of the country's agricultural sector. In fact, they have the potential to over-compensate for the effects of various sector-specific policies. Throughout the 1990s, Syria had implemented a system of multiple and fixed exchange rates. In the case of agriculture, different exchange rates were applied for imports of agricultural inputs, and for import and export of agricultural commodities. However, in many cases these were accounting artifices only: for instance, imports of agricultural food staples had to be made at the free market exchange rate while the total value of imports in SP was evaluated at the exchange rate for agricultural imports. 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 two major components: first, 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 the exchange rates which are relevant for agriculture started in the early 1990s. In 1992, the exchange rate at which pesticides had to be imported was increased from SP11.25 to 40/US\$. In 1994, an adjustment of similar magnitude followed with respect to the exchange rate at which fertilizers were imported. Finally, in the year 2000 all remaining exchange rates were adjusted from the previous value of SP11.25 to 46.5/US\$. Hence, it is obvious that the unification of exchange rates has also resulted in a significant (nominal)

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<sup>3</sup> The institutional details of the "centrally planned administration" of the strategic crops will not be discussed in detail here, as it is described in other chapters of this book (e.g. Westlake).

devaluation of the Syrian Pound (SP) in relation to the US\$ and other western currencies.

This review indicates that the unification of exchange rates was mostly done by one major first adjustment, which was followed by gradual steps of further devaluation. In fact, this process continues and after a further devaluation in 2001 of the official exchange rate to SP48.5/US\$, the official exchange rate of the SP to the US\$ is now quite close to its free market equivalent (around SP50/US\$). Because of relatively moderate inflation rates, the substantial nominal devaluation which has been implemented during the last years has also resulted in a devaluation of the real exchange rate.

Nevertheless, pressure to devalue the Syrian currency might continue in the future. In fact, the current exchange rate is likely to be the most important factor that discriminates against the agricultural sector of Syria. Further devaluation would offer the possibility to reduce this form of discrimination. It could, in fact, open “windows of opportunities” for Syria’s agricultural sector for various reasons. For export oriented sectors such as agriculture, past experience from many countries is that a gradual devaluation of the national currency has shown positive effects. The real devaluation of the Russian ruble, for instance, has helped to get the country’s agricultural sector on a growth path again after it has been in a stage of serious crisis for almost a whole decade. Therefore, as long as Syria’s Government determines the exchange rate, due consideration should be given to continue the gradual devaluation of the SP. Given the economic situation of Syria, a gradual devaluation seems preferable to a sudden devaluation for two major reasons: (i) it might reduce the pressure on the SP once a full liberalization of the exchange rate regime will be implemented; (ii) it would dampen the negative social consequences that can be associated with sudden devaluation, as they have been experienced by some economies of South East Asia and by Russia in the course of the last world financial crisis in 1997/1998. Syria is also importing various staple commodities (e.g. sugar, rice, vegetable oils, and dairy products) and the price for these food items would increase suddenly following a strong devaluation. If the devaluation would take place gradually, households have more time to adjust to the respective change of food prices.

**Table 4.1 Development of various exchange rates (ER) of the SP to the US\$, 1990-2000**

|                                       | 1990  | 1991  | 1992  | 1993  | 1994  | 1995  | 1996  | 1997  | 1998  | 1999  | 2000 |
|---------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Official exchange rate (ER)           | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 46.5 |
| ER for agricultural inputs fertilizer | 11.25 | 11.25 | 11.25 | 11.25 | 43    | 43    | 43    | 45    | 46.5  | 46.5  | 46.6 |
| ER for agricultural inputs pesticides | 11.25 | 11.25 | 40    | 40    | 43    | 43    | 43    | 45.5  | 46.5  | 46.5  | 46.7 |
| ER for agricultural exports           | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 46.8 |
| ER for agricultural imports           | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 11.25 | 46.9 |
| Black market ER in Damascus           | 46.45 | 45.84 | 50.48 | 49.67 | 51.2  | 50    | 51    | 51    | 51    | 51    | 51   |
| ER in Beirut                          | 46.45 | 45.84 | 50.48 | 49.67 | 51.2  | 50    | 51    | 51    | 51    | 51    | 51   |
| ER in neighbouring countries          | 42    | 43    | 43    | 43    | 43    | 43    | 44    | 45.2  | 46.5  | 46.5  | 46.5 |
| Promotion ER                          | 22    | 22    | 22    | 22    | 22    | 22    | 22    | 22    | 22    | 22    | 22   |
| Trade weighted ER                     | 19.2  | 25.1  | 28.1  | 29.9  | 33.3  | 34.4  | 39.2  | 45.1  | 49.4  | 48.9  | 48.1 |

Source: Ministry of Economics and Foreign Trade.

#### **d) Tariff and non-tariff barriers to trade**

Before 1985 all import and export operations were controlled by the state. Since 1985 private traders were allowed to import industrial inputs. After 1987 more substantial reforms were implemented in an attempt to liberalize Syria's trade regime. One part of these reforms was to allow private traders to export agricultural commodities. Today trade for some agricultural products, such as fruits and vegetables, is dominated by private traders. Trade with strategic crops, particularly cereals, cotton, tobacco, and sugar remains widely in the hand of state organizations. Furthermore, Law No.10 (passed in 1991) gave more concessions to foreign traders, which contributed to a diversification of exports. Private traders were successful in exporting fruits, vegetable, and other food commodities to Arab Gulf countries and garments to European countries. GDP also grew in this period. However, in the second half of the 1990s, the Syrian economy experienced a depression again. Only at the end of the 1990s, were new reforms initiated to liberalize the trade system further. However, they were not yet sufficient to remove the trade restrictions, which are still in place today. Therefore, since the 1990s, major policy reforms have been pursued and are still being implemented today.

Imports of agro-food commodities are subject to two types of tariffs. First, a 'product-specific import tariff' that varies between 1 and 150 percent. Table 4.2 gives an overview of the various import tariffs for agricultural commodities which were applied in early 2001. They have been effective throughout most of the 1990s. The highest import tariff rates are applied for premium food items such as caviar (100 percent). This seems to be excessively high. Furthermore, tariff variation is very high! While tariff rates might differ, it would be better to keep tariff variation as low as possible. The experience from Chile, for instance, shows that the introduction of a more 'uniform tariff schedule' has not only significantly reduced the incentives for corruption, but it has also contributed to agricultural export growth.

Second, an additional 'general import tariff' was levied on imports. This tariff varies between 6-35 percent and increases under-proportionally with the level of the product-specific import tariff. This tariff is supposed to collect fees that are in turn used for various government expenditures (e.g. defense, consumption, schooling, harbor, transportation etc.). Law No.1 from 1980 specified some exemptions from the need to pay the 'general import tariff.' Imports of important consumer products such as flour, for instance, were exempted from these additional tariff payments. From an economic point of view the application of such a 'general import tariff' reduced the transparency of Syria's trade system further. If revenue objectives were the major reason for imposing this additional customs tariff, it would have been more beneficial right from the beginning to raise product-specific import tariffs instead of imposing an additional tariff.

**Table 4.2 Product specific import tariffs for selected agricultural and food commodities**

| Item No.  | Product                                     | Import tariff in % |
|-----------|---|--------------------|
| 17/1      | Refined sugar                               | 15                 |
| 11/1/A    | Flour of wheat                              | 1                  |
| 10/6/A/1  | Milled paddy rice for seed                  | 1                  |
| 8/1/B     | Bananas                                     | 75                 |
| 9/2       | Tea   | 7                  |
| 9/1       | Coffee                                      | 30                 |
| 4/3/A     | Shortening                                  | 15                 |
| 12/1/D    | Cake of Soya bean                           | 1                  |
| 4/2/A/1/a | Dry milk                                    | 7                  |
| 7/1/G/1   | Potato for sowing                           | 1                  |
| 7/6/B/1   | Sweet potato                                | 30                 |
| 12/1/H    | Sesame seed                                 | 1                  |
| 8/1/A/1   | Dates                                       | 30                 |
| 1/4/A     | Sheep                                       | 1                  |
| 2/1       | Fresh, frozen meet                          | 7                  |
| 15/7/1    | Oil of sunflower seed                       | 7                  |
| 15/10/A/1 | Fat and industrial acids                    | 1                  |
| 15/12     | Hydrogenated animal oils                    | 7                  |
| 16/1      | Guts  | 50                 |
| 3/1       | Fresh, frozen, and dried fish               | 7                  |
| 9/3/A     | Prepared mate                               | 30                 |
| 9/3/B     | Raw mate                                    | 7                  |
| 16/4/A    | Conserved fish (salmon, sardine , and tuna) | 1                  |
| 16/4/B    | Caviar                                      | 100                |

Source: Ministry of Economics and Foreign Trade.

Because of the obvious disadvantages inherent in the ‘general import tariff’ scheme, this was liberalized in early 2001. A first decree reduced the level of the ‘general import tariff’ for all product groups to 1 percent. A second decree, which at the time this study was written but has not been signed yet, foresees the complete abolishment of the ‘general import tariff’. These measures are significant steps towards further liberalization of Syria’s trade regime. As long as this reduction in trade protection is not compensated for by increasing the product-specific import tariff, the economic effects should be measurable in the future. The difference between domestic and world market prices should narrow. Furthermore, domestic prices for imported commodities should decrease, which in turn will be particularly beneficial for those consumers who rely on imported food commodities to a great extent.

Furthermore, non-tariff import constraints for agricultural commodities abound in Syria. For instance, a total import ban for fruits and vegetables has been in force during the 1990s, in an attempt to protect producers of fruits and vegetables – likely one sub-sector of agriculture with relatively high comparative advantages. Imports of vegetables and fruits from Lebanon and Jordan were allowed in certain periods of the year according to an agricultural production calendar. Furthermore,

only “Five Star Hotels” were allowed to import tropical fruits, some of which can be found today in food retail markets of Damascus.

In fact, only food products for which no import ban exists can be imported. Most import operations need approval by the Ministry of Agriculture and Agrarian Reform. The Ministry also assures that the import operation satisfies the sanitary and phyto-sanitary standards as defined by the Syrian Government. Some agro-food imports are exempted from the obligation of being approved by the Ministry of Agriculture. The more bureaucratic such procedures will be the higher the incentives for corruption will get. Therefore, it seems to be important that the customs codes defines clearly the conditions for any such import operations leaving only few decisions at the discretion of administrators in the Ministry and at the Customs offices.

Another non-tariff trade barrier was implemented in 1987. The respective legislation allowed private traders to import agricultural inputs and agricultural raw materials and processed food stuffs subject to the condition of having earned the mandatory foreign exchange in export operations. However, the exporter was allowed to use a specific share of his export earnings only for importing commodities. This share differs according to the exported commodity. For example, in the case of wool exports (from sheep), 75 percent of export earnings may be used for importing agricultural commodities, only. Resolutions which became effective in 1999 allowed such “import-export-symmetries” also in the case of flour. Private mill and pasta factories were allowed to import flour but had to earn the foreign exchange by exporting the respective commodities again.

Another example is related to trade in sheep meat. Syria seems to have a comparative advantage in the production of Awassi sheep which enjoys high demand, particularly in Gulf countries. The export value of Awassi sheep was US\$ 46 million in 1997, US\$ 49 in 1998, and US\$ 55 in 1999. However, exports of the Awassi sheep were substantially constrained by imposing an “import-export-symmetry” on it: for each quantity of Awassi sheep exported, the exporter had to import the double quantity of sheep meat of lower quality. Food security concerns were the rationale for this arrangement. While this regulation was given up in 2000 (Decision No.1 of the Prime Minister, April 7), it is obvious that any such constraints prevent Syria from better exploiting its comparative advantage and realizing its full export potential.

#### **e) Agricultural and food export policies**

One of the major recent objectives of Syria’s foreign trade policy is to encourage the exports of commodities and services and to diversify the structure of exports. The so-called Export Committee was established in 1986, in an attempt to support this objective. This Committee is chaired by the Deputy Prime Minister for economic affairs and its secretariat is attached to the Ministry of Economics and Foreign Trade. The Supreme Agricultural Council and various other Government institutions and Ministries engaged in export activities are represented in this

committee<sup>4</sup>. More recently the Export Committee attempted to change the general export strategy: instead of merely disposing of surplus quantities not needed for domestic consumption on international markets, it encouraged the production of commodities specifically tuned for international markets. This seems to be particularly important because quality standards matter more today in export markets than ever before.

Ever since the 1987 initiation of the liberalization of the Syrian economy, the Export Committee, in accordance with the guidelines designed by the Government of Syria, started to ease export operations of agro-food products by the private sector. However, various restrictions are still in force and constitute serious constraints for private export operations. For most products mentioned above, the exporter needs to get an export license. Exports of fruits and vegetables are permitted without getting an export license.

According to Syria's legislation, an agricultural production tax is levied on all agricultural commodities which are exported. Effectively, this constitutes an export tax. Generally, this tax ranges between 9.5 and 12 percent of the production value. The products can be categorized as follows: Products on which a production tax is levied of 12 percent of their average price at the time of export. This product group includes fresh and processed vegetables and fruits, olives, olive oil and other products made from olives (a total of 88 commodities). Most other commodities are subject to an export tax of 9-9.5 percent of their average price. However, there have been various exemptions from these export taxes in the recent past. In particular, dry and frozen vegetables of superior quality and in recent years, all fruits and vegetable products have been exempted from the export tax. In 1996 olive oil and in the year 2000 cotton have been exempted from the export tax. In 2001 Government Decree No.15 exempted all agricultural commodities from this export tax. Furthermore, all agricultural export operations were subject to additional general export policies, which constrained export operations (e.g. an "income tax" of 1 percent of all export revenues is levied on all earnings from exports; a tax on foreign currency earnings of 10 Piasters per dollar). These policies were valid until 2001. However, in the meantime a new reform package has been passed by the Government of Syria which foresees the discontinuation of the payment of export taxes and fees on foreign currency earnings from export operations. It is noteworthy that currently no explicit export subsidies were granted for agricultural exports.

In compliance with the Government's objectives, the Export Committee initiated various measures to ease export operations of agricultural commodities. For instance, production taxes imposed on cotton exports were eliminated. At the same time, cotton, cotton seeds, yarns and cloth for textiles were exempted from

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<sup>4</sup> A major institutional reform took place in late 2001 when the functions of the Supreme Agricultural Council were transferred to the Ministry of Agriculture. This Ministry now has to make a proposal concerning the sectoral production plan and the prices for strategic crops that has to be approved by the Cabinet of the Government of Syria. The consultative and participative process through which various political and social bodies have been engaged in the formulation of the former Supreme Councils policy proposals for the agricultural sector are now taking place through respective consultations at various levels within the Ministry of Agriculture.

agricultural production taxes when being processed and exported by domestic textile plants (Law No.7 of 1999). While no explicit export subsidies were used to induce further exports of vegetables and fruits, these were also exempted from agricultural production taxes. Furthermore, the income tax on export profits was reduced from 1.9 percent to 1 percent (Executive Instructions No. 9124/9/2 of 1997). Other measures of “export encouragement” included a reduction of air freight rates for vegetables and fruits, especially citrus fruits.

#### **f) Trade agreements**

A new export strategy released in 2001 by the Ministry of Economics and Foreign Trade aims at a better integration of Syria into the global trading system. To meet this objective various initiatives have been pursued. For instance, Syria aspires to improve its trade relations with important trade partners by negotiating and implementing bi- and multi-lateral trade agreements. Three examples are particularly important:

- (i) the multilateral Arab Free Trade Agreement. In 1998 an Arab free trade agreement was signed between Syria and other Arab countries, specifically Saudi Arabia, United Arab Emirates and Iraq, with the objective of reducing customs tariffs for agricultural products by 10 percent annually, and completely abolish respective tariffs by the year 2007. However, the agreement permitted each country to protect some sensitive products for at least some time each year.
- (ii) bilateral agreements with neighbouring countries (e.g. Lebanon and Jordan) were negotiated, but no free trade agreement had been concluded as of mid-2001. However, agreements were signed as first steps in such a direction. With Lebanon, an agreement was signed granting customs tariff exemption for most agricultural products except for some sensitive products. A full elimination of agricultural tariffs was envisaged by the year 2004. With Jordan, some tariff-free quotas were negotiated, while quantities exceeding these tariff quotas continue to be subject to normal tariffs. Furthermore, the Ministry of Economics and Foreign Trade negotiates with Lebanon and Egypt to exempt olive oil imports from Syria from customs fees.
- (iii) A third area of trade agreements which might have important effects on Syria’s agricultural trade is a bilateral agreement with the European Union (EU) which should enhance Syria’s access to EU markets particularly for agro-food products and textiles<sup>5</sup>. Part of the regional trade agreement with the EU is the negotiation of export quotas. For instance, the Ministry of Economics and Foreign Trade has started initiatives to negotiate with the EU over the terms of export quotas for olives and olive oil. However, respective negotiations are time-consuming because of the resistance of southern EU members who are

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<sup>5</sup> For more detailed information on the Agreement with the EU see Chapter 2 by José Alvarez-Coque in this volume.

afraid of competition in agricultural markets for Mediterranean products.

Another issue worth mentioning is that some of the above mentioned regulations are not in accordance with principles of the World Trade Organization (WTO). For instance, the tariff-exemptions with Lebanon would violate the WTO's most-favoured-nation principle according to which any customs concession granted to one trading partner also have to be granted to all WTO members. Exceptions from this rule are possible when two or more countries sign a free trade agreement of which the WTO is notified. Furthermore, according to Article XXIV of the GATT agreement such regional trade agreements must include "substantially all trade". This implies that "sensitive products" such as agricultural commodities may not be excluded from the free trade agreement (cf. Roberts and Wehrheim, 2001). Hence, as Syria intends to become a member of the WTO in the future, these regional trade agreements will be under the scrutiny of the WTO members, which might result in the need to adapt them to WTO standards. In fact, applying for WTO membership would probably be the single most important step for Syria's full integration into the world's agricultural markets. This would make its trade regime more transparent, rule-based and more compatible with international trade standards.

#### **g) Agricultural input subsidies**

Agricultural input subsidies have been another important area of agricultural policy at the beginning of the 1990s. In the course of the 1990s, they were consecutively phased out. Today only limited input subsidies remain. For the most part, these subsidies are of an indirect and not of a direct nature and therefore also have the potential to create substantial economy-wide distortions and misallocations. For instance, electricity and fuel are the two inputs which continue to be effectively subsidized -for the whole economy, however- and not only for agricultural producers. The generally low price level for energy does not offer any incentives to use these resources more efficiently. In the accession negotiations of Russia to the WTO, implicit subsidies of energy have caused substantial concern for international trade partners and contributed to the delay of negotiations. Furthermore, the costs for water and the operation and maintenance cost for the agricultural irrigation system that are not recovered from farmers are substantial. Given the scarcity of water, the lack of a price for water effectively constitutes a substantial subsidy to agricultural producers. In the 1990s, the major share of irrigated land was used for wheat and cotton (64 percent in 1990) and was growing (80 percent in 2000). Hence, these two bulk commodities for which nominal international commodity prices have depicted a declining trend in most of the 1990s are effectively subsidized.

### **h) Credit subsidies<sup>6</sup>**

Agricultural producers generally receive credits from the Agricultural Credit Bank, the operations of which are restricted to Agriculture. This Bank refinances its lending operations at the Central Bank of Syria. In the past, the Bank has disbursed only limited amounts of long-term loans, with the result that productivity enhancing investments have been, and still are, the exception rather than the rule. The major share of loans throughout the 1990s has been disbursed as short term loans. In fact, this share increased in the course of the 1990s: the percentage of short-term loans increased from about 72 percent in the beginning of the 1990s (1990-92) to 84 percent at the end of the 1990s (1997-99). The interest rates at which the ACB lends money to various types of agricultural firms was and is fixed as is the one at which other sector Banks are allowed to lend money to firms in the sectors in which they operate. However, the interest rates which agricultural producers have to pay are preferential if compared with those of paid by firms in other sectors. For instance, in 2001 interest rates for loans to agricultural producers ranged between 4 (for public farms) to 7.5 percent (for private farmers) while firms in the industrial sector had to pay interest rates between 7.5 and 10 percent.

### **i) Tax policies**

In 1991 the Syrian tax system was reformed. Law No.20 of 1991 introduced a system of progressive income taxes, regulated the profit tax of agricultural cooperatives and specified various tax exemptions. As in many other countries, the agricultural sector benefits from various preferential tax treatments, especially with respect to direct taxes. Most notably, farm income is exempted from income tax and agricultural cooperatives are exempted from profit taxes. Obviously this is a substantial form of subsidizing agriculture. Because an adequate reference scenario is difficult to define, no attempt is made in this paper at measuring the extent of the respective inter-sectoral redistribution associated with this preferential treatment of agricultural producers.

Furthermore, it is worth mentioning that the indirect taxes paid by agricultural producers are often compensating for the preferential treatment with respect to direct taxes. In fact, some of these taxes date back to the Ottoman system. For instance, according to Law No.794 of 1928 (amended by Law No.25 of 1958) animals are taxed annually per head at the following rates: sheep and goat, SP2.25; camels, SP4; cattle, SP7; pigs, SP11. Furthermore, sales of agricultural commodities are subject to a value added tax (Law No.384 and 437 of 1957) at rates of 9-12 percent, which is higher than in many western countries where agricultural commodities often are exempted from indirect taxes or are subject to preferential tax rates.

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<sup>6</sup> For a more detailed description of agricultural credit issues see Chapter 15 by Parthasarathy in this volume.

#### 4.4 QUANTITATIVE ANALYSIS OF TAXATION OF AGRICULTURE IN SYRIA BETWEEN 1990 TO DATE

After the qualitative discussion of the various policies and regulatory approaches, which are affecting agricultural and food production in Syria, this section now turns to their quantitative assessment. Specifically, it examines whether the set of policies effectively resulted in a taxation or subsidization of the agricultural sector. It also endeavors to reveal the most important structural composition and trends of agricultural policy support in the 1990s.

##### a) Estimates of Market Price Support

As discussed in Section 2, any indirect policy affecting domestic agricultural producer prices is effectively supported by the market participants. The discussion in the previous section has identified three policy areas in Syria which are likely to significantly affect the level of indirect policy transfers to agricultural producers: (i) the *import and export policies*, which create a wedge between domestic and international agricultural prices; (ii) the *exchange rate policies*, which directly affect the international prices in which food prices of Syria's imports and exports have to be expressed in order to calculate import and export parity prices; (iii) the *centrally planned system*, which has a direct effect on domestic prices, particularly in the case of strategic crops.

The identification of the most appropriate international price for a specific commodity is difficult because of data availability, quality differences etc. One shortcut often used to circumvent these difficulties is to calculate unit values from national trade statistics. However, unit values carry the potential of being highly distorted, due to the use of the multiple exchange rate system and the evaluation of imports and exports with the official exchange rate for statistical purposes. Therefore, international agricultural commodity prices were used in most cases. These are also distorted, for instance, by agricultural policies implemented by the industrialized countries which are big agricultural exporters (e.g. the EU and the USA). Nevertheless the international prices seem to be the best alternative and are used for such calculations for all countries.

However, these *international commodity prices* have to be adjusted to the same point of sale in Syria. Furthermore, agricultural products at the farm level differ from those which are traded in world markets. Therefore, normally, costs for packaging, processing and quality differences ought to be taken into account when calculating import or export parity prices. Export parity prices are derived from fob (free on board) prices at the major trading point through which the commodity is exported into the respective country. Import parity prices are normally derived from cif (cost-insurance-freight) prices at the major point of entry. Furthermore, in a next step, the cif or fob prices at the border are normally adjusted to either the farm gate or a wholesale point which is assumed to be the actual point of competition. Given the weak availability of respective product-specific data of domestic marketing costs for the different products and the different years in the

1990s, a different approach was used<sup>7</sup>. The implicit assumption behind this approach is that the cost of processing and moving domestically produced commodities from the point of production to the point of consumption is generally equal to the cost of adjusting c.i.f or f.o.b prices to the relevant domestic point of price competition (Melyukhina, Qaim and Wehrheim, 1998: 398).

As seen in a previous Section, Syria has used a system of multiple and fixed exchange rates during the 1990s. The official exchange rate has been used mainly for statistical purposes. Agricultural imports and exports were evaluated at different rates. Table 4.1 indicates that the discrepancy between these exchange rates was not marginal but substantial throughout most of the 1990s. Therefore, the choice of exchange rates for converting the international price into local currency will have decisive effects on the results. For this reason, three different exchange rates are used below for the assessment of the MPS: the official exchange rate, a trade weighted exchange rate and the neighbouring country (Beirut) exchange rate.

## **b) Discussion of results**

Table 4.3 provides an overview of the MPS and all other forms of support for which direct or indirect transfers could be estimated. The calculations show the effect of different exchange rates of the SP against the US\$ on the estimates of total MPS. All international prices were converted in Syrian pounds in order to systematically compare international and domestic prices in the domestic currency. The lower the exchange rate, the lower the corresponding parity price, and consequently, the higher the gap between international and domestic commodity prices.

The upper part of the Table, illustrated by Figure 4.1, shows how total market support developed. Based on the *official exchange rate*, the absolute amount of MPS transfers approximately doubled from an average of SP65 billion (1990-92) to about SP130 billion (1997-99). However, nominal Gross Agricultural Output (GAO) doubled as well, thereby offsetting the increase of MPS in relative terms. This relative stability is somewhat surprising because world market prices have shown strong variations over the same period. The following two lines in the Table 4.(illustrated on Figure 4.1) indicate the effect of the exchange rate adjustment: the *neighbouring country exchange rate* (from Beirut) has fluctuated, similarly to the black-market exchange rate, around SP50/US\$ throughout the 1990s. Using this exchange rate for the estimation of the transfers, it becomes obvious that domestic agricultural prices in the beginning of the 1990s have actually discriminated *against* agricultural producers: in other words, agriculture has been taxed in that period.

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<sup>7</sup> The approach has been suggested by a group of economists in the USDA for other countries (Liefert *et al*, 1996: 796).

**Table 4.3 Estimates of transfers associated with direct and indirect agricultural support policies in Syria in Mill. SP and as percent of Gross Agricultural Output (GAO), 1990-1999<sup>a)</sup>**

|  | Unit        | 1990   | 1991   | 1992   | 1993   | 1994   | 1995   | 1996   | 1997   | 1998   | 1999   |
|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Gross agricultural output (GAO) in current producer prices   | in Mill. SP | 122861 | 145717 | 174360 | 186683 | 213451 | 241508 | 290272 | 288384 | 344709 | 298359 |
| <b>Producer Support Estimates (PSE)</b>  |             |        |        |        |        |        |        |        |        |        |        |
| Market price support for Syria's major agricultural commodities calculated with different exchange rates |             |        |        |        |        |        |        |        |        |        |        |
| Sum of MPS, trade weighted ER  | in Mill. SP | 34318  | 45094  | 62857  | 73881  | 63894  | 54282  | 54706  | 40499  | 31773  | 39862  |
| Sum of MPS, official ER  | in Mill. SP | 43646  | 62463  | 88926  | 103982 | 103954 | 119322 | 135562 | 127439 | 145514 | 119904 |
| Sum of MPS, neighbouring country ER  | in Mill. SP | -33813 | -4157  | -607   | 19151  | 12979  | -8459  | 2979   | 14416  | 23052  | 31060  |
| <b>Other indirect support</b>  |             |        |        |        |        |        |        |        |        |        |        |
| Credit subsidies   | in Mill. SP | 344    | 467    | 533    | 541    | 575    | 618    | 602    | 553    | 504    | 449    |
| Input subsidies  | in Mill. SP | 0      | 522    | 659    | 2095   | 1073   | 705    | 418    | 476    | 498    | 101    |
| Total PSE, trade weighted ER   | in Mill. SP | 34662  | 46083  | 64049  | 76517  | 65542  | 55605  | 55727  | 41528  | 32775  | 40412  |
| Percentage PSE   | in % of GAO | 28     | 32     | 37     | 41     | 31     | 23     | 19     | 14     | 10     | 14     |
| <b>General Services Support Estimates (GSSE)</b>   |             |        |        |        |        |        |        |        |        |        |        |
| Budgetary expenditures MAAR  | in Mill. SP | 1517   | 1737   | 1950   | 2043   | 2487   | 2770   | 3812   | 4061   | 4322   | 3590   |
| Operating expenditures MAAR  | in Mill. SP | 884    | 1275   | 1667   | 1288   | 1367   | 1701   | 1717   | 1798   | 1835   | 1883   |
| Ministry of Irrigation   | in Mill. SP | 4608   | 12747  | 6517   | 8850   | 8826   | 11761  | 11343  | 14065  | 13389  | 11346  |
| Ministry of Supply   | in Mill. SP | n.a.   |
| Total GSSE   | in Mill. SP | 7009   | 15759  | 10134  | 12181  | 12681  | 16232  | 16872  | 19924  | 19546  | 16819  |
| Percentage GSSE  | in % of GAO | 6      | 11     | 6      | 7      | 6      | 7      | 6      | 7      | 6      | 6      |
| <b>Total Support Estimate (TSE)</b>  |             |        |        |        |        |        |        |        |        |        |        |
| Producer Support Estimates   | in Mill. SP | 34662  | 46083  | 64049  | 76517  | 65542  | 55605  | 55727  | 41528  | 32775  | 40412  |
| General Services Support Estimates   | in Mill. SP | 7009   | 15759  | 10134  | 12181  | 12681  | 16232  | 16872  | 19924  | 19546  | 16819  |
| Consumer Support Estimates   | in Mill. SP | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Budget revenues from agriculture   | in Mill. SP | 4013   | 4013   | 6749   | 7771   | 9068   | 10599  | 16964  | 22280  | 22717  | 22978  |
| TSE  | in Mill. SP | 34761  | 50384  | 52242  | 61607  | 55276  | 48785  | 45698  | 29166  | 16952  | 22896  |
| Percentage TSE   | in % of GAO | 28     | 35     | 30     | 33     | 26     | 20     | 16     | 10     | 5      | 8      |

Note: a) Data for 2000 was not available at the time of the study.

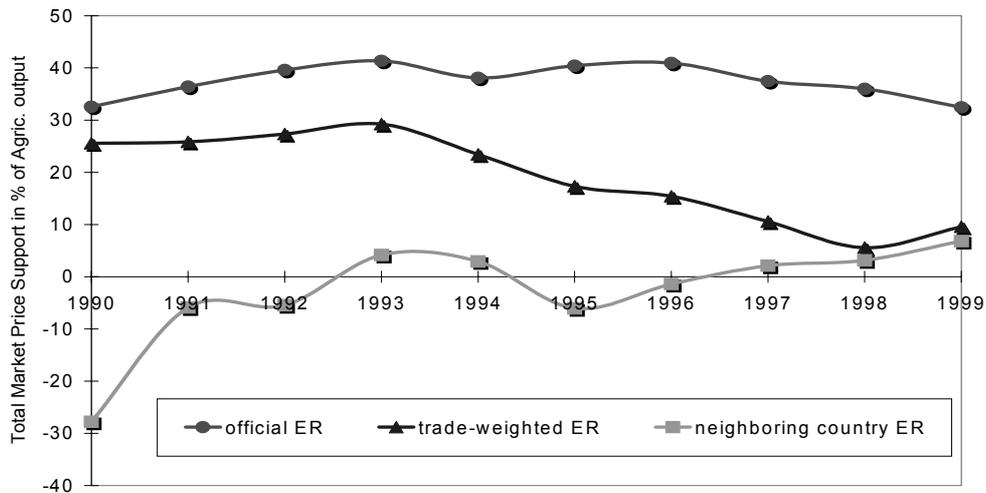
Source: Own calculations with data from MAAR, 2001, Ministry of Irrigation, 2001.

This highlights the crucial role of the exchange rate in determining not only the level of indirect support, but also the competitive position of export-oriented farmers. Furthermore, the gradual devaluation of the *trade-weighted exchange rate* throughout the 1990s highlights another important trend. In line with the devaluation of this exchange rate of the SP in the course of the 1990s, the corresponding estimate of MPS converges towards zero, indicating a reduction in distortions arising from exchange rate policies. From an economic point of view, this is actually good news and indicates that the policy of gradual devaluation of the SP against the US\$ is in fact the single most important factor in reducing negative distortions for agricultural producers.

On top of these aggregated results, some commodity-specific observations are worth mentioning. Based on the *official exchange rate*, all commodities except tomatoes were subsidized throughout the 1990s (Figure 4.2). The respective estimates with the *trade-weighted exchange rate* indicate a much more differentiated picture. It can be seen from this chart that the major strategic crops, namely wheat, barley, and raw cotton have received the highest levels of support throughout the 1990s, and continued to receive the lion's share of indirect support by the end of the 1990s. In contrast, some of the more export-oriented strategic crops such as chickpeas and lentils were taxed in some years (e.g. 1996 and 1998) according to the calculations based on the trade-weighted exchange rate.

This result is primarily due to the wide variations in international commodity prices. However, it indicates that while sheltering domestic producers of export-oriented crops in years when world market prices are low, the same policies discriminate against potential exporters in years of high world market prices. In fact, the results indicate that taxation of agricultural producers, when it occurs, hits the export-oriented farmers producing lentils, chickpeas, olive oil, sheep and poultry, or fruits, i.e. exactly the products for which Syria is expected to have a higher comparative advantage in contrast with cereals, raw cotton, or beef. This becomes even more visible using the *neighbouring country exchange rate* based commodity-specific calculations of MPS. Because the exchange rate of the SP against the US\$ has been widely devalued throughout the 1990s, it reveals a subsidization of producers of major strategic crops and a taxation of those farmers which produce export crops for the entire period. Hence, these results clearly call for a restructuring of agricultural policies by removing the high level of indirect subsidies for the latter, and reducing the degree of taxation of the former.

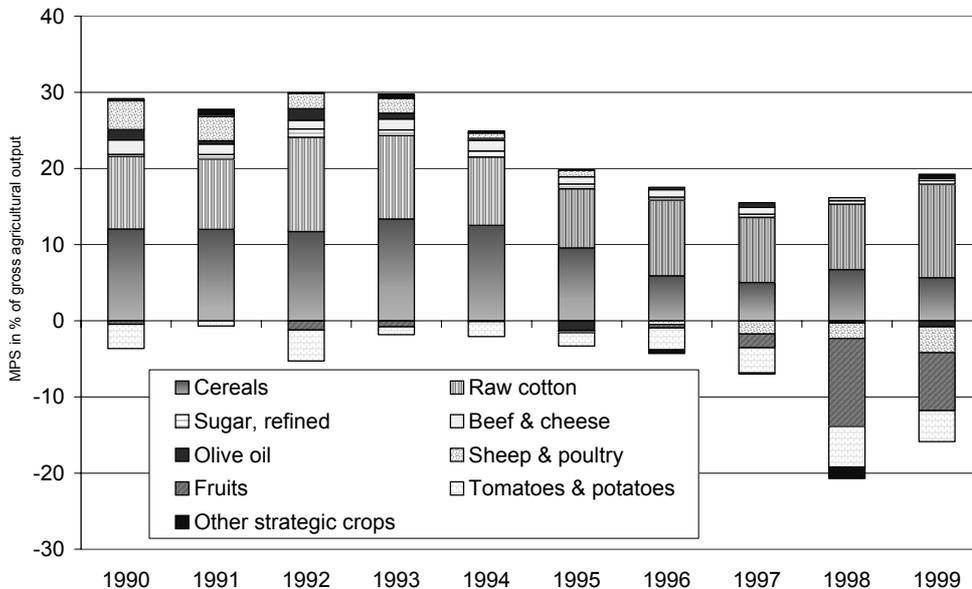
**Figure 4.1 Syria's total Market Price Support (MPS) as a percentage of GAO at constant producer prices, 1990-1999**



Notes: MPS associated with indirect agricultural policies and calculated with the official exchange rate (ER), a trade-weighted ER, and the neighbouring country exchange rate (Beirut). Total MPS is based on calculations for all products for which results are reported in Wehrheim (2001) Table 4.1-2 to 4.1.4. Due to the lack of data, some product-specific calculations for 1999 are either preliminary or not available at all.

Source: own calculations based on data from MAAR and various international sources.

**Figure 4.2 MPS for several of Syria's agricultural commodities as a percentage of gross agricultural output at constant producer prices, 1990-1999**



Note: MPS calculated with a trade-weighted exchange rate.

Source: own calculations based on data from MAAR and various international sources.

### c) Estimates of credit subsidies

Data on the total amount of loans disbursed annually by the Agricultural Credit Bank between 1990 and 1999, indicate that the biggest share of loans disbursed to agricultural producers has been disbursed to production loans for wheat and cotton. Loan disbursements for capital investment has indeed been very low (e.g. tractors and combines), and those for irrigation projects declined substantially. Hence, subsidized credits for short term loans have been more important. Based on the respective annual loan disbursements and the estimated interest rate differential, the total amount of transfers to farmers remained limited throughout the 1990's. In terms of GAO, the share of agricultural credit subsidies (below 0.5 percent throughout the 1990's) was much lower than in many industrialized countries. However, the costs of administering this agricultural credit system are not included in these calculations. To reduce these costs, which are also a burden on the taxpayer, the rural credit sector should be liberalized in gradual steps.

A more competitive rural financial sector should also help in upgrading the kind of services provided to farmers in need of credits. In fact, in many industrialized countries, the former sector-specific agricultural banks have been privatized completely and the disbursement of subsidized agricultural credit, if any is available at all, is operated through the commercial bank sector. Accordingly, the government only carries the costs of the interest rate differential between the commercial interest rate and the subsidized rate.

### d) Estimates of input subsidies

Input subsidies were also estimated by comparing the domestic prices paid by farmers with the respective international prices of the inputs<sup>8</sup>. The calculated price differential was then multiplied by the quantity allocated to agricultural producers. Such subsidies represent costs for the total economy, which have to be borne by either the government or the producers of the respective inputs.

*Pesticides* carry basically no subsidy because they were mostly imported in recent years. Hence, Syria has been a price taker throughout the 1990s. As long as importing, distribution and sales of pesticides were restricted to the Agricultural Cooperative Bank (part of the state sector), an average 15 percent premium was charged on the import price of pesticides to cover the marketing costs within Syria. At present, a substantial share of pesticides is imported by private traders at free market prices<sup>9</sup>.

With respect to *seeds*, one can make a distinction between seeds for strategic crops and other seeds. Seeds for strategic crops are provided by the General Organization for Seeds Management (GOSM). Because of the wide variety of seeds, it was impossible to calculate the indirect subsidy for seeds for the whole

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<sup>8</sup> Because of substantial product and quality differences, comparable price series were available for a few fertilizers only.

<sup>9</sup> For more details on markets for agricultural inputs, see Chapter 14 in this volume by Parthasarathy.

period. Instead, reference is made to another study by Parthasarathy (2000), who estimated the implicit subsidy to farmers associated with seed policies at an annual amount of SP2 398 million.

Currently, about 60 percent of total *fertilizers* used are produced in Syria and the rest is imported. While fertilizer was distributed to farmers by the Agricultural Cooperative Bank exclusively, in the course of the 1990's, the market for fertilizer has been liberalized in consecutive steps. As a result, the implicit subsidy for fertilizer (estimated for two major types of fertilizers: urea and phosphate) declined from SP1 092 million in the three years average 1991-1993 to an average of SP358 million in 1997-1999. As a ratio to GAO, the decline becomes even more distinct. Parthasarathy (2000) estimated the total implicit fertilizer subsidy in 2000 at SP1 390 million for a more complete set of fertilizers, and the net subsidy implicit in the widely Government-dominated distribution system for fertilizer at SP435 million.

#### e) **Budgetary expenditures for agriculture**

Summary figures on administrative and current expenditures and the revenues which are associated with 'running' the government system are also shown in Table 4.2. Next to the operating costs for the MAAR, the maintenance costs for state agricultural establishments were the second largest expenditure item, followed by expenditures for reforestation and forest improvement. This has changed in the course of the 1990s, when reforestation measures became, on average, the second most important expenditure item. Given the scarcity of water and the associated problems with desertification, this increase of financial resources for reforestation seems to be justified. The data also indicate a rather low level of expenditure for direct agricultural inputs subsidy via the Government budget (e.g. pesticides).

Taking into account that economic returns to agricultural research have been evaluated very positively worldwide it is notable that the *agricultural research and extension system* receives only very limited financial resources in Syria. In many countries which are today major agricultural exporters, such as the United States, Germany, and France, agricultural research has been carried out in a widely dispersed system. Agricultural faculties at universities, land grant colleges, government-run agencies, etc. have ensured that the rate of technological progress has been very high in the past century. Furthermore, support for agricultural research is not subject to reduction commitments within the Uruguay-Agreement of the GATT/WTO.

Data published by the MAAR indicates that the most significant revenue item is on "Services commutations and state leasing operations". This mainly relates to revenues from state-owned land. The comparison of total agricultural revenues with total expenditures by the Ministry of Agriculture and the Ministry of Irrigation shows that the system was covering most of its total costs in the beginning of the 1990s, and all of its costs at the end of the decade. However, it should be noted that information on some relevant expenditure items were not

made available for this study (in particular, the total costs for the maintenance of some agricultural agencies under the supervision of the Ministry of Supply, and the costs for running the ACB).

#### **f) Consumer subsidies**

Official figures on government expenditures for subsidizing consumer prices for staple foods are not publicly available or released. Neither is the data that would be needed to carry out the respective calculations. Therefore, this section must rely on a qualitative discussion.

In the past decade and until now, the Syrian Government controlled the retail price of some major food commodities in order to subsidize food consumers, principally: bread and flour, rice, sugar, vegetable oil and tea. These commodities are considered to be so important for the food security of the Syrian population that they are subsidized with flat rates. Even though the explicit extent of these consumer subsidies is not known, the high quantity of these food items consumed suggests that they make up a significant amount of the total Government expenditures. In the course of the 1990's, the increasing pressure on the Government budget reduced the scope for food consumption subsidies. Subsidies on vegetable oil and tea were discontinued, those for bread (flour) were reduced, and those for sugar and rice were restricted by the distribution of food coupons. Coupons allowed for the purchase of a maximum of 1.5 kg of sugar and 0.5 kg of rice per capita and month at the subsidized price.

Presently, a major question related to food consumer subsidies seems to be how to replace the general food subsidies to consumers with a well-functioning and efficient system of targeting food aid to the poor. 'Targeting' is simply a means of ensuring more food, of better nutritional value, to groups in need and not to others. Hence, the success of targeting schemes depends on limiting the leakage of program benefits to non-program families. Generally, the leakages will be a function of the size of the economic benefit associated with the consumer subsidies. The basis for any targeting mechanism should be a careful assessment of food consumption and expenditure habits (Timmer, Falcon, and Pearson 1983).

There are several steps required to achieve this objective. First, the Government has to define a country-specific poverty line (e.g. based on average annual per capita income). Additionally, indicators for various social aspects of human life that assist in the assessment of the standard of living could be taken into consideration (e.g. the rate of child mortality, the level of education, access to fresh and clean drinking water, or the accessibility of doctors). Such indicators could be compiled on a regional basis in Syria, in order to assess in which governorates most poor households are to be found. Secondly, an assessment of the absolute and relative poverty level of households in Syria is necessary. Ideally, such an assessment would include primary and secondary information on the nutritional status, income and expenditures of households and various groups within households (children, pensioners etc.). Once the households in need have been identified, various forms of targeting can be relevant: geographic, seasonal,

or sex- and age-specific targeting. Particularly, when malnutrition is observed among small children or lactating women, targeted subsidies can be an efficient form of subsidizing these income groups.

### **g) Estimates of total transfers to agriculture**

Section 2 discussed the conceptual framework for assessing the total transfers to agriculture resulting from all direct and indirect (agricultural) policies under operation. Let it be recalled that total transfers would comprise the sum of Producer Support Estimates (PSE), General Services Support Estimates (GSSE), and Consumer Support Estimates (CSE). The respective estimates for Syria from 1990 to 1999 are presented in Table 4.2. However, as mentioned above, food consumption subsidies are not included in these calculations because of data unavailability.

The results indicate that throughout the 1990's, the Market Price Support component has been the major source of transfers to agriculture. This means that indirect policies in Syria have yielded significant production incentives for domestic producers, but as mentioned earlier, this result is not uniform throughout the sector and some producers were instead taxed in the 1990s. An important observation from these estimates is the downward trend of total transfers in relation to GAO; the relative level of support declined from around 30 percent in the beginning of the 1990s to less than 10 percent at the end of the decade. This can be interpreted as the effects of the agricultural policy reforms which have been gradually implemented in the last decade. The liberalization has yielded the expected results and reduced the degree of government involvement into agricultural markets. However, this decline of total transfers does not tell us much about the efficiency of agricultural policies, nor about the remaining distortions in the agricultural sector because of the many forms of government intervention in the sector.

## **4.5 SUMMARY AND POLICY CONCLUSIONS**

The discussion of agricultural and food policies in Syria provided in this Chapter, firstly suggests that, as in many other countries, agricultural policies had an important impact, yet were often inconsistent and not transparent. A second common feature, particularly in other developing countries, is that exchange rate misalignments due to Government interventions have been a major cause of distortion and of discrimination against the export-oriented agricultural sub-sectors.

As a matter of fact, the quantitative analysis of the transfers due to agricultural and food policies in Syria indicates that the answer to whether the agricultural sector was taxed or subsidized depends crucially on the choice of an exchange rate for conducting the calculations. Because of the relative importance of the agricultural sector in the economy and because of the economy-wide repercussions of economic policies, the partial equilibrium analysis used in this

paper has its limits. A general equilibrium analysis would be needed to fully understand how the mix of policies affected the agricultural sector in Syria.

In spite of these limitations, the qualitative and quantitative assessments allow several important observations:

- (i) the sum of direct and indirect financial transfers from policy interventions has decreased continuously throughout the 1990s, as a response to the gradual reform approach of the government.
- (ii) Policy interventions have often favoured food commodities considered crucial for domestic food security (wheat, sugar etc.), while commodities with a high export potential were often (implicitly) taxed. On the other hand, the prices and interventions system for strategic crops has been in favour of cash crops such as cotton, while the production of certain food crops such as chickpeas and lentils was discouraged. The burden on Syria's budget of product-specific policies is particularly significant for products which receive both production and consumption subsidies, such as wheat and sugar.
- (iii) In the past decade, the Syrian government subsidized the retail price of some major food commodities such as bread and flour, rice, sugar, vegetable oil and tea. These general subsidies have been gradually reduced, with the exception of those for flour, sugar, and rice. Experience from many countries suggests that these remaining general food subsidies should also be discontinued, and instead targeted food subsidies to needy consumers would more efficiently assist them.
- (iv) Syrian domestic agriculture continues to be subjected to significant and often non-transparent regulations (e.g. marketing constraints at the wholesale level prevail, and price controls at the retail level are still possible), and a wide range of tariff and non-tariff measures remain a handicap for the country's agricultural trade.
- (v) It can be expected that once the exchange rate is fully flexible, the SP fully convertible, and the capital and current account fully liberalized, further pressure on the exchange rate will arise. An overvalued exchange rate being the single most important factor that discriminates against the export oriented agricultural sub-sectors, further devaluations, to be implemented in gradual steps, might be needed to reach and maintain an equilibrium exchange rate in the future.
- (vi) Agricultural credit made available to farmers at a subsidized interest rate was mainly (70-80 percent) for short-term loans. To foster structural change in the agricultural sector, incentives should be provided to seek long-term capital investments, particularly, in view of the threatening water scarcity, water saving investments.

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Against this background, the continued deepening of the reform process is called for, with further deregulation of the agricultural sector and of trade operations in order to foster private entrepreneurship in the sector. This would contribute significantly to the effort to integrate Syria's agricultural sector further into the global agricultural trading system. A critical milestone in this process has been Syria's decision to apply for accession to the WTO. In this context, it is worth underlining that a country that accedes the WTO has to liberalize its agricultural policies to some extent only. There is no obligation to completely abolish all support policies, but rather to "lock in" upper bounds of import tariffs and domestic support to agricultural producers. Such commitments have been made by all<sup>10</sup> members of the WTO in the Uruguay Round. The reference point against which this liberalization must be implemented by new incoming members of the WTO is normally the three-year period prior to the time when the application for membership has been submitted to the WTO.

Furthermore, future WTO membership will be achieved easier if sustained consideration is given to restructuring the existing agricultural and food policy instruments. With respect to agricultural import and export operations, the degree of protection granted to specific commodities should be reduced further, the tariff system should be simplified and be made more transparent. Non-tariff measures such as quantitative import constraints should be abolished and transformed into tariffs. Generally, the objective of future reforms of the import tariff regime should be to simplify the food import trade regime and, thereby, increase its transparency and compatibility with international standards. Ideal instruments are those agricultural support measures which are classified by the WTO as "green box" measures, i.e. instruments which are distorting trade only minimally. Green box examples are direct, decoupled (i.e. not linked to current production levels) income payments for farmers, or investments in rural infrastructure and agricultural research. From an economy-wide perspective, such policies would help Syria to develop and exploit its comparative advantage in agriculture to a greater extent.

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<sup>10</sup> WTO had reached 145 members as of mid 2002.



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## **Chapter 5**

# **Agricultural Policy and Environment in Syria: The Cases of Rangeland Grazing and Soil Management**

*by*

*Gareth Edwards-Jones*

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## CHAPTER 5

### **Agricultural Policy and Environment in Syria: The Cases of Rangeland Grazing and Soil Management**

*by Gareth Edwards-Jones*

#### **5.1 INTRODUCTION**

There are four good reasons why governments should be concerned about the environment: first, it provides a resource base which can be utilized 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); second, it provides a range of 'services' which provide benefit to humans, (e.g. nutrient cycling, filtering of pollution, aesthetic beauty); third, a badly managed environment can cause real economic and social costs, e.g. wind erosion damaging roads and buildings, pollution of water bodies impacting human health, salinization of soils leading to lost yields; and finally, there should be an ethical concern for other species and ecosystems.

However, governments' resources, both financial and organizational, are limited and priorities have to be set. Further, a national environmental objective may often conflict with one or more of a government's sectoral objectives, such as increasing output or wealth. Similarly, environmental objectives may also conflict with the individual objectives of citizens. Hence, there are a range of barriers common to nearly all governments to the introduction of, and adherence to, policies for protecting and enhancing the environment. Many governments actually acknowledge the importance of environmental issues but place them down the policy agenda when faced with apparently more pressing, short-term issues, such as wealth generation and national security.

If governments are to act in the short term, then it is important that they act on the correct issues. One of the criteria for identifying such issues is reversibility, under which an environmental problem could be reversed at some future time should the right corrective action be undertaken. This important criteria for guiding environmental actions assumes that irreversible impacts may be deemed more pressing than reversible ones. A second criterion for identifying environmental issues of importance concerns their associated economic costs and benefits. For example, a certain resource may in theory provide long-term economic benefits if managed correctly, but if mismanaged these benefits may be reduced, or even disappear e.g. arable soils. Alternatively, a certain environmental problem may

bring economic costs and rectifying the problem will reduce these costs, e.g. damage to infrastructure from soil erosion.

From these two criteria, reversibility and economic costs/benefits, it is possible to prioritize environmental issues that require immediate action because they would bring large long-term costs (or benefits foregone) if not addressed immediately.

### **Applying this rationale to Syria**

This chapter reports part of a study of the impact of current agricultural policy on the environment of Syria. The study identified five aspects of the environment for specific consideration, i.e. water resources, the Syrian Steppe (Al Badia), soil conservation, forestry and biodiversity. An estimate of the reversibility and economic importance of these issues is shown in Table 5.1.

**Table 5.1 Reversibility and economic importance of several environmental issues in Syria**

| <b>Environmental issue</b>                        | <b>Reversibility</b> | <b>Known economic impact of loss per unit area</b> | <b>Known economic loss over whole of Syria</b> |
|---|----------------------|--|--|
| Extinction of species                             | Never                | Low  | Low  |
| Physical loss of soil (wind erosion)              | Very long term       | Very high  | Very high                                      |
| Chemical degradation of soil with heavy metals    | Very long term       | Very high  | Medium   |
| Pollution of ground waters with heavy metals      | Very long term       | Very high  | Low  |
| Loss of natural ecosystems                        | Long term            | Low  | Medium   |
| Depletion of ground waters                        | Long term            | High   | Very high                                      |
| Pollution of water bodies with nutrients          | Medium term          | Low  | Low  |
| Pollution of water bodies with diseased organisms | Medium term          | Medium   | Medium   |
| Salinization of soils                             | Medium term          | Very high  | Very high                                      |
| Loss of Steppe grazing lands                      | Medium term          | High   | Very high                                      |

‘Reversibility’ assumes that appropriate management is taken to enable the recovery process. Very long term = > 100 years, Long term = 10-100 years, Medium term = 4-10 years.

*Source: Qualitative assessment, based on results of Edwards-Jones (2002).*

Although this analysis is a very simple one, it does make some attempt to compare the relative importance of issues. More in depth analyses may confirm or refute these conclusions. However, they suggest 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. Thus the physical loss of soils

appears to be the most urgent issue to be resolved, followed by depletion of groundwater, salinization of soils and the loss of Steppe grazing<sup>1</sup>.

The issue of water is dealt with in Chapter 13 of this volume. Accordingly the rest of this chapter will examine the other two major environmental issues identified in Table 5.1, namely management of the Syrian Steppe and degradation of Syrian soils. The chapter will outline the biophysical situation for each issue, detail the relevant social interactions and consider the impact of current agricultural policies. Finally some recommendations for policy changes which could reduce environmental degradation will be noted<sup>2</sup>.

## 5.2 THE SYRIAN STEPPE: AL BADIA

### a) Background and basic ecology

Al Badia comprises 55 percent of Syria's land mass. It totals 10.2 Mha and receives less than 200 mm rain p.a. Pasture comprises 70 percent of Al Badia and this provides a grazing resource for six to seven months of the year. In 1950, there were 2.6 M sheep, against currently 10-12 million (the maximum number of sheep in Al Badia has been 15 million) (Table 5.2).

**Table 5.2 Number of milking and non-milking ewes in Syria, 1985-1999**

| Year | Milking ewes | Dry ewes  | Total      |
|------|--------------|-----------|------------|
| 1985 | 7 143 857    | 3 849 213 | 10 993 070 |
| 1986 | 6 950 367    | 4 718 229 | 11 668 596 |
| 1987 | 7 624 071    | 5 044 764 | 12 668 835 |
| 1988 | 8 402 789    | 5 288 140 | 13 690 929 |
| 1989 | 8 322 741    | 5 687 773 | 14 010 514 |
| 1990 | 8 927 718    | 5 580 890 | 14 508 608 |
| 1991 | 9 498 476    | 5 695 183 | 15 193 659 |
| 1992 | 9 274 674    | 5 390 412 | 14 665 086 |
| 1993 | 6 396 194    | 3 750 423 | 10 146 617 |
| 1994 | 7 144 327    | 4 112 296 | 11 256 623 |
| 1995 | 7 819 884    | 4 255 306 | 12 075 190 |
| 1996 | 8 506 611    | 4 612 887 | 13 119 498 |
| 1997 | 8 980 353    | 4 848 963 | 13 829 316 |
| 1998 | 10 074 419   | 5 350 298 | 15 424 717 |
| 1999 | 8 993 384    | 5 005 076 | 13 998 460 |

Source: MAAR.

<sup>1</sup> A formal cost/benefit analysis (CBA) could aid such a decision, however there is much debate about the relevance of CBA to environmental problems which occur over long time periods, i.e. hundreds of years. For this reason, and lack of data, only a qualitative assessment of issues is undertaken here, but a more complete assessment would be possible given more time and data.

<sup>2</sup> Further detailed discussion of each of these issues, and relevant cross-cutting themes is given in Edwards-Jones (2002).

There are between 900 000 and 1.5 million people in Al Badia, of which about 500 000 are settled. Traditionally a large proportion of the populations would have been nomads (herders without a permanent home who are always on move) and transhumance herders (people with a permanent home, who move with their sheep for some of the year). However, there has been a decline in the number of nomads over the last 50 years, and in 1990 there were an estimated 10 000 nomads, the rest being transhumance herders. The people in Al Badia represent 149 different cultural groups.

Nomadic lifestyles have tended to develop in parts of the world with sparse and erratic rainfall, as this system is able to utilize vegetation in certain areas at certain times of the year, and the long return times permit the vegetation to regenerate. For example, in the Syrian steppe the sheep graze on two main classes of fodder: perennial shrubs and perennial grasses. The shrubs tend to start putting on new growth in spring (end of April/May) and have completed their growth and fruit production by the end of September/October. The perennial grasses tend to flourish after the winter rains (November/December). Traditionally the herders would move their sheep away from the steppe around the beginning of May, largely because of a lack of water. The sheep then spent the summer grazing on crop residues in the north and west of Syria, and returned to Al Badia in the autumn (October/November). This system fitted in well with the biology of the fodder plants as it meant there was no grazing pressure during the summer months. This is important as the new growth, in spring and summer, is essential to the continued survival of the shrubs, which tend to store carbohydrates and other nutrients in their root stock. Summer grazing, which removes the new growth of the perennial shrubs, is extremely detrimental to the plants and will, if severe enough, kill them. Even total removal of aboveground winter biomass of perennial shrubs may not prevent successful growth and seeding of shrubs, as long as the grazing pressure is removed before shooting.

As the woody vegetation in Al Badia consists mainly of species of no or low palatability, dwarf shrubs are avoided until nothing else is available. In years with good early rainfall, annual plants and the perennial grass *Poa sinaica* are grazed from the time they emerge, and shrubs may not be browsed at all. At such times, e.g. 1997, herdsman have no preference for plain areas or valleys, moving just to places where new growth is sufficient. But in years when autumn rains fail, the shrubby vegetation in the valleys and on the plains with shallow soils becomes more significant, providing at least some roughage while animals are maintained with supplementary feeds.

In summary, utilization of the range within Al Badia is governed by water and forage availability. Overall stocking density may be, to some extent, less important than the management of grazing over the year. Historically the pastoral Hema system and lack of water in the summer were probably the most effective factors in controlling grazing and maintaining forage plants (Masri, 1991).

## **b) History of relevant land use legislation**

The socio-political history of Al Badia is a long and complicated one, and while understanding this process is important in understanding how the current situation has been derived, there is insufficient space here to recount this process in detail. However, it is important to note that there has been a continuing shift away from traditional transhumance, where different cultural groups had some property rights defined by cultural law, towards a system where there are no effective property rights over grazing resources. This shift has occurred as a result of numerous policies enacted since 1958. Details of these policies are given in Edwards-Jones (2002) and Ngaido (1997), but notable amongst them were policies creating cooperative groups of graziers who supposedly act together to manage resources and gain access to subsidized feed and water, and a policy in the 1970s which sought to encourage the growth of arable crops on Al Badia.

## **c) Al Badia in 2001**

### *c1 Management institutions*

There are currently 483 cooperatives existent in Al Badia (est.1974). While in theory these cooperatives have responsibility for given parcels of land, in fact their main role is to provide credit/feed to the graziers and they have little role in land management (Mirreh and Razzouk, 1997).

### *c2 Access to water*

Al Badia's main water resources are below ground aquifers, and wells are dug in order to provide water for humans and animals. The quality of the water varies with location. There are ancient wells in Al Badia which are really forms of collecting run-off, and historically would have been managed by tribes. Recently wells have been dug at the request of the cooperatives / herders according to a Government plan to provide a network of wells across Al Badia. The Government's Department of Badia identifies the sites for wells and the excavation and maintenance is done by the Ministry of Irrigation. The Government appoints labourers/guards to look after wells. The water, which is supposedly only for sheep to drink, is pumped into small reservoirs. It is a real open access resource as any one can use it - even herders outside the cooperative. Despite the availability of wells, almost all herders transport water in large tankers to Al Badia.

### *c3 Overgrazing*

Deterioration of the Syrian Steppe has been documented in many reports (e.g. Al-Jundi, 2000; Telahigue, 1994; Masri, 1994). Most of these reports have been based on visual signs of the presence of soil erosion such as soil hummocking, pedestal plants, sheet and gully erosion. 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.

*c4 Removal of shrubs*

Shrubs and trees are pulled up by local people for fuel and medicinal uses. The perennial shrubs are uprooted according to fuel desirability and include: *Haloxylon articulatum*, *Salsola vermiculata*, *Artemisia herbaalba*, *Haloxylon salicornicum* and *Noea muccconata*. These plants are pulled up by their roots, thereby preventing any possible recovery of the plant, and also enabling erosion. The fuel is used for household purposes such as making tea, baking bread, cooking, winter heating and seasonal milk processing.

Such uprooting is an ancient practice and the amount of shrubs uprooted per capita is generally decreasing due to availability of Kerosene, methane and gas as well as improved standard of living. However, increased population densities mean that the overall level of uprooting is not decreasing, and may even be increasing. A survey undertaken by the Talila project suggest that annually 4.1 ha per family are cleared of shrubs.

*c5 Motor vehicles*

Large trucks are increasingly used to transport sheep and water around Al Badia. This serves to break the soil surface which again leads to erosion. The situation is worsened as the frequently used routes often become impassable due to the development of soft sand or mud. The drivers of the vehicles then drive around these areas, thereby increasing the area affected. On occasions, areas up to 1 km wide have been affected by vehicles to the extent that they are now impassable to them.

*c6 Grazing protectorates*

There are currently 33 grazing protectorates designated within Al Badia, comprising 400 000 ha. The aims of the protectorates are to rehabilitate grazing, to protect biodiversity, and to reduce soil erosion. They may also act as a grazing reserve for times of drought. These protectorates are marked in some way, such as with an earth fence, in order to enable herders to exclude sheep from them. When the protectorates were established, it was intended that grazing would be permitted twice a year (April and October) after three years of no grazing. However during the time of the study (2000/2001) none of the Protectorates were closed; rather, all were open in order to help the herders in a time of drought. Even when they are closed, the fines on graziers for entering protected areas are very small, at SP5.

**d) Rehabilitation efforts**

Why rehabilitate? Continuing rangeland degradation matters in the short term because the loss of good quality fodder will mean herders have an increasing reliance on purchased food stuffs, thereby reducing profitability. But in addition rangeland degradation enables continued loss of vegetation and soil, and eventually will reduce the rangeland to a desert of little agricultural or biodiversity value. Such an occurrence would have severe economic impacts on the country.

Active rehabilitation of rangeland is needed as observations on several situations have not shown natural rehabilitation occurring over medium time scales. For example, on deserted ploughed lands in Al Badia unpalatable plants invaded first, and there is no evidence yet of more palatable plants replacing these unpalatable shrubs.

Al Badia Directorate has been undertaking rehabilitation over the last 30 years. The methods have generally been based on planting seedlings, which have been bred in nurseries. This method can require the use of large machinery, which themselves can cause erosion, and field irrigation. The method has been successful in certain areas, such as in the Aleppo Badia (rainfall 175 mm), but further work in the Talila project (rainfall 127 mm) has recently demonstrated that plants can easily be established from direct reseeding under rainfed conditions without using heavy duty equipment and without using irrigation. Seedling germination of 4 plants/m<sup>2</sup> has been achieved with this method, and seedlings had a survival rate of 25 percent.

**e) Policy assessment: Impacts of rangeland policy on the environment**

The impact of the current agricultural policies on Al Badia can be summarized as follows:

- (i) The lack of property rights over the land in Al Badia provides no incentive for long term management and leads to a classic case of ‘tragedy of the commons’.
- (ii) The provision of increased numbers of wells enables sheep to remain on Al Badia longer into the summer, and to return earlier, than was historically the case. Studies of the biology of plant-animal interactions in Al Badia suggest that the impact of early summer grazing is extremely detrimental to the perennial shrubs in the area. It is also clear that these shrubs play an important role in maintaining the grazing resource. The provision of increased water to herders encourages them to keep grazing their sheep longer into the summer than is biologically sustainable. There is currently no policy signal to the herders encouraging them to leave Al Badia earlier in the year.
- (iii) The provision of subsidized feed enables the maintenance of stocking densities above that which could be supported by the natural environment alone. Studies clearly demonstrate that the provision of concentrate feed enable herders to keep more sheep than would be the case in the absence of concentrate feed. The current policy signal to herders is that keeping many sheep must be a good thing, otherwise why would the Government provide ‘subsidized’ feed?
- (iv) Establishing the grazing protectorates sent a clear policy signal that the Government felt there had been degradation of Al Badia. However, opening these protectorates to grazing a few years after their establishment sends the signal that these protectorates were probably not that important after all, and the Government cannot have been that

concerned about rangeland degradation. This signal was reinforced by the low level of fines for entering the protectorates when they were functioning, and the simultaneous weak enforcement of even these low levels of fine.

- (v) Revegetating large areas of Al Badia with native shrubs sends the signal that there had been degradation, and that the Government wanted to reverse this degradation.
- (vi) Banning the cultivation of Al Badia sends the signal that this was an environmentally damaging activity.

#### **f) Policy options for protecting the environment of Al Badia**

Possible policy responses to the negative policy consequences noted above are sketched below.

##### *f1 Redesign property rights*

Certain groups should be given responsibility to manage given pieces of land for the benefit of their group. This will encourage good grazing management and by necessity good management of the steppe. The areas managed by a group should be small enough to maintain some identity within the group, but large enough to allow realistic management of sheep within the land available. Since natural resources in Al Badia are patchy in space and change over time, management areas have to be large enough to enable effective use of these patchy resources. It may not be best practice for these groups to be based on current cooperatives: some aggregation of the current cooperatives should be possible, perhaps reducing the number of grazing groups to less than 100. Penalties for utilizing land outside a herders' specified 'area' without agreement should be strongly enforced. Membership of such groups should be as inclusive as possible, but also recognize the real users of any given parcel of land. As such, membership could be restricted to individuals who own sheep and can prove that they are regular users of the parcel of land in question.

##### *f2 Provide incentives for good environmental management (the management plan)*

While simple provision of property rights should bring about an improvement in the condition of Al Badia, it is possible to provide further incentives to the herders and to 'compensate' them for their reduced grazing levels. One way to do this would be to invite each grazing group to agree, with a suitable authority, to a 'Management plan' which would outline the number of sheep to be kept in the area, the agreed times of migration, the distribution of sheep between owners, likely migration routes, etc. Rather than being a strictly defined set of actions, the management plan could rely on an elected grazing committee to ensure adherence to the spirit of the plan. For example, migration out of the steppe would depend on range quality (as assessed by the grazing committee), not on a predetermined calendar date. The grazing committee should be small enough to be useful, but large enough to represent all groups of herder.

The plan could also include recommendations concerning the use of shrubs for fuelwood and medicinal purposes, and should designate certain routes as being suitable for use by motor vehicles. It should also be possible to agree which land could be available for rangeland rehabilitation, i.e. planting of seeds.

Should the grazing group adhere to their management plan, then after a suitable time, say two years, a fixed payment could be made to the group as a 'reward' for maintaining the environment. Such payments could be on an area basis, for instance, but they should not be related to the number of sheep or any other production related factor, in order to avoid any incentive to increase sheep numbers. The grazing group could decide how to distribute/utilize this money. Possible uses could include: paying a guard, providing compensation to those herders who reduced their flock, funding range rehabilitation, etc.

*f3 Restrict further provision of water for stock*

The provision of extra water to stock is clearly an important factor in the unsustainable growth of the sheep flock. Further provision of water for stock will only exacerbate the situation and send the signal to the herders that keeping the same amount, or more sheep is a desirable aim. Under a policy of management plans, the provision of water resources could be included as part of the plans.

*f4 Alter provision of feed*

Feed should be supplied at the market price, and the amount of feed allotted to any one herder should be fixed so as to prevent expansion of his flock beyond the current size. Clearly, in some years periods of drought may necessitate that more feed is provided. But the general rule should be that each herder only gets a fixed amount of feed according to his flock size at some given date, even if the flock should increase after that date.

*f5 Cropping ban*

Current restrictions on cropping should be maintained. Cultivation of Al Badia caused obvious environmental problems in the past. This should not be allowed to happen in the future.

*f6 Research and monitoring*

Long-term environmental monitoring programmes should be established across Al Badia and the results made widely available.

*f7 Education of extension officers and herders in range management*

An extensive education programme would inform extension officers, and herders, about good rangeland management. This should be an essential prerequisite to either the redesign of property rights and/or the management plan policy.

*f8 Rehabilitation of vegetation*

Continue to undertake rehabilitation of Al Badia, but consider the areas where such rehabilitation may be most useful. For example, Bichri Mountain is a known source of mobile sand, and has also been the site of a successful rehabilitation project and rehabilitation should continue here. Similarly, rehabilitation could be undertaken parallel to roads and around towns and villages.

### **5.3 SOIL CONSERVATION AND MANAGEMENT**

The soils of Syria spread over five orders of the 1975 USDA Soil Taxonomy (Ilaiwa *et al.*).

- (i) Aridisols cover 47.5 percent of the country. They generally occur where the annual rainfall falls below 250 mm, and are thus the dominant soils in Al Badia, but also occur around Damascus. They are mostly characterized by Calcic or Gypsic horizons close to the surface, weak structure and relatively light texture, which predisposes them to erosion.
- (ii) Inceptisols are the second most extensive soils, covering about 21.7 percent of the country. They are the prevailing soils in the rainfed areas in the north of the country and also in the areas to the east of the coastal mountains around Homs, Hama and Edleb. They are mostly characterized by Calcic horizons, heavy texture and moderate to strong structure.
- (iii) Entisols are relatively young soils, occupying about 16.9 percent of the country. They are mainly found as shallow soils over the coastal and central mountain, or as alluvial soils in river terraces. They are the predominant soil in the Euphrates valley.
- (iv) Vertisols are heavy textured cracking soils which occur over only 2.1 percent of Syria's land mass. They mainly occur as associated soils with the Inceptisols and are most common in the north of the country between Aleppo and the Turkish border.
- (v) Mollisols have a dark surface layer and well-developed structure, and only occur over 1.2 percent of the land. They are mainly confined to the coastal region.

#### **a) Soil degradation**

The soils of Syria suffer three main types of degradation: water erosion, wind erosion, and chemical degradation. Wind erosion affects the greatest area and chemical degradation the least (Table 5.3).

**Table 5.3 Area of degraded soil**

| Degradation type  | Degree of degradation<br>(000 ha) |          |        | Total<br>area<br>(000 ha) | % of country<br>affected |
|-------------------|-----------------------------------|----------|--------|---------------------------|--------------------------|
|                   | Slight                            | Moderate | Severe |                           |                          |
| Water erosion     | 902                               | 127      | 29     | 1 058                     | 5.7                      |
| Wind erosion      | 1 210                             | 380      | 30     | 1 620                     | 8.7                      |
| Sand accumulation | 11                                | 267      | 130    | 408                       | 2.2                      |
| Salinization      | 15                                | 20       | 90     | 125                       | 0.6                      |
| Total             | 2 138                             | 794      | 279    | 3 211                     | 17.3                     |

Total area of Syria is 18.5 Mha of which 6.15 Mha agriculture and 8.2 Mha pasture.

Source: MAAR, cited in ERM, 1998a.

In total, 17.3 percent of Syria is affected by some form of degradation. The distribution of this damage can be mapped. The Human-Induced Soil Degradation map of Syria (Ilaiwa *et al.*) was prepared following GLASOD guidelines (an FAO methodology). This required the 1985 soil map of Syria to be divided into 68 physiographic units, each of which was then evaluated through a combination of literature based analysis and field survey. A discussion of the main three types of degradation is given below, along with some details of areas suffering particularly bad degradation.

#### *a1 Water erosion*

The areas most affected by water erosion are the coastal mountains and the mountainous regions in the arid/semiarid areas. The area of plateaus and plains remains largely unaffected.

##### *The coastal mountains*

The steep slopes, shallow soil cover, heavy rainfall (800-1500 mm) and frequent rain storms mean that, once vegetation is removed from these areas, they are naturally susceptible to water erosion. The natural vegetation of the region would probably be forest, however forest fires (deliberate and accidental) and forest clearance for agriculture have both served to reduce vegetation cover in the area. This inevitably leads to severe water erosion, and areas affected may never be recoverable. Some estimates for the coastal mountains suggest soil losses of up to 20 tonnes/ha/yr (ERM, 1998a).

##### *Mountainous areas in the arid/semiarid regions*

The natural vegetation of these areas would probably be forest also, but continued forest clearance for agriculture and timber has reduced this cover to a fraction of its former area (natural forests have gone from covering 30 percent of Syria to about 2 percent over the last 100 years). Here as well, water erosion has occurred exposing the bare rock in many places.

### *Plateaus and plains*

These areas have not suffered much water erosion as they are flat, and the soils tend to have good structural stability even where rainfall is relatively high.

#### *a2 Wind erosion*

Wind erosion is the most serious form of soil degradation in Syria. Estimates of soil losses to wind erosion suggest that up to 12 t/ha/yr are lost in Al Badia (ICARDA *pers. comm.*). For the whole country, 570 000 tonnes of soil per day are lost to wind (ERM, 1998b).

Not only does wind erosion cause loss of soil from source points, it can also cause problems as it is carried on winds, and at its sinks. For example, Iliawa *et al.* report that in 1988, the action of moving sand grains was harmful enough to prohibit the growth of annual grazing grasses across large areas of Al Badia. The frequency, duration and severity of such dust storms vary tremendously between regions and years, and reports suggest that these storms have been getting worse in recent years (although no hard data are available to corroborate this observation). Two case studies (from Iliawa *et al.*) described below provide evidence on some of these issues.

#### *Southern Mesopotamian plains*

The area most affected by wind erosion is the area to the north east and south of the Euphrates. A few years ago, the area between the Balikh River north of Rakka in the west to the Khabour River in the east was among the best grazing lands in Al Badia. However, mechanized cultivation of rainfed barley initiated soil erosion in the 1950s. The windspeed in this region is generally greatest around September, when it ranges from 16 m/sec to 27 m/sec. The minimum wind speed required to transport soil particles is about 5 m/sec. Thus, the removal of the natural vegetation and the breaking up of the soil surface during cultivation inevitably led to wind erosion.

The wind carries the soil long distances in these flat areas. In some villages in the Governorate of Deir Elzhor, sand can reach to the roof level of houses. Similarly, a 40 km stretch of the railroad is severely affected by sand; sand removal from tracks is needed every two to three days, and sometimes even daily during summer months.

A final impact of wind erosion in this area is that it may expose previously covered layers of soil with extremely high gypsum levels (usually more than 70 percent). Where the soil cover is greater than a few centimetres, production of annual grasses may still be possible. However, further reduction in soil cover will render many areas barren and unusable.

#### *Bichri mountain*

A similar situation has occurred in Bichri Mountain in the eastern part of the country. Traditionally this, was a grazing area, but rainfed barley cultivation was introduced into the area in the 1950s. The soil has a high erodibility due to its

weak structure and coarse texture. Wind erosion has increased in recent years, as evidenced by sand accumulation in depressions, hummocks and large amounts being trapped by shrubs and other barriers.

Bichri Mountain is located in the central part of Al Badia and has large flat divides sloping east. For these reasons, it is believed to be a major source of wind-moved sand. Wind transports sand eastwards over long distances, for example shrubs over 1 m tall in uncultivated areas have been covered by sand in places more than 100 km away from the mountain. As in the northwest, sand moving from the Rasafa plains has seriously affected extensive grazing areas, and the layer of accumulated sand can be more than 30 cm deep.

A recent project between ACSAD and GTZ has sought to investigate the best means of managing a pilot area of the mountain in order to reduce erosion. Among a range of techniques tried, the most promising results were obtained with direct drilling of seeds of certain steppe herbs and shrubs.

### *a3 Chemical degradation - Salinization*

Chemical degradation of soils is of two main types in Syria: salinization and industrial pollution. Only salinization is discussed here<sup>3</sup>.

The severity of salinization in Syria is analyzed with a four categories scale:

- No salinity problem (0-4 mmol/cm EC)
- Low salinity (4-8 mmol/cm EC)
- Medium salinity (8-16 mmol/cm EC)
- High salinity (> 16 mmol/cm EC)

If EC is greater than 8, then agricultural productivity becomes low, and generally only barley will grow. If EC > 16 then no crops will grow. The areas most affected by salinization include the Euphrates and Khabour valleys, an area south east of Aleppo and an area in the extreme east of the country, north of Al Bukamal. The severity and extent of the salinization is shown in Table 5.4. The areas outside of the river valleys are generally low lying and to some extent are natural salt pans.

**Table 5.4 Severity and extent of land impacted by salinization in Syria**

| Salinity class | Area affected<br>(000 ha) | EC m moh/c.m | % of total |
|----------------|---------------------------|--------------|------------|
| Very severe    | 90                        | > 16         | 72         |
| Moderate       | 25                        | 8 - 16       | 20         |
| Slight         | 10                        | 4 - 8        | 8          |

Source: MAAR.

<sup>3</sup> Further details on industrial pollution in Edwards-Jones (2002).

Irrigation in the Euphrates valley began during the fourth millennium BC, and soil salinization was first noted in the 1940s when large-scale irrigated agriculture became possible using diesel driven pumps. The process accelerated when cotton was introduced in the 1950s. The problem was caused by a combination of factors: the misuse of irrigation water and the absence of effective drainage systems, which led to a rise in the groundwater level. Evapotranspiration then led to salt accumulation in the root layer. So great was the impact that by the mid-1960s, large areas of this land had been abandoned. Soil salinity increases with distance from the river bank. This pattern is related to the drainage patterns of the land: land near the river has good natural drainage patterns, resulting in low salinity; at increasing distances from the river, there is increasing dependence on man-made drainage systems, which are not well made and are often poorly maintained. These drainage systems are often surface drainage, and do not perform well. Better systems are underground pipe drainage at a depth of about 1 m, and these are being introduced in some areas.

Land in the second Euphrates terrace, near Rakka, was brought under irrigation in the 1970s, and a survey undertaken in 1980 showed that severe salinization had occurred in about 24 percent of the area. This was largely due to the absence of good drainage systems within the project area.

Current policy allows for reclamation of land of high salinity ( $EC > 16$ ). This requires improvement of the drainage systems (i.e. introduction of buried drains), better water management and the growing of only barley for two years. There are no scientific trial data available on the reclamation method, but experience to date suggests that within two seasons EC can be reduced from 16 to 8 EC. After reclamation, barley needs to be grown for at least two years before any other crops can be considered.

#### **b) Costs and importance of soil degradation**

The combined costs of soil degradation in Syria are estimated to be around US\$319 million/year, with salinity having the greatest cost per hectare and the greatest overall cost (Table 5.5). These costs are projected to rise to SP17 700 000 000 by 2005 (ERM, 1998a). These estimates make soil degradation the most costly of the environmental problems considered (the others being water quality degradation and water depletion, air quality degradation, urban degradation, loss of biodiversity, damage to cultural heritage). Soil degradation was also ranked as the main issue of concern by stakeholder groups interviewed by ERM (1998a) during the development of the National Environmental Action Plan.

**Table 5.5** Estimated costs of land degradation in Syria in 1997

| Type of problem              | Area affected (ha 000) | Cost/ha/yr (SP) | Total cost/yr (SP million) |
|------------------------------|------------------------|-----------------|----------------------------|
| Water erosion – coastal area | 1 058                  | 2 675           | 2 830                      |
| Wind erosion – steppe        | 1 620                  | 1 370           | 2 219                      |
| Salinity                     | 90                     | 105 390         | 9 485                      |
| Total                        |                        |                 | 14 534<br>(US\$319)        |

Source: ERM 1998a.

### c) Impacts of policy on soil management and conservation

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 Al Badia. It is clear that soil conservation is an important long-term issue for Syria, and needs to be dealt with effectively. The need for such actions is evident from the economic estimates of the costs of soil degradation and because of the role of soil degradation in desertification. Such policies are not easy to enact as they cut across a number of issues, such as: overgrazing in Al Badia; pulling perennial shrubs for heating and cooking; digging wells in Al Badia which enable more sheep to be kept; increased use of motor vehicles and development of roads in Al Badia; deforestation, and lack of environmental protection in the zones of mineral extraction. Many of these issues are dealt with in some detail by Edwards-Jones (2002) and will not be re-analyzed here. However, it is important to note that the causative processes of ‘desertification’ relate to the interaction of humans and the environment, and are therefore potentially influenced by policy.

The objectives of a national soil policy would encompass maintaining the productive capacity of the soil and preventing soil erosion. These objectives inform the following consideration of policy options.

### d) Policy options

#### *d1 Develop cropping patterns that minimize soil erosion*

It would be useful to consider costs and benefits of encouraging the use of trees as living windbreaks and uncropped strips in fields and along water courses as means of reducing soil erosion. Research in Tunisia has shown that strips of 5 m can be effective in reducing erosion, but strips of 10-20 m are even more effective. Such biological elements are widely accepted elements of sustainable agricultural systems and the areas of natural vegetation will have several benefits. They act as a reservoir of natural enemies which will serve to keep pest populations under control, they reduce erosion, they act as a habitat for natural plant species and as a

grazing resource for livestock. However, they may also compete with crops for land and water.

It is debatable how farmers should be encouraged to implement windbreaks and strips. It could be made compulsory for all farmers in certain regions to have to incorporate so many strips per ha. Alternatively, some kind of incentive system based on adhering to a management plan could be developed (cf. the management plan for Badia).

*d2 Redirect resources from forestry and land clearing to combating desertification*

It is doubtful that the resources used for clearing land, that subsequently goes to tree crops, are being used for the greatest environmental gain in the short term. The land currently being cleared is not causing environmental problems in its natural state, and prevention of current erosion may be a better use of these resources. This assumes that land clearing has the only purpose of environmental improvement, and if this is not the case, this suggestion may not be relevant. However, if environmental improvement is a major objective of the land clearing programme, then the money that supports it could be better spent on other environmental issues. Such a movement of resources may not be popular with some actors, but it may be in the national interest.

*d3 Improve drainage in irrigated regions*

Very saline land in the Euphrates valley has been reclaimed through the introduction of deep drains. The programme of introducing adequate drains into areas which are, or may become, salinised should be undertaken as soon as possible. No future public irrigation projects should go ahead without the inclusion of adequate drains.

The introduction of drainage does not bring any immediate economic benefit, but it does prevent a developing environmental cost: salinization. Given the growing population of Syria, and its relative land shortage per head, it is essential that currently productive land is not lost over future years. Drainage is the only way to reclaim currently salty lands and prevent future losses.

*d4 Monitoring of soil degradation*

Establish a network of monitoring sites for soil quality and erosion across all agricultural systems in Syria. Some good data are available for certain areas of Syria, but these tend to be undertaken as part of fixed time-scale projects and/or by external agents such as ICARDA and ACSAD. Consistent long term data are needed to guide policy decisions. Such monitoring studies could be undertaken in association with a research programme aimed at identifying reclamation methods for saline soils.

## **5.4 CONCLUSION**

The environmental issues of importance for Syria are clear: soil conservation, protection of ground waters, salinization of soils and degradation of the grazing resource of Al Badia. This chapter has considered two of the most important environmental issues facing Syria at the start of the 21<sup>st</sup> Century: management of Al Badia and soil degradation. Other important issues include water use, biodiversity protection, forest management and use of agricultural chemicals. Many of these issues are common with a range of countries in arid regions and it is interesting to note that neither their cause nor their potential for management is necessarily related to the prevailing political system. Historically, both laissez-faire capitalist systems, such as in the United States, have brought environmental problems, as have the centralized systems of the former Soviet Union and other countries. Indeed it is worth noting that in several developing countries the process of economic adjustment and the withdrawal of Government from a central planning role have seen a worsening in their environmental problems. Several analysts now agree that there may be more of a role for Government in managing the environment than some free-market economists had previously thought (Lee and Barrett, 2001). It may not simply be enough to offer economic incentives on their own, although they may be important as part of a package; a combination of market economics, Government control and Government incentives may rather be needed to achieve good environmental management. However, one vital part of this package is that Government removes 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 the development of new policies to tackle the identified problems.