CHAPTER FIVE

AGRICULTURAL DEVELOPMENT

5. AGRICULTURAL DEVELOPMENT

The Kingdom's agricultural sector experienced tangible progress over the past three decades. Agricultural production, both vegetables and animals increased at adequate rates that contributed to attainment of food security, as well as to diversification of economic base and creation of several job opportunities. A highlight of the agricultural development is the fact that the Kingdom currently enjoys self sufficiency in wheat, fresh milk and eggs. Agricultural output of vegetables, fruits and poultry meat, furthermore, satisfies the major part of needs of citizens and domestic food processing industries. This progress has been achieved due to private sector activity and the government's support, both directly and indirectly, to boost private investment in agricultural projects. While water resources have always been a constraint to the country's agricultural development. The govern-ment's flexible policies and the efforts pursed by the private sector have succeeded in rationalizing the use of water resources and in production of high value, low water-consuming crops.

Development plans' agricultural poli-cies have paid due attention to themes of economic efficiency of crops, irrigation system efficiency, use of treated wastewater in agricultural, other policies and marketing problems. This attention was also manifested in the institutional and organizational development of the sector over the past five years.

Value added generated by the agricultural sector in current prices, increased from SR 0.99 billion in 1389/90 (1969) to SR 38.3 billion in 1425/26 (2005). However, agricultural sector's GDP contribution declined from 4.9% in 1389/90 (1969) to about 3.3%% in 1425/26 (2005). Agricultural sector's growth rate averaged about 10.7% per annum during that period, while GDP grew at an average annual rate of 11.9% during the same period.

In more detail, agricultural sector's value added increased from SR 0.99 billion in 1389/90 (1969) to SR 1.35 billion in the last year of the First Development Plan, with the sector's annual growth rate averaging 6.3% over that period. The sector's value added rose during the Second Development Plan to SR 4.6 billion in 1399/1400 (1979), accounting for an average annual growth rate of 27.8%. During

the Third Plan, the sector grew at an average rate of 20.4% a year, as its value added went up to 11.62 billion in 1404/05 (1984). During the Fourth Plan, the sector's value added increased to SR 22.65 billion in 1409/10 (1989), growing at an average annual rate of 14.3% the sector continued to grow during the Fifth Plan as its value added increased to SR 31.13 billion in 1414/15 (1994), at an average annual growth rate of 6.6%. During the Sixth Plan, the sector's value added went up to SR 34.44 billion in 1419/20 (1999), growing at an average annual rate of about 2.0%. Over the span of the Seventh Plan, the sector's value added rose to SR 37.19 billion in 1424/25 (2004), growing at an average annual rate of about 1.5% during the plan period. While during the first year of the Eighth Plan, 1425/26 (2005), the value added increased to about SR 38.27 billion. On an average, the agricultural sector's growth rate stood at some 10.7% per annum at current prices during the period 1389/90-1425/26 (1969-2005).

These developments have been achieved due to continued increase of investment in the sector. The value of physical investments (fixed capital formation) in the sector increased from SR 0.02 billion in 1389/90 (1969) to SR. 0.14 billion in 1394/95 (1974), then rose to SR 1.07 billion in 1399/00 (1979), and to SR 2.42 billion in 1404/05 (1984), and to SR 2.61 billion in 1409/10 (1989), going up to SR 4.07 billion in 1414/15 (1994). Private sector investments amounted to SR 3.96 billion in 1419/20 (1999), SR 3.62 in 1424/25 (2004) and increased to SR 4.1 billion in 1425/26 (2005).

Presently, the agricultural sector employs 605.7 thousand people, or 7.1% of the current workforce employed by the Kingdom in 1425/26 (2005), as compared to about 470.7 thousands in 1404/05 (1984). This is, notwithstanding, the vast expansion in the use of capital-intensive technologies.

5.1 Policies and Means of Supporting Agricultural Development

The Seventh Development Plan established a set of policies that are designed to support agricultural development. Foremost among these policies are: channeling the support towards efficient use of natural resources through adoption of advanced irrigation techniques, use of advance technologies to ensure low costs of production, support of technical studies and research; improvement in the efficiency of marketing and processing of fruits and vegetables, particularly with respect to

small farmers; supporting establishment of cooperative societies; increasing the efficiency of research and agricultural extension institutions and enhancing their coordination with executive agencies.

Development efforts in the agricultural sector included implementation of policies, projects and programs related to water provision, conservation and rationalization of water use and development of water resources through construction of dams and through water retention projects.

The First Plan laid emphasis on agricultural development as one of the key objectives of the plan. Several projects and policies were implemented during the Plan to achieve two targets. The first one being to pursue vertical expansion of agriculture in order to raise production efficiency through the use of modern equipments as well as provision of extension services and loans to farmers. The second was horizontal expansion through establishment of irrigation and drainage projects, construction of dams for water storage, along with additional programs for settlement of Bedouins, as well as distribution of arable land to them. Contracts were signed with some reputed international companies for comprehensive survey of groundwater resources.

Efforts to support the agricultural sector continued during the Second Plan, resulting in achievement of actual growth rate that exceeded planned target.

During the Third Plan, efforts continued to boost agricultural output. Production of wheat rose to over one million tons in the last year of the plan, thus exceeding the amounts need for self-sufficiency in this vital food commodity. Furthermore, self-sufficiency was achieved in production of eggs and dairy products.

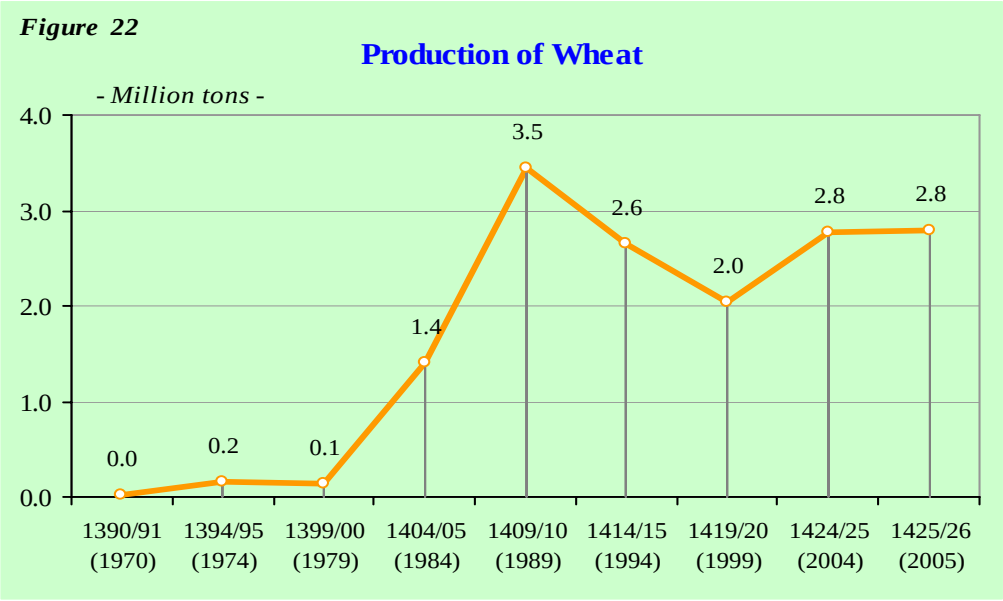
During the Fourth Plan, the agricultural sector realized a marked leap and emerged as a major and vital sector of the economy. The most prominent feature of this leap has been the substantial increase in improved wheat production, which reached 3.4 million tons by the end of the plan 1409/10 (1989), thus surpassing the level of self sufficiency, and the doubling of barley production to 335 thousand tons. Moreover, production of vegetables increased by more than 46%, rising from about 1.3 million tons at the beginning of the plan to about 1.9 million tons by the end of the plan.

Distribution of arable land among citizens has also increased from about 0.61 million hectares to more than 1.4 million hectares at the end of the plan period, ensuring the increased demand for agricultural projects by the private sector.

The storage capacity of Grain Silos is 2.38 million tons, directed to meeting the domestic consumption of wheat as well as ensuring a six-month strategic stockpile. Capacity of flour mills also increased to 8100 tons of wheat per day, thereby achieving self-sufficiency in flour production.

The Fifth Plan saw a continued trend of agricultural development, with domestic production of improved wheat reaching 2.6 million tons by the end of the plan. Production of vegetables also increased to 2.3 million tons, while production of red meat and eggs rose from 133,000 to 150,000 tons and from 113,000 to 127,000 tons respectively. Furthermore, wide-ranging policies were implemented with an aim to rationalize water consumption, and to restructure agricultural production in line

Figure 22



with water requirements for each crop. The underlying objective of these policies has been to redraw the Kingdom's agricultural production map, while maintaining the priorities of the overall strategy which seeks to achieve self sufficiency in wheat production. This policy helped in making the transition to production of high value added crops in which the kingdom enjoys a comparative advantage.

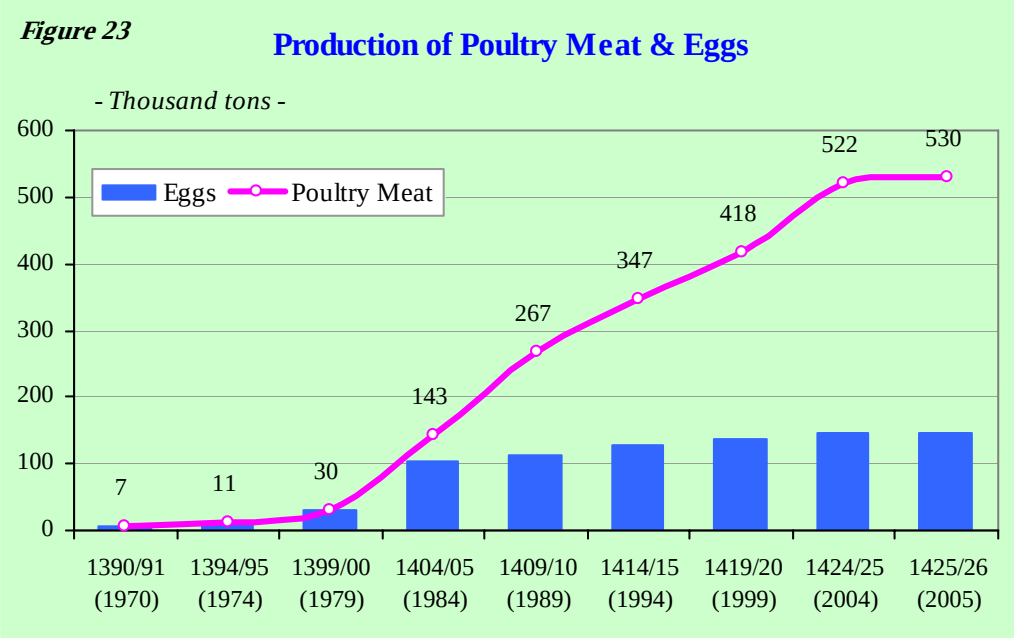
Progress indicators during the Sixth Plan period reflect the success made in

restructuring of agricultural production, reducing costs and raising productivity levels. In this respect, wheat and barley production fell by 5.1% and 37.5% respectively. This is, notwithstanding the higher productivity levels been achieved to the tune of 4.7 tons/hectare for wheat and 5.3 tons/hectare for barley. As a result of the enforcement of equilibrium between water security and food security, a decision has been adopted during the Sixth Plan to suspend licenses for new fodder projects, having put into operation policies to enhance water rationalization programs, and to diversify agricultural production on the basis of comparative advantages of different regions and in line with water needs of individual crops. This was coupled with support of agro-industries.

In the field of fish resources, development projects made outstanding progress whereas the country's fish output rose to 58,000 tons, which managed to meet 59.6% of total domestic consumption by the end of the Sixth Plan. Additional attention was also paid to natural resources such as forests and pastures through developing of programs that control overgrazing and development of pastures in the future.

During the Seventh Development Plan, production of poultry meat increased from 418,000 tons in 1419/20 (1999), to 522,000 tons by the end of the Plan 1424/25 (2004). Fish production increased from 55,000 to 67,000 tons, while red meat production increased from 160,000 to 167,000 tons. Total output of eggs increased

Figure 23



from 129,000 to 145,000 tons, while production of milk increased from 1,039,000 to 1.23 million tons. Production of vegetables increased from 1.93 million to 2.48 million tons, with an increase in fruit production from 1.19 million to 1.45 million tons. Production of wheat was approximately 2.8 million tons annually, sufficient to meet local consumption needs.

Production estimates for the first year of the Eighth Plan, 1425/26 (2005), indicate increase of production to about 530,000 tons for poultry meat, 69,000 tons for fish, 168,000 tons for red meat, 2.55 million tons for vegetables, 1.5 million tons for fruit, while eggs and wheat maintained production level of 145,000 tons and 2.8 million tons respectively.

Progressive strides were also made over the successive development plans in establishing and completing a number of large-scale projects. Examples of these projects include Al-Hassa Irrigation and Drainage Authority, which aims at reclamation of more than 8000 hectares. There is also Wadi Sarhan project, which managed to reclaim 140,000 hectares, with an emphasis on reclamation of pastures and storage of the needed quantities of fodder. Other projects in this respect include Tabuk basin project in the north, which is intended for providing Bedouin areas with water and rehabilitation of agricultural activities, and Wadi Al Sahbaa project for reclamation and cultivation of 40,000 hectares, with their ownership transferred to peasant families. There is also Al Faisal pilot project south-east of Riyadh, which encompasses a total area of 40 square kilometers. This project has created job opportunities for nomad population, and has provided them with the financing along with technical and extension expertise required for agricultural activities. A number of important agricultural projects have also been established, such as Wadi Birain project located at an oasis south of Haradh area, and the project for the improvement of grazing areas in the northern region, which is a part of the kingdom-wide national project for the development of animal resources.

These projects, have contributed towards vast and equitable distribution of development gains and meeting the needs of the Kingdom’s population and improving their standard of living.

During the Seventh Plan, a large share of the increasing demand for food was satisfied as well as realizing self sufficiency in some food stuffs such as eggs and milk and exporting the surplus. The Eighth Plan continued with the trend of rationalizing the use of resources and improving the economic efficiency with the aim of achieving the objectives of the long-term strategy and eventually the sustainable development.

The Kingdom's total land area is 200 million hectares, including 48.9 million hectares of arable lands of which the area irrigated mechanically or by rain represent 24.4% of the total area.

Permanent rain-fed grassland amounted to 3.8 million hectares, or 1.9% of the total. The forest land area amounts to 2.7 million hectares, or 1.4% of the total area. Semi-arid pastures area amounts 140 million hectares, to the tune of 70% of the total area. The cities, roads, villages and different other uses represent the remaining area as shown in table (5.1).

5.2 Water Resources and Agricultural Demand

starting with the Kingdom's recent modernization drive, development efforts made special emphasis on provision of water resources coupled with due attention to development of water resources and rationalization of water use in agriculture, industry and other increasing urban needs. Indeed, water is a crucial element for life and is a prerequisite for socio-economic development. Therefore, water has always been a scarce national resource in the Kingdom with its characteristically arid climate. Water consumption rates increased con-siderably as a result of population

Table (5.1)
Classification of the Kingdom's Lands and Area

Type	Area (Million hectares)	Percentage of Total Area
Arable lands (mechanically irrigated and rain-fed)	48,900	24.4 %
Permanent grassland (rain-fed and without moisture)	3,785	1.9 %
Forest lands	2,700	1.4 %
Semi-arid pastures	140	70 %
Other lands (cities, roads … etc.)	4.615	2.3 %
Total Area	**200.0**	**100.0 %**

Table (5-2)
Projections of Water Demand
1420/21-1429/30 (2000-2009)

	Billion Cubic Meters			Average Annual Growth Rate	
	1420/21 (2000)	1424/25 (2004)	1429/30 (2009)	Seventh Plan 1420/21-1424/25 (2000-2004)	Long-Term Perspective 1420/21-1429/30 (2000-2009)
Domestic Sector	1.80	2.10	2.40	3.1	2.7
Industrial Sector	0.47	0.64	0.77	6.4	3.8
Agriculture Sector	18.8	17.53	15.09	-1.4	-3.0
Total Demand	**21.07***	**20.27**	**18.26***	**-0.77**	**-2.1**

**** MOEP estimates.***

increase; the higher living standards which changed domestic consumption patterns and helped improving health care condition; spatial growth of cities, governorates and centers, and increased production and water related needs in various sectors of the economy during the last two decades, the Kingdom's water consumption increased by five-folds. The agricultural sector's increased share in water consumption has been quite conscious. Against this background, development endeavors sought to develop and conserve water resource, including both renewable and non-renewable resources. Efforts were also pursued to implement large scale sea water desalination projects. In this respect, the Kingdom currently holds the world's top position with respect to production of desalinated water and the technology used in this regard. This enables it to become a reference in this field.

Agriculture claims an overwhelming share of water consumption, with some 86.5% of total water consumed in the Kingdom. Rationalization of water use in the agricultural sector has received adequate attention in development plans, policies and measures. The first four development plans sought a target of adding new water resources, and towards that end, embarked on an increased drive to set up desalination projects. With the initiation of the Fifth Plan, a comprehensive review was conducted of water consumption rates of the agricultural sector. This helped in restructuring of crop pattern, resulting in reduced areas of high water consuming crops, such as wheat and barley, in favor of less water consuming crops, such as vegetables and fruits. Increased expansion was also pursued in the use of modern irrigation technology, with an aim to rationalize water consumption in this sector where water losses amount to relatively high rate of 30%.

5.3 Easy-term Credit and Subsidies to Stimulate Agricultural Development

The policy of offering easy-term loan and subsidies has resulted in stimulating private sector investments in the agricultural sector. This led, in turn, to a higher production, and secured self sufficiency in several key agricultural products. The value of short and medium maturity loans extended by the Saudi Agricultural Bank increased from SR 16.6 million in 1390/91 (1970), the first year of the First Development Plan, to SR 2.3 billion in 1404/05 (1984), the last year of the Third Development Plan. With the expansion of agricultural projects and the increase in agricultural output, lending began to decline during the Fourth Plan, as the value of loans reached SR 854.3 million by the last year of the Fourth Plan 1409/10 (1989). However, the value of loans granted by the end of the Seventh Plan 1424/25 (2004) stood at SR 1.04 billion. Total value of loans provided during the first year of the Eighth Plan, 1425/26 (2005), amounted to about SR 896 million.

Since the beginning of Third Development Plan, medium-term maturity loans (10 years) had an overwhelming share in total lending. These loans were channeled for investment in fixed assets, such as farm machinery, irrigation equipment and pumps. By contrast, short-term maturity loans, usually extended to finance seasonal input, accounted for about 4% of total loans extended to the sector in 1425/26 (2005).

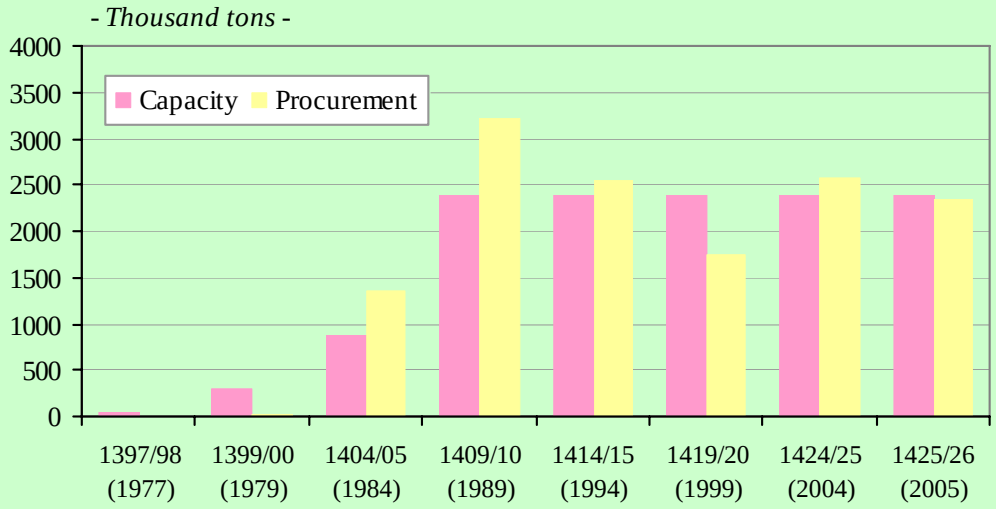
Agricultural polices also included direct production grants and subsidies extended to farmers. The value of subsidies rose from SR 68.5 million in 1394/1395 (1974) to some SR 1.5 billion in 1404/1405 (1984). It then declined to SR 22.9 million in 1415/1416 (1995), but increased again during the Seventh Plan, as it amounted to SR 296.2 million in 1424/1425 (2004). However, it stood at SR 299.5 million in the first year of the Eighth Plan, 1425/26 (2005).

5.4 Grain Silos and Flour Mills Organization

The Grain Silos and Flour Mills Organization was established in 1392 (1972) as a base for agro-industries. GSFMO contribute to agricultural and animal resources development, as well as to realize, self-sufficiency in wheat as a strategic development objective. Currently, production capacity of the flour mills amount to 8,100 tons of wheat flour per day, while the capacity of animal-feed factories

Figure 24

Capacity of Grain Silos & Domestic Wheat Procurement



amounts to 700 tons on 8-hours/day basis. The storage capacity of the Grain Silos is 2.38 million tons.

In 1425/26 (2005), the flourmills produced about 2.03 million tons of flour, and 560 thousand tons of bran, while the output of fodder amounted to about 165 thousand tons and production

of bran about 584 thousand tons. Domestic purchases by the Organization were to the tune of 2.34 million tons of wheat.

The Grain Silos and Flour Mills Organization produce wheat flour for domestic consumption as well as maintain a six months strategic stockpile.