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# Policies and Transition Problems of Agriculture in Turkey

Hasan Yilmaz
Department of Agricultural Economics, Faculty of Agriculture,
Süleyman Demirel University, 32260 Isparta, Turkey

**Abstract:** Agriculture plays an important role in Turkey, both in social and economic terms. Subsistence and semi-subsistence farming is an important characteristic of the Turkish agriculture. These farms are typically characterized by low productivity and only a small fraction of production has been marketed. While the rate of agriculture in national income was 14.7% in 2000, this rate is declined to 10.7% in 2005. Turkey is endowed with rich natural and human resources, but it is still far from reaching full potential of agricultural growth because of the inefficient agricultural policies. The prevailing conditions in agriculture combined with the mismanagement in macro and agricultural policies prevented an overall structural transformation of the sector. The long-term objectives of agricultural policies obviously need to be the improvement of productivity in the sector. In this study, the recent changes and developments in agriculture sector in general economy, agricultural structure, land use, production and policies in Turkey are analyzed. In addition, problems and proposed solutions related to agricultural in Turkey are also presented.

**Key words:** Agriculture, policies, transition problems, Turkey

## INTRODUCTION

Because of its strategic importance, agriculture sector is supported in every country with an agricultural policy specific to the country's economic structure and within the limits of its resources. Fundamental aim of policies implemented in the agricultural sector is to have organized, highly competitive and sustainable agricultural sector, which takes economic, social, environmental and international dimensions as a whole within the general orientation of efficient use of resources (Eraktan, 2001). With the agricultural reform initiated in 1999 the budgetary expenditures in Turkey have been disciplined by reshaping them. Despite the fact that it is still early to evaluate whether or not reforms have been successful some indicators reveal that an agricultural sector has diminished. However, considering the fact that the country was in an economic crisis in this period the reforms are expected to sustain the agricultural sector instead of providing solutions to accumulated problems of Turkish agriculture (Olhan, 2006). The problems of rural Turkey coinciding with food security and human development concerns are; structural problems, policy problems and transition problems.

Turkish government is searching for new alterative because the implemented policies did not resolve the problems of agricultural sector rather they deteriorated the sectoral. For this reasons it became must to include new tools in the support institutions. Agricultural Strategy Paper for 2006-2010 has been approved by the Supreme Planning Council on 2004. The main objective is to create an organized, competitive, sustainable agricultural sector that addresses the economic, social, environmental and international aspects of development as a whole within the principle of efficient utilization of resources.

In this study, the progress of agriculture sector in general economy in Turkey, the changes and developments in agricultural structure, production, policies and restructuring seeking are examined. Suggestions were submitted Turkish agriculture in harmonization with global changes in agriculture and increasing competitive power.

**Agriculture in the Turkish economy:** Turkish economy was under the crisis conditions in several times during the last decade. After the 1994 heavy devaluation, the macro environment did not ameliorate due to lack of policies will in constraining public expenditures and another structural adjustment and stabilization program had to start by the end of 1999. The program had to be renewed in 2001. The renewal was costly, but the economy has started to recuperate in the recent years.

Agriculture has an important role in the Turkish economy, with its high shares in GNP and employment. The multi-functionality in agriculture arises not only from the public goods provided by the farm activities, but from its ability to refrain rural-urban migration and hence it continued to be as a reserve for labor. However, the

prevailing conditions in agriculture combined with the mismanagement in macro and agricultural policies prevented an overall structural transformation of the sector (Çakmak, 2004).

The share of agriculture in GNP has been steadily decreasing from 14.7% in 2000 to 10.7% in 2005. This percentage is significantly lower than in the past, partly due to a more rapid growth in the industrial and service sectors (Table 1), but the agricultural sector is still of substantial importance to the Turkish economy.

The share of agriculture in total employment has also been declining, from 34.5% in 2000 to 29.5% in 2005. The share of agricultural imports in declined from 7.6% in 2000 to 5.5% in 2005. The share of agricultural exports in declined from 13.9% in 2000 to 11.2% in 2005. Turkey maintains a trade surplus in agricultural and food products (Table 1).

**Farmers and land:** Farms in Turkey are generally family-owned, small and fragmented. National average size of farm holdings is 6.1 ha, with an average number of 6 plots. The information on the number and size of holdings are inferred from agricultural censuses is the existence of large number of small farms. The pattern of land ownership is highly skewed and varies regionally due to differences in incomes and the crops grown. A large number of farmers own and cultivate a small area of the land. Agricultural census in 2001 recorded 3 million agricultural holdings. In the last 15 years, the total number of agricultural holdings decreased by about 25%. About 85% of holdings, on 41% of the land, were smaller than 10 ha. Sixteen percent of holdings were from 10 to 50 ha and they cultivated almost half of the cultivated land (SIS, 1994, 2004).

According to the results of the 2001 Agricultural Census, approximately 81% of farms are owner-occupied and the remaining 19% are held by tenants and sharecroppers. Over 65% of farm households were cultivating an area smaller than five ha. Over 94% of all farm households and over 65% of total land fell into the 0-20 ha group (Table 2). It is generally accepted that there has been no significant shift in farm size, largely because farms can increase their size only if other rural families give up their land and move out of agriculture. The complexities of the land tenure system and the principle of the division of inheritance have hindered any real change in the patterns of landholdings.

The proportion of the irrigated land increased from 14% in 1991, to 20% in 2001 (SIS, 1994; 2004). The share of irrigated land is much higher in the west than elsewhere in Turkey. A third of the holdings smaller than 1 ha are irrigated. The distribution of agricultural land remained skewed; with a slight tendency towards the medium ranges from smaller sizes in the considered decade Irrigated land is distributed slightly more evenly than cultivated land (Çakmak, 2004).

Table 3 shows area-ownership relations in Turkey. Approximately 65% of the total holdings are poor farmers and these farmers have approximately 21% of total area. Although the percentage of the rich farmers and landlord is 0.7%, these farmers have approximately 11% of total area.

Table 1: Indicators of the agricultural economy

| Agricultural economic indicators | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| Sectoral Breakdown of GNP (%) | | | | | | |
| Agriculture | 14.7 | 12.5 | 12.0 | 12.2 | 11.8 | 10.7 |
| Industry | 24.3 | 26.7 | 26.2 | 25.7 | 26.0 | 26.6 |
| Services | 61.0 | 60.8 | 61.7 | 62.2 | 62.2 | 62.7 |
| Employment in agriculture (million) | 7.1 | 7.2 | 7.6 | 7.2 | 7.4 | 6.5 |
| Share of agriculture in civilian employment (%) | 34.5 | 35.4 | 35.2 | 33.9 | 33.9 | 29.5 |
| Agricultural imports/total imports | 7.6 | 7.4 | 7.7 | 7.6 | 6.2 | 5.5 |
| Agricultural exports/total exports | 13.9 | 13.9 | 11.2 | 11.1 | 10.3 | 11.2 |

Source: SPO, Main Economics Indicators

Table 2: Size distribution of land, 1991 and 2001

| | 1991 | | | | 2001 | | | |
|---|---|---|---|---|---|---|---|---|
| Size of holdings (decar) | No. of holdings | % | Area (decar) | % | No. of holdings | % | Area (decar) | % |
| Less than 5 | 251.686 | 6.3 | 667.059 | 0.3 | 177.893 | 5.9 | 481.605 | 0.3 |
| 5-9 | 381.287 | 9.6 | 2,511.091 | 1.1 | 290.327 | 9.6 | 1,951.672 | 1.1 |
| 10-19 | 752.156 | 19.0 | 10,042.501 | 4.3 | 539.507 | 17.9 | 7,374.515 | 4.0 |
| 20-49 | 1,274.609 | 32.1 | 38,668.961 | 16.5 | 950.539 | 31.5 | 29,523.341 | 16.0 |
| 50-99 | 713.149 | 18.0 | 46,750.693 | 19.9 | 559.999 | 18.5 | 38,123.216 | 20.7 |
| 100-199 | 383.323 | 9.7 | 49,216.633 | 21.0 | 327.330 | 10.8 | 43,881.626 | 23.8 |
| 200-499 | 173.774 | 4.4 | 46,787.432 | 19.9 | 153.668 | 5.1 | 42,076.313 | 22.8 |
| 500+ | 36.838 | 0.9 | 40,166.623 | 17.1 | 21.907 | 0.7 | 20,917.199 | 11.3 |
| Total | 3,966.822 | 100.0 | 234,810.993 | 100.0 | 3,021.170 | 100.0 | 184,329.487 | 100.0 |

Source: Agricultural Census (SIS, 1994; 2004).

Table 3: Area-ownership relations (2001)

| Farm size (decare) | No. | % | Area | % |
|---|---|---|---|---|
| Poor farmer, less than 50 | 1,958.266 | 64.8 | 39,331.133 | 21.3 |
| Small farmer, 50-99 | 559.999 | 18.5 | 38,123.216 | 20.7 |
| Middle farmer, 100-499 | 481.018 | 15.9 | 85,957.939 | 46.6 |
| Rich farmer, 500-999 | 17.431 | 0.6 | 11,258.554 | 6.1 |
| Village agha, landlord, 1000+ | 4.476 | 0.1 | 9,698.645 | 5.3 |
| Total | 3,021.190 | 100.0 | 184,369.487 | 100.0 |

Source: Agricultural Census,(SIS,2004); Anonymous, 2004

Table 4: Changes in agricultural land (000 ha)

| Agricultural Land | 2000 | 2001 | 2002 | 2003 | 2004 | 2000-2004 Change (%) |
|---|---|---|---|---|---|---|
| Field area | 23.033 | 23.001 | 23.163 | 22.554 | 23.063 | 0.1 |
| Area sown | 18.207 | 18.087 | 18.123 | 17.563 | 18.107 | -0.5 |
| Fallow | 4.826 | 4.914 | 5.040 | 4.991 | 4.956 | 2.7 |
| Vegetables gardens | 793.00 | 799.00 | 831.00 | 818.00 | 805.00 | 1.5 |
| Vineyards | 535.00 | 525.00 | 530.00 | 530.00 | 520.00 | -2.8 |
| Orchards | 1.418 | 1.425 | 1.435 | 1.500 | 1.558 | 9.9 |
| Olive groves | 600.00 | 600.00 | 620.00 | 625.00 | 644.00 | 7.3 |
| Total | 26.379 | 26.350 | 26.579 | 26.027 | 26.590 | 0.7 |

Source: SIS, Agricultural Structure. (Various years)

Much less discussed is the socio-economic differentiation within agriculture. Today with differences in number and percentage between regions it is reasonable to differentiate between the following types of rural households:

Landlords especially concentrated in southeast Turkey often manage their land with short tenants and landless laborers, often rather extensively. Land is more a source of power than a basis for production. Social relations are feudalistic. Progressive farmers are usually younger farmers who own or rent land and apply modern capitalistic methods of management, thus using the potential of modern technology. Economic holdings are family farms with sufficient land to allow a decent living and the application of modern technology. Many of them discovered for specialization and achieve a good enough income (Kuhnen, 2005).

A large number of farmers only own and cultivate a small portion of the land. The quality of land owned by small farms is lower than the quality of large farms as large farms cultivate a higher proportion of the irrigated land. Furthermore, the yields on large farms are higher than that in small farms. This implies that large farms operated by a small proportion of the farmers produce most of the value of production and hence receive most of the benefits of the market price support component of agricultural support. The large farmers, with relatively better access to and intensive use of subsidized resources such as water, machinery and agricultural chemicals, also benefit more from the support policies that the smaller farmers.

**Crop production:** Crop production in Turkey is highly diversified due to the range of climatic and topographical conditions. Most of the agricultural production originates from the coastal regions, with the highest production in the Mediterranean and Aegean regions which are highly suited to fruit and vegetable production. Agricultural production in Turkey is mainly crop production, with approximately 70% of total production. Agricultural GDP has around 34 billion US $ in 2000 and reached 37 billion US $ in 2005, an increased of 8.8%. Parallel to these developments during the period of 2000-2005 agricultural GDP per capita has increased from 1 461 US $ to 1 561 US $ (SPO, 2006). Of the total cultivated land area, 87.5% comprise agricultural fields, 9.5% are fruit plantations and 3% are given to growing vegetables (SIS, 2005). Only on 17% of cultivated lands is irrigated agriculture practiced, but 36.9% of fruit plantations and 78.3% of vegetable gardens are irrigated. In 2004 overall cultivated area increased 0.7% in comparison to 2000 (Table 4).

Field crops have the largest share in Turkey's total production value, due mainly to cereals and industrial crops. Fruit and vegetables have high individual shares; together, they account for more than 40% of production value. Table 5, shows the annual agricultural production indices of selected products between 2000 and 2005.

Turkey is one of the world's leading cultivators of cool climate cereals and self-sufficient in both wheat and barley. Cereals contributed 17% of Turkey's total agricultural output in 2004 (SIS, 2005). The production of wheat and barley represents nearly 95% of cereal production in Turkey. Cereals production increased 7.2% and barley production increased 12.5% during 2000-2005 periods (Table 5). The production of maize in Turkey is still a small proportion of total cereal production. Maize production increased 52.2% during 2000-2005 periods. It is estimated that demand for will increase markedly in the future and the yield for maize in Turkey is significantly

Table 5: Production indices of selected products ('000 tons)

| Product | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2000-2005 Change (%) |
|---|---|---|---|---|---|---|---|
| Cereals | 32.249 | 29.571 | 30.831 | 30.807 | 34.050 | 34.570 | 7.2 |
| Wheat | 21.009 | 19.007 | 19.508 | 19.008 | 21.000 | 21.000 | 0.0 |
| Barley | 8.000 | 7.500 | 8.300 | 8.100 | 9.000 | 9.000 | 12.5 |
| Maize | 2.300 | 2.200 | 2.100 | 2.800 | 3.000 | 3.500 | 52.2 |
| Cotton (lint) | 880.000 | 914.000 | 988.000 | 920.000 | 928.000 | 982.000 | 11.6 |
| Sugar Beets | 18.821 | 12.633 | 16.523 | 12.623 | 13.517 | 13.500 | -28.3 |
| Tobacco. leaves | 200.000 | 145.000 | 153.000 | 160.000 | 157.000 | 141.000 | -29.7 |
| Potatoes | 5.370 | 5.000 | 5.200 | 5.300 | 4.800 | 4.170 | -22.3 |
| Apples | 2.400 | 2.450 | 2.200 | 2.600 | 2.100 | 2.550 | 6.3 |
| Apricots | 579.000 | 517.000 | 352.000 | 499.000 | 350.000 | 370.000 | -36.1 |
| Citrus | 2.222 | 2.478 | 2.493 | 2.488 | 2.708 | 2.588 | 16.4 |
| Olives* | 1.800 | 600.000 | 1.800 | 850.000 | 1.600 | 850.000 | -52.8 |
| Onions. Dry | 2.200 | 2.150 | 2.050 | 1.750 | 2.040 | 2.000 | -9.1 |
| Tomatoes | 8.890 | 8.425 | 9.450 | 9.820 | 9.440 | 9.700 | 9.1 |
| Watermelons | 3.900 | 4.020 | 4.575 | 4.250 | 3.825 | 3.800 | -2.6 |

*due to typical uneven yield pattern of olives. Source: FAO, 2005; TURKSTAT, 2005

above world averages. The country possesses conditions suitable for the cultivation of both rice and maize and with the extension of irrigated areas, it is projected that 700 thousand ha of maize will be grown. Improved varieties of maize have been made available to producers, but better techniques of soil preparation, improved training programmers, drying, storage facilities and marketing schemes, as well as easier credit, are necessary to stimulate increased production (FAO, 2001).

Turkey is an important producer of cotton and its production has increased over the last ten years, due to The Southeastern Anatolia Project (GAP). It is predicted that the GAP project will contribute to the eventual doubling of the country's production of cotton. Total annual lint cotton production was around 880 million tons in 2000 and reached 982 million tons in 2005, an increase of 11.6%.

The domestic demand for sugar has in the past been almost entirely met by domestic production of sugar beet; total annual sugar beet production was around 18.8 million tons in 2000 and decreased 13.5 million tons in 2005, decrease of 28.3%.

Approximately 250 thousand ha of tobacco are grown in Turkey and nearly half of all leaf tobacco is exported. Turkish tobacco is known world-wide and is included in many American blends. After reaching the record level of 339 thousand tons in 1993, tobacco output has now been restricted as overproduction of leaf has become a problem. Total annual tobacco production was around 200 thousands tons in 2000 and decreased 141 thousands tons in 2005, decrease of 29.7%. The production quota for the cultivation of other crops on land previously used for tobacco is encouraged and tobacco producers are not permitted to produce more than the average annual amount of their previous three years crops. This includes some of the measures aimed at crop diversification and increased productivity.

Reduction in state involvement in tobacco, sugar and tea are closely linked with the privatization of the related agricultural state economic enterprises. Despite the fact that the legislation on tobacco and sugar was completed, there has not been any development in the privatization. More market oriented policies are yet to be applied in these products.

Turkey has a wide range of fruits and vegetables, of which many are indigenous to the area, such as the pear, quince, cherry, grape, hazelnut, pistachio and walnut. Although the land area has remained nearly stable the total production of horticultural produce has increased. Total annual fruit production was around 11 million tons in 1990 and reached 14 million tons in 2004, an increase of 27.2%. Total annual vegetable production was around 16.5 million tons in 1990 and reached 24 million tons in 2004, an increase of 45.4%. This is largely due to the number of extensive new orchards, improved techniques of cultivation and the introduction of high yielding varieties.

Citrus fruit production in Turkey has shown a rapid increase, especially since the 1960s, total annual citrus fruit production was around 2.2 million tons in 2000 and reached 2.6 million tons in 2005, an increase of 16.4%. Of this, oranges constitute approximately half and lemons a little over a quarter.

There are an estimated 103 million olive trees in Turkey, annual producing between 600-1.800 thousands tons of olives and 56 thousand tons of olive oil. The domestic consumption of olive oil is gradually increasing and there is a growing international market for table olives. The production of the latter is especially encouraged on account of the higher returns for the producer.

The amount crop production has decreased 4.1% in the period of 2000-2005. Stagnation of growth in agriculture is not valid for all sub-sectors. Cereals and

Table 6: Livestock Numbers and Animal Production

| Livestock Numbers ('000 head) | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2000-2005 Change (%) |
|---|---|---|---|---|---|---|---|
| Cattle | 11.054 | 10.761 | 10.548 | 9.804 | 9.789 | 10.069 | -8.9 |
| Goats | 7.774 | 7.201 | 7.022 | 6.780 | 6.772 | 6.609 | -15.0 |
| Sheep | 30.256 | 28.492 | 26.972 | 25.174 | 25.431 | 25.201 | -16.7 |
| Hens | 258.168 | 217.575 | 245.776 | 277.533 | 296.876 | - | - |
| Average Annual Animal Production (000 tons) | | | | | | | |
| Red meat | 732,7 | 684,9 | 661,8 | 604,2 | 684,9 | 685,9 | -6.4 |
| Poultry meat | 660,9 | 631,4 | 710,9 | 887,0 | 894,8 | 958,0 | 45.0 |
| Milk | 9,79400 | 9,495.6 | 8,408.6 | 10,611.2 | 10,679.4 | 10,538.0 | 7.6 |

Source: FAO, 2005; TURKSTAT, 2005

pulses have a negative impact on the growth of output. Among cereals yield decline, especially of wheat is the major source of this negative contribution. The negative contribution of these major crops is offset by industrial crops, tuber crops, vegetable and fruits (Çakmak, 2004).

**Animal production:** Livestock production is approximately 30% of total agricultural production in Turkey (MARA, 2006).

Conditions in Turkey are favorable for the raising of livestock, but total numbers have been slowly declining for the last two decades due to the degradation of pastures, increased input costs and the migration of the rural population to large towns and competition from imported animal products for some time after the lifting of import duties. There were still, however, 25 million sheep in the country in 2005. There were also nearly 10 million cattle and 7 million goats. Number of cattle has decreased 8.9%, goats 15%, sheep 6.7% during 2000-2005 periods (Table 6).

In spite of the generally decreasing numbers, total production figures have remained constant, indicating an improved productivity per animal. Red meat production has decreased 6.4% during 2000-2005 periods. But poultry meat has shown an increase of 45% during 2000-2005 periods (Table 6). Livestock products account for 23% of Turkey's production value. In value terms, the most important meat product is beef followed by poultry. Meat production represented 9.3% in total agricultural output in 2002 (Oskam *et al*., 2004).

Although sheep and goat meat have a low share in production value (1.3%), sheep are important in extensive agriculture in some low-income areas (Karagöz, 2003).

Milk, most of which is cow milk, has a share of 8.5% in total production. The production of cow milk was circa 10.5 million tones in 2005. Milk production increased 7.6% during 2000-2005 periods (Table 6).

Yet, despite significant exports of live sheep, the country became an importer of animal products since 1986, whereas exports in this sector had exceeded imports by three times in 1980. The fail in real prices of animal produce caused by the lifting of restrictive import duties has caused a steady drift of producers into other fields. In the central and western parts of the country, farm labour has become scarce and costly. This particularly affects labour-intensive dairy enterprises (FAO, 2001).

**Policy formulation and implementation:** The economic, social and environmental dimensions of sustainable agriculture require synchronization of agriculture related national and international policies. It is unavoidable that international policies will have an impact on the national policies even without considering sustainability issue in agriculture. In addition, the national policies of large trading countries changes the structure of world trade and hence resource allocation worldwide (Çakmak, 2003).

The objectives of agricultural policies as expressed by governments are mainly: income support for farmers, income stability for farmers and structural adjustment in rural areas, regional assistance and payments for the provision of public goods such as landscape preservation and wildlife habitat (Fellmann, 2004). On the basis of statements in development plans and programmers, the main objectives of Turkish agricultural policy are (MARA, 2000).

- Ensuring an adequate growth rate in agriculture,
- Increasing productivity and diversifying agricultural production by improving production techniques,
- Improving the level of nutrition of the Turkish population,
- Raising the standard of living of those employed in the agricultural sector,
- Decreasing unemployment,
- Controlling the influx of labour from rural areas to urban areas and reducing intra-sectoral income disequilibria,
- Improving agricultural structures and ensuring better utilization of production factors.

Being restructured and reoriented towards increased competitiveness through IMF and EU supported programs, agriculture holds the promise of making Turkey a major player in EU and world terms. The comprehensive

agricultural reform being implemented since 2000 creates a more competitive agricultural sector and reduces state involvement. The World Bank contributes to these projects under a $600 million Agricultural Reform Implementation Project (ARIP).

The agricultural "reform" program in Turkey gained momentum in 2001. Producer price subsidies through state procurement are replaced with direct income transfer program within a limited time frame. The primary development objective of the Agricultural Reform Implementation Project (ARIP) is to help implement the Government's agricultural reform program, which is aimed at reducing artificial incentives and government subsidies. At the same time, the project is designed to mitigate potential short-term adverse impacts of subsidy removal and facilitate the transition to efficient production patterns. Aside from promoting allocative efficiency, the reforms to be implemented were necessary for fiscal stabilization. Almost all input subsidies are removed and the state procurement activities are declining. The privatization of related state economic enterprises is lagging behind. The sales cooperatives are becoming more self-reliant through restructuring (Anonymous, 2006).

Turkey is reshaping its agriculture in preparation for the EU membership as well as in line with its commitments to the IMF:

- The agricultural reform programme puts emphasis on the creation of a rural development strategy aimed at modernization of subsistence and semi-subsistence farming, leading the way to commercially viable entities. Recent years saw several larger Turkish companies entering the livestock sector with ambitious projects in various regions of Turkey.
- Harmonization of the Turkish agriculture with the CAP (Common Agricultural Policy) is a priority in the Turkey-EU relations. Turkey has to adopt 17 laws, 211 regulations and circulars to adjust its agricultural system with that of the EU.

Ministry of Agriculture is working on a new strategy for 2006-2010. The strategy will equip Turkey with sophisticated policy instruments. The restructuring and alignment works continue mainly in the following areas:

- The agricultural population will be reduced from current 33% to close to the EU average.
- Ministry of Agriculture is working on a new strategy for 2006-2010, backed by World Bank credits. The government plans to allocate 1% of GNP to agricultural support each year (compared to 0.7% in the 2005 budget). The strategy will equip Turkey with sophisticated policy instruments.

As stated in pre-accession economic programs, Turkey set the following targets for the agriculture: (MARA, 2005).

- Short-range: Modernization of land registers system, food controls and animal and plant health services.
- Middle range: Setting agricultural and rural development projects, increasing food processing institutions, hygiene, public health and food health test institutions.
- Long range: Determining quotas and credits and donations from the European Union budget.

The principle and tools of agricultural policies to be implemented between 2006 and 2010 are set in Agricultural Policy Paper. This was also enforced by the law of Agriculture in 2006.

Tools of agricultural support to be used until 2010 are Direct Income Support (DIS), Deficiency Payments, Compensatory Payments (Farmer Transition), Livestock Support (fodder crops, artificial insemination, breeder incentive, milk premium, risk-free livestock region, bee-keeping, fisheries), Crop Insurance Support, Rural Development Support, Environmental set-aside. In addition, funds will be allocated to selected credit supports and research and development aids within a competitive grants scheme (Table 7).

Policy programmers or measures implemented in 2005 can broadly be defined in four categories; direct income support scheme, deficiency payments, farmer transition program and livestock policies. The government introduced a unified national program of direct income support in 2001 after a pilot implementation in four provinces in 2000. Payment is on per hectare and at a flat rate. However, payment was linked with the land condition in 2005. Farmers also received area based payment for fertilizer and gasoline in 2005.

Table 7: Support Tools in the Period 2006-2010

| Support tools | (%) |
|---|---|
| Direct Income Support | 45 |
| Deficiency payments | 13 |
| Livestock supports | 12 |
| Rural development supports | 10 |
| Alternative crop support | 5 |
| Crop insurance premium supports | 5 |
| Environmentally based agricultural land protection support (ÇATAK) | 5 |
| Other supports | 5 |
| Total | 100 |

Source: MARA, 2005

Deficiency payments are implemented for oilseeds, mainly sunflower, soybean, cotton, canola, maize and olive oil in 2005. Basically the difference between the world price and the domestic price per kg is set as the payment amount. Wheat was included to this list in only for 2005. Farmer transition program originally designed to reduce the excess supply of hazelnut and tobacco was in place in 2005 for these crops (Malcolm and Bayaner, 2006).

Livestock sector support policies include the following measures: certified breeding program, artificial insemination and calf born, bee keeping and honey production, angora production, poultry support including bird flue, milk premium, disease free farms, area based fodder crops including certificated seed support, milk quality and milking hygiene, livestock gene resources, livestock registration system (heard book), disease control system, food security, small ruminants breeding program, aquaculture production support. These measures were complimented with import restriction (control of meat and meat products, dairy products, livestock and animal feed sources), veterinary service and animal disease control and agricultural credit support. Tools that will be used in the new period's support system and their share in agricultural subsidies are given in Table 7.

The Direct Income Support (DIS) is intended to provide the farmers safety net as a result of the elimination of the current mechanisms of support. The DIS is not contingent on input use or output production decisions of the farmer and hence it is decoupled. Currently, the payments are moderately targeted. The farmers are eligible to receive a fixed amount of payment up to 50 ha of cultivated land. The government intends to make the DIS payments more targeted towards the poor in the future. If Turkey wants to efficiently achieve its policy objectives by the use of DIS, the scope of the objectives is important. In order to keep the impact on economic distortions low, a good definition of the objective or target is crucial to the optimal design of DIS, both to be effective in achieving that target and efficient in the allocation of resources.

## CONCLUSIONS

Turkish agriculture is characterized by a dual structure: traditional and modern. Regional differences in agricultural technology use (land, labour and capital saving technology) are also a distinct characteristic of the Turkish agriculture. The dual structure of Turkish agriculture would be sustainable with traditional farms continuing to produce for their own consumption selling any surplus production locally.

Even without the macroeconomic stabilization program, several additional factors would have forced Turkey to enter into a phase of agricultural policy reform. New round of negotiations for WTO Agreement on Agriculture is expected to be a challenging process and the issue of alterative policy tools in agriculture will remain as a major item in the agenda of multilateral trade negotiations and hence in the domestic policy debates in the coming years. Turkey's candidacy for membership to EU has also added a new dimension for the changes in agricultural policies.

Changes required in the agricultural policies of Turkey originate not from the size of transfers but from the type of preferred policies. Discussions on agricultural policies should not be based on the size of support, but instead should be the balance between the productive policies and distributional policies in the set of implemented policies taking into consideration international and domestic factors. The long-term objectives of agricultural policies obviously need to be the improvement of productivity in the sector. Otherwise, given the ongoing developments, the sector will face a challenging international competition. Major policies to accomplish the change are technological development, improvement of productive resources.

The overall goal for agricultural policy at the current stage of Turkey's development is to achieve income parity for agriculture as compared with other sectors. This cannot be achieved without reducing the number of farms and increasing the farm size to a level that allows the application of modern technology.

## REFERENCES

Anonymous, 2004. Tarimsal Yapida Degisme ve Gelismeler. II. Tarim Surasi Komisyon Raporu, (in Turkish). II. Komisyon, Tarim ve Köyisleri Bakanligi, Ankara, pp: 1-607.

Anonymous, 2006. Agricultural Reform Implementation (ARIP), World Bank. (http://web.worldbank.org/wbsite/external/countries/ecaext/turkeyextn/0contentmdk:20188065~pagepk:141137~pipk:141127~thesitepk:361712,00.html.)

Çakmak, E.H., 2003. Evaluation of the past and future agricultural policies in Turkey: Are they capable to achieve sustainability? CIHEAM-Options Mediterranean's.(http://ressources.ciheam.org/om/pdf/a52/03400062.pdf (07.07.2006)) pp: 155-165.

Çakmak, E.H., 2004. Structural change and market opening in agriculture: Turkey towards ED accession. ERC working papers in economics 04/10 September 2004. (http://www.erc.metu.edu.tr/menu/series04/0410.pdf (08.08.2006)), pp: 1-46.

Eraktan, G., 2001. Tarim Politikasi Temelleri ve Türkiye'de Tarimsal Destekleme Politikasi. (in Turkish). Uzel Yayinlari Istanbul, pp: 1-182.

FAO (Food Agriculture Organization), 2001. Agriculture in Turkey. Ministry of Agriculture and Rural Affairs and FAO Representation. Ankara, Turkey, pp: 1-102.

FAO (Food Agriculture Organization), 2005. FAOSTAT database. Retrieved from. (http://faostat.fao.org. (21.07.2006)).

Fellmann, T., 2004. Direct income payments in agricultural policies. 58th International Atlantic Economic Conference, October 7-10, Chicago, Illions, USA., pp: 1-19.

Karagöz, A., 2003. Turkey: Country Pasture Forage Resource Profiles Database. FAO Crop and Grassland Service. Retrieved from. www.fao.org.

Kuhnen, F., 2005. The issue of agrarian reform at the current stage of Turkey's socio-economic development. Institute of rural development, Göttingen University, Germany. (http://www.professor-frithjof-kuhnen.de/publications/agrarian-reform-turkey/1.htm (08.08.2006)), pp: 1-7.

Malcolm, J. and A. Bayaner, 2006. Monitoring of agricultural policy, market and trade developments in Turkey. D12-2 second 6-monthly report. CEEC agri policy project no.513705. (http://www.euroqualityfiles. net/cecap/Report%202/Section%201%20country%20report/CEECAP%20report%202%20section%201%20TURKEY.pdf(21.07.2006)) pp: 1-17.

MARA, 2000. Türkiye'de Tarimsal Destekleme Politikalari, Türk Tariminin Sorunlari ve Reform Geregi. (in Turkish). Ministry of Agricultural and Rural Affairs. Mayis,2000. Ankara, pp: 1-39.

MARA, 2005. Agricultural Strategy Paper. Tarimsal Üretim ve Gelistirme Genel Müdürlügü. Ministry of Agricultural and Rural Affairs, Ankara.

MARA, 2006. Agricultural Statistics. Strateji Gelistirme Baskanligi. Ministry of Agricultural and Rural Affairs, Ankara.

Olhan, E., 2006. The Impact of The Reforms: Impoverished Turkish Agriculture. 96TH EAAE Seminar Causes and Impacts of Agricultural Structures 10-11 January 2006 at Taenikon, Switzerland. (http://www.fat.admin.ch/eaae96/abstracts/s92.pdf (11.05.2006)), pp: 1-15.

Oskanı, A., A. Burrel, T. Temel, S. van Berkum, N. Longworth and I.M. Vilchez, 2004. Turkey in the European Union: Consequences for Agriculture, Food, Rural Areas and Structural Policy. Wageningen University, Netherland, pp: 1-253.

SIS, 1994. General Agricultural Census 1991. Result of the Agricultural Holdings (Households) Survey. (in Turkish). State Institute of Statistics, Prime Ministry Republic of Turkey, pp: 1-712.

SIS, 2004. General Agricultural Census 2001. Result of the Agricultural Holdings (Households) Survey. (in Turkish). State Institute of Statistics, Prime Ministry Republic of Turkey, pp: 1-697.

SIS, 2005. Agricultural Structure (Production, Price, Value), various years. (in Turkish). State Institute of Statistics, Prime Ministry Republic of Turkey, pp: 1-595..

SPO, 2006. Main Economic Indicators. (various years), (in Turkish). Prime Minister State Planning Organization, Ankara

TURKSTAT, 2005. Agricultural Structure (Production, Price, Value). (in Turkish). Turkish Statistical Institute. Ankara, pp: 1-588.