



NEAR EAST UNIVERSITY

**FACULTY OF ECONOMICS
AND
ADMINISTRATIVE SCIENCE**

**THE IMPORTANCE OF AGRICULTURAL
SECTOR IN NORTH CYPRUS
(In Case of Citrus Production)**

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1. INTRODUCTION

Attaining a sustainable rate of growth and development is always the main target of the developing countries. As the poor population of these countries aim to become richer, the governments have to take several precautions for the development of their country.

Growth and development depends on several factors as economic, political and social. These can be measured by many different ways, as well as by the increase in gross national product (GNP) and the income per capita. For the achievement of the growth, structural changes are required in the economic life of a developing country. Therefore in order to reach the development target, developing countries have to apply some strategies according to the sectors of their economic life.

Usually the agricultural sector is the leading sector in the development stage of an underdeveloped country; so, the agricultural development gains importance for such countries. The development of the agricultural sector leads to development of other sectors of the economy.

1.1 The Aim of The Study

Turkish Republic of Northern Cyprus is a country, which has been trying to attain economic development. The agricultural sector, in this country too, is the leading sector in this process. This study displays the importance of agriculture for developing countries in general and for Northern Cyprus in particular. Also, by indicating the importance of agricultural sector, in this study it is determined that the citrus production in Northern Cyprus is the main agricultural product.

In chapter 2 of this study the development phenomenon and its importance for the developing countries is explained. In this part of the study the importance of agricultural development strategy is emphasized besides other strategies.

Also, the importance of the agricultural sector as a determinant factor for the economy of Northern Cyprus is displayed in this section. This investigation is to show that the citrus fruit production is the most significant type of production and also it is the main exportable agricultural product in the country. This phenomenon forms the

hypothesis of the thesis. Since developing countries are in lack of capital, they need inexpensive investment. The limited savings have to be used in the investment of agricultural projects, which are inexpensive when compared with other projects as industrial. The investments in agricultural sector will lead into accumulation of necessary capital for investments in other sectors. Also the labor force for other developing sectors will be supplied by the agricultural sector.

In chapter 3 of the study the growth trend in citrus production, since 1975 is investigated with the help of statistical data. Also the growth trend of GNP and the citrus production is determined in this part. These calculations are prepared for the test of the hypothesis of the study.

After determining the performance of the citrus production and exportation (1975-1999), the problems in this sector are considered in chapter 3. The problems both in production and exportation can be classified as domestic and external problems. In the section related with domestic problem, the Cypfruvex Ltd. is determined as the main exporting company of the country. In addition, the decision of the European Union (EU) Court of Justice about the exports is discussed together with the relations of EU and Northern Cyprus.

Suggestions for agricultural development and improving production of citrus fruit are given in chapter 4. Also, the obstacles to economic development and the ways of overcoming these obstacles are discussed in general. After providing this information, a project about the improvement of the citrus production and thus the agricultural development of Northern Cyprus is presented.

The Integrated Pest Management Project is considered to be a very important step in the achievement of development in agricultural sector.

In the conclusion chapter, the results of the study are displayed.

1.2 Methodology Used in The Study

The methodology of this study: The economic literature, using mainly the sources from the library of the Eastern Mediterranean University and also some sources from the library of Near East University prepares the theoretical part of the study. Interviews

were carried out with the executives of the Ministry of Agriculture and Forestry, executives of Cypfruvex, Citrus Producers Union and farmers.

In the test of the hypothesis the statistical data from

- a) TRNC the Ministry of Agriculture and Forestry – Statistic and Planning Division, Agricultural Structure and Production 1999
- b) TRNC State Planning Organization, Statistic and Reserch Department Statistical Yearbook 1999

are used in calculations for analytical searches. These data are essential for determining the role of agriculture in general and citrus production in the economy of North Cyprus.

The statistical data are used in calculations of rate of changes mainly in GNP, agricultural sector, citrus fruit production and exportation. The obtained data from these calculations are used for determining the expected results that are put forward in the hypothesis of this study.

2. AGRICULTURAL PRODUCTIONS AND ECONOMIC DEVELOPMENT

As indicated in the introduction part of the study, the agricultural production and the development of a country are interrelated. The development in agricultural sector is acting as a source of essential capita and labor, and in this chapter the economic development and the role of agricultural production is displayed.

2.1 Economic Development

The major goal of most developing countries is economic development and growth. These two terms are not identical. Growth may be necessary but not sufficient for development. Economic growth refers to increase in a country's production or income per capital. Production is usually measured by gross national product (GNP), an economy's total output of goods and services. Economic development refers to economic growth accompanied by changes in output distribution and economic structure. These changes may include an improvement in the material well being of the poorer half of the population; a decline in agriculture's share in GNP and a corresponding increase in the GNP share of manufacturing, finance, construction, and government administration (welfare services); an increase in the education and skills of the labor force; and substantial technical advances originating within the country.¹

2.2. Development Strategies

In the search for development, developing countries have a number of policy-options such as agricultural developrnent etc. The choice of policy options is in part a matter what planners believe will work and in part a question of the nature of the

¹For more detail please look: E. Wayne Nafziger. The Economics of Developing Countries, second ed.

(United States of America: Prentice Hall Inc., 1990), p.8-9

society that will be created, once the development has occurred.² Policy options show differences but they all have a common target as all of them are aiming to develop economic situation of the country.

Economic development involves the transformation of an economy from dependence upon agriculture to a greater emphasis upon manufacturing and services. With the economic development, the country face with the requirements of modernization of agriculture in order to release labor for the industrial sector even if the labors will work harder and for longer hours.³

In the development process the governments and the planners of the economy have important and serious obligations to do. The first obligation is selecting the development strategy, which, is the best for the country's economic development for the requirement of the least opportunity cost.

Government must choose between agricultural and industrial emphases, between different kinds of industrial development and between more or less reliance on foreign trade. Several possibilities have been widely advocated and each has been tried, none of them is without difficulties.

The main development strategies will be determined as agricultural development (this is the main strategy that the developing countries use for development), specialization, import substitution, export development and cartelization.⁴

² For more detail please look: Richard G. Lipsey, Peter O. Steiner, Douglas D. Purvis, Economics, eighth ed. (United States of America: Harper & Row, Publisher Inc., 1987), p.859

³ For more detail please look: McCormick B.J., The World Economy, first ed. (United State of America: Philip Allan/Barnes & Noble Books, 1988), p.82-85

⁴ This section is prepared mainly from the works of Richard G., Peter O. Steiner, Douglas D. Purvis. for more information on the matters please look to the Economics, eighth ed. (United States of America: Harper & Row, Publisher Inc., 1987), p.859-866

2.2.1. Agricultural Development

As mentioned above, agricultural development is one of the main and important strategies for the development of a developing country. This is obvious from the needs of the country, as everyone needs food in the world.

A country may choose to devote a major portion of its resources to stimulating agricultural production, by mechanizing farms, irrigating land and utilizing new seeds and fertilizers. If the country is successful, then will stave off starvation for its current population, and it may even develop an excess over current needs and so have a crop available to export. A food surplus can earn foreign exchange to buy needed imports.

Agriculture plays many roles in the processes of economic growth and development. The main roles of the agricultural sector are providing food and raw materials, serving as a market for products of industrial sector, supplying savings and providing productive employment to other sectors of the economy.⁵

Some of the attractions of the agricultural strategy are that it does not require a great deal of technical training or hard-to-acquire know-how or does it place the country in direct competition with highly industrial countries.

"India, Pakistan, Taiwan, and other Asian countries have achieved dramatic increases in food production by the application of new technology and the use of new seeds in agricultural production. Increases of up to 50 percent have been achieved in grain production, and it has been estimated that with adequate supplies of water, pesticides, fertilizers, and modern equipment, production could be doubled or tripled. This has been labeled as Green Revolution".⁶

Big, rural, poor countries are usually well advised to start with policies designed to increase agricultural output in order to utilize the existing labor force and increase standard of living. But the gains from this strategy, while large at first, is subject to diminishing returns. Further gains in agricultural production have an ever-

⁵ For more detail please look: Zuvekas Clarence Jr., *Economic Development An Introduction*, first ed. (St. Martin's Press Inc., New York, 1979), p.204-207

⁶ Richard G. Lipsey, Peter O. Steiner, Douglas D. Purvis, *Economics*, eight ed. (United States of America: Harper & Row, Publisher Inc., 1987), p.860

higher opportunity cost in the resources needed to irrigate land and to mechanize production. Critics of sole reliance on agricultural output argue that underdeveloped economies must start at once to develop other bases for economic growth.⁷

The reliance only on agricultural sector may have problems too. One of these problems may be subsidizing both production and consumption of agricultural products during the same time. The poor population of the country may need subsidies for their consumption of foods and also the poor farmers may need subsidization of their production. This is because of the cost of production as the input prices are often high. The high inflation rates in developing countries resulted in high input prices.

2.3 Role of Agricultural Production in Economic Development

In this section of the work the role of agricultural production is going to be determined especially for the developing countries. As it is stated, in developing countries agriculture plays an important role in development and economic growth.

The first and the main role of agricultural production in a country is providing food and raw materials for the people of that country. It is essential to keep a growing population alive, the supply of food has to increase at least with the same rate as the population growth rate. The greater the growth rate of population in a country the greater rate of food supply is needed. If the food supply is not increasing in a sufficient level, then the governments will maintain the nutritional standards. In such a case, the governments have to have food imports for the people. But the increasing food import means that the developing country is spending its scarce foreign exchange on food. This may be explained as waste of the limited foreign exchange that can be used to import capital, technology, skilled labor and management i.e. factors of production to the country for its development.⁸

⁷ For more detail please look: Richard G. Lipsey, Peter O. Steiner, Douglas D. Purvis, Economics, eight ed. (United States of America: Harper & Row, Publisher Inc., 1987), p. 859-862

⁸ For more detail please look: Clarence Zuvekas Jr., Economic Development An Introduction (New York: St Martin's Press, 1979), p. 204.

The second role of the agricultural production may be that it does not only supply food for domestic consumption but also for exportation. Although exportation of primary products is suggested to be damaging to developing countries because of facing inelastic demand in the world market, but it is providing valuable foreign currency for the country. In order to reduce risk, it is advised to diversify their export bases; in other words, "not put all the eggs in the same basket". The exportation of agricultural goods provides capital to import the technology, machinery, skilled labor etc. for development in other sectors.⁹

Thirdly, the food production also contributes to the formation of human capital, which may be given as a characteristic of the developing and underdeveloped countries. In other words, food utilization should be considered as an investment, which improves the quality of labor force. Poor diets and malnutrition cause mental and physical retardation. This results in a lower productivity of labor force than a well-nourished labor force.¹⁰

Fourthly, another major role of agriculture in economic development is the provision of a market for the products of industrial sector. Industrialization process depends on agricultural development; i.e. the rising income on agricultural sector. In the early periods of economic growth the domestic market relies upon the incomes generated by agricultural sector. The enlarging money supply and real income also stimulate the demand for industrial products and thus, industrialization.

As the fifth factor, agricultural sector is the main source of capital formation in a country where the country do not have its natural resources such as petroleum, minerals as copper or tourist attraction, then the country's national income is formed by agriculture and related activities.

If the agriculture is the only sector that provides the national income then it is the sector, which fosters the saving i.e., capital formation. Unfortunately capital accumulation depends upon the elasticity of food supply. If the profits are decreased as a result of bottlenecks in the supply side of the agricultural production the task of

⁹ For more detail please look; Subrata Ghatak, *Introduction to Development Economics*, 3rd ed. (London and New York: Routledge, 1995), p.272.

¹⁰ For more detail please look: Clarence Zuvekas Jr., *op. cit.*, p. 205.

capital formation becomes even more difficult, which leads to an overall decline in surplus and growth.

Another role of agriculture in development process is providing jobs to the people of the country. It is supposed that agricultural sector is providing labor to the other sectors. But the industrial sector is unable to create enough jobs to the growing population and the migrants from rural to urban areas. In this situation agricultural sector must be analyzed more carefully and try to create job to the people in the agricultural sector. As the unemployment and underemployment in developing and less developed countries are relatively high compared with developed countries, it is more crucial to create jobs in agricultural sector with reasonable wages and social security.

After summarizing the main roles of the agricultural sector for the development in general the importance of the agriculture for the economy of Northern Cyprus is presented in the following section.

2.4 The Main Agricultural Products and Citrus Production in Northern Cyprus

In Northern Cyprus 60 percent of the population is living in rural areas and around 18 per cent of the working population is engaged in agricultural sector. Agriculture in Northern Cyprus is considered to be one of the most important sectors of the economy, mainly due to its contribution to the GDP, employment, food production and exports. In 1999 the average annual share of agricultural sector in the total GDP was 9.1 per cent¹¹ and share of agricultural products in the total exports was 38.4 per cent.

Out of the total area of the country 56.7 per cent is agricultural land. Intensive irrigated crop productions, include citrus, potatoes, deciduous fruits, table grapes, vegetables and the other areas, are used for the traditional dry-land crop productions which include cereals, animal fodder, olives, carobs, almond and wine grapes. Agricultural products for exports mostly derive from the intensive irrigated crops.¹²

¹¹ TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999,

¹² TRNC The Ministry of Agriculture Natural Resources and Energy, The Summary of Agricultural Statistics 1975-1995, (July 1996)

Gross National Product (GNP) in Northern Cyprus is composed of the sectors listed in Table 2.1, and when this table is studied, it is obvious that agriculture has an important place in the GNP of Northern Cyprus.

As indicated in Table 2.1, the agricultural sector is one of the leading sectors in the economy. The land used for the agricultural production also gains importance, since the share of the agricultural land in total area of the country is substantial.

Table 2.1 Shares of Sectors in GNP (1999)

Economic Activities	Share in GNP (Percentage)
1. Agriculture, Forestry and Fishing	8.0
2. Industry	10.5
3. Construction	4.0
4. Trade - Tourism	17.0
5. Transport - Communication	11.0
6. Financial Institutions	6.3
7. Ownership of Dwelling	2.5
8. Business and Personal Services	9.4
9. Public Services	22.4
10. Import Duties	8.1
11. Net Factor Income from Abroad	0.8

Source: TRNC State Planning Organization, Economic and Social Indicators, Statistical Yearbook, 1999, Prepared from Table No: 2, p.9

If we examine the land existence and distribution of land in Northern Cyprus, we will see that agricultural land has the highest share in total area of the country. About 56.71 per cent of the land is used for agricultural production purposes. In Table 2.2 the land distribution in the country is provided and it is obvious that the most of the land is used for agriculture. After the agricultural land, the second largest land area is used as the forest area.

Table 2.2 Land Distribution (1999)

Kind of Land	Acre	Per Cent
a) Agricultural Land	1,398,123	56.71
b) Forest Land	480,740	19.50
c) Grasing and Hali Land	122,157	4.95
d) Town, Village, Rivers and Dome Land	263,471	10.69
e) Unused Land	201,061	8.15

Source: TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999, Table No: la. p.3

After examining the existing land distribution and the share of agricultural land, it is beneficial to distinguish the agricultural products that are produced.

Northern Cyprus agricultural production might be categorized into two primary types namely, crop production and livestock production. Crop production can further be distinguished into rain fed farming and irrigated farming; and the statistical data shows that, the rain fed farming dominates in Northern Cyprus. The share of irrigated farming in the total agricultural land is only %5.16 and the rest of the land is used for rain fed farming.

The major rain fed crops are cereals mainly wheat and barley, and legumes. Major irrigated crops include citrus, vegetables and fruit. The share of the land occupied for the citrus production is about %3.22. In Table 2.3 the distribution of land according to the agricultural production types is given in acre and as the share of the land.

Table 2.3 shows that the land used for citrus production is 45,036 acre, which means that the 5.3 per cent of the cultivated area are used as citrus yards. Its share is the fourth largest after cereal (42.14 per cent), fallow land (5.06 per cent) and pulses (3.31 per cent). The statistical data show that the land used for citrus production is almost 10 percent of cereal land but the economic importance of the citrus production is greater

than cereal product. As will be discussed in the following chapter it is clear that value of citrus production and exportation is higher than other agricultural products.

The citrus production is the main product, which is obtained from irrigated land in Northern Cyprus, the other products are melons, fruits etc. There are many types of citrus products that are produced; these products are Valencia, Shiamouti, Washington, Tangerines, Lemons and Grapefruits.¹³ These products are also the main exportable agricultural products in the country.

As a result the citrus production is the main exportable agricultural product of the Northern Cyprus; so, the production and yield of the citrus trees have important role in the development of the country. The area that is used for citrus production is examined, a decrease in the share of land used for this purpose can be seen since 1975. The production of citrus fruits in tons is not decreasing since the yield per acre shows an increasing rate. This increase in the yield is mainly due to the use of new fertilizers, pesticides and machinery. The changes in use of these inputs and the plans for the improvements about these will be discussed in chapter 4 of this work.

The total citrus production areas, production in kilogram per acre and production tonnage are displaced in Table 2.4 from 1975 onward.

Since agricultural products, especially the citrus products, are the main exportable goods of Northern Cyprus, eventually it is one of the main sources of gaining important amount of foreign currency. Citrus products are exported as,¹⁴

- a) fruits
- b) concentrated citrus
- c) citrus perfume

These products are mainly exported to EU Countries, Eastern European Countries, and mainly to Turkey. EU Countries are the main market for exportation, but in the last few years there is a tendency to export the products mainly to Turkey and Russia. This is because of many political restrictions faced in exporting the products of Northern Cyprus to EU Countries. The restrictions did not only decrease the number of

¹³ Valencia and Grapefruit are the types that mostly produced in TRNC. In 1995 Valencia and grapefruit are produced by 122,738 and 53,157 tons. See from, TRNC The Ministry of Agriculture Natural Resources and Energy, The Summary of Agricultural Statistics 1975-1995, July 1996, Table No: p.30

countries that Northern Cyprus was exporting to, but they also reduced the amount of citrus export.

Table 2.5 indicates the main exporter companies and the total exported citrus products in tons, which shows a decreasing behavior. The main exporter companies are Cypfruvex, Sunzest and some other small ones as given at table 2.5. Table 2.6 indicates the citrus export according to countries.

Tables 2.4, 2.5, 2.6 provide some of the main information about the citrus production in Northern Cyprus. The more and detailed information about the citrus production and the problems in both production and exportation of this valuable product are discussed in the following section of the thesis.

¹⁴ In the determination of the types of citrus production the used source is; TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999, Table No: 40, p.86

Table 2.3 Distribution of Agricultural Land (1999)

Kind of Land	Acre	Share (Per Cent)
Cultivated Land	846,262	60.53
1. Cereal	589,152	42.14
2. Fallow	70,739	5.06
3. Pulses	46,243	3.31
4. Industrial Crops	2,100	0.15
5. Oil Seeds	3,318	0.24
6. Tuber Crops	4,354	0.31
7. Fodder Crops	26,286	1.88
8. Leafy or Edible Stem Vegetables	1,568	0.11
9. Fruits Bearing Vegetables	4,639	0.33
10. Leguminous Vegetables	1,928	0.14
11. Root, Bulb and Tuberous Vegetables	835	0.06
12. Other Vegetables	583	0.04
13. Nuts	2,547	0.18
14. Pome Fruits	779	0.06
15. Stone Fruits	1,130	0.08
16. Grape and Grape like Fruits	43,839	3.14
17. Citrus Fruits	45,036	3.22
18. Greenhouses and Tunnels	1,186	0.08
Uncultivated Land	551,861	39.47
TOTAL	1,398,123	100

Source: TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999, Table No: lb. p.3

Table 2.4 The Total Citrus Area, Yields and Productions (1975 - 1999)

Year	Area (Acre)	Yield (Kg/Ac)	Productions(Tons)
1975	73,956	1,800	133,108
1976	74,910	1,538	115,209
1977	68,076	1,712	116,549
1978	66,874	1,741	116,411
1979	60,182	2,118	127,442
1980	58,980	2,435	143,606
1981	57,695	2,744	158,314
1982	57,819	2,698	156,017
1983	57,545	2,668	153,545
1984	56,361	3,708	208,961
1985	55,160	2,871	158,371
1986	55,127	3,279	180,785
1987	54,803	3,849	210,914
1988	54,556	2,975	162,289
1989	54,451	3,625	197,392
1990	54,600	4,407	240,630
1991	54,315	3,504	190,307
1992	54,358	3,422	186,009
1993	54,226	3,889	210,862
1994	54,127	3,315	169,683
1995	52,474	3,899	204,599
1996	47,770	3,031	144,776
1997	47,417	2,680	127,074
1998	46,303	2,972	137,610
1999	45,036	2,886	129,972

Sources:

-TRNC The Ministry of Agriculture and Forestry, The Summary of Agricultural Statistics 1975-1995, Table No: 20 b, p.31

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1996, 1997, 1998, Table No: 24 a, p.47

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999, Table No: 24b. p.47

Table 2.5 Exporter Companies in Citrus Export (1986 - 1999)

Years	Cypfruvex	Sunzest	Other	Total
1986	50,530	39,499	44,438	134,467
1987	50,000	59,773	28,825	138,598
1988	37,531	69,648	8,946	116,125
1989	31,314	63,637	8,489	103,440
1990	21,106	81,120	10,603	112,829
1991	40,544	51,379	19,594	111,517
1992	41,171	50,028	20,475	111,674
1993	32,782	37,633	17,989	88,404
1994	35,509	30,417	20,022	85,948
1995	59,250	1,416	51,688	112,454
1996	17,118	0	91,964	109,082
1997	19,562	0	70,495	90,057
1998	5,479	0	90,650	96,129
1999	8,083	0	73,932	82,015

Sources:

-TRNC The Ministry of Agriculture Natural Resources and Energy, The Summary of Agricultural Statistics 1975-1995, July 1996, Table No: 36, p.59

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1996, 1997, Table No: 42. p.89

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1997, 1998, Table No: 42. p.89

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999, Table No: 42. p.89

2.6 Citrus Export According to Countries

(TONS)

	EU Countries	Other European Countries	Eastern European Countries	Arabic Countries	Turkey	Others	Total
	89,070	11,983	10,589	8,172	14,590	NA	134,404
	93,840	7,001	3,932	14,647	18,685	493	138,598
	83,494	1,659	7,754	16,004	7,264	NA	116,175
	74,057	861	12,341	12,966	3,215	NA	103,440
	76,187	5,662	6,457	23,995	518	NA	112,819
	68,485	9,373	8,636	21,822	3,048	153	111,517
	76,561	15,360	NA	7,690	8,585	3,487	111,683
	59,661	9,789	6,510	NA	12,444	NA	88,404
	62,119	5,526	3,008	NA	15,295	NA	85,948
	41,969	NA	29,109	1,439	38,863	974	112,354
	15,330	0	14,666	40	79,046	0	109,082
	14,844	0	20,153	0	55,060	0	90,057
	0	0	13,355	0	82,774	0	96,129
	765	1,218	2,022	0	74,446	3,562	82,015

ces:

-TRNC The Ministry of Agriculture and Forestry, The Summary of Agricultural Statistics 1975-1995, Table No: 35, p.59

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1996, 1997, 1998, 1999, Table No: 41, p.89

3. THE GROWTH TREND IN CITRUS PRODUCTION AND GNP

The growth trend of GNP is affected by several factors. Here in this work the effect of agricultural production, especially citrus fruit, on the formation of GNP will be discussed.

3.1 The Growth Trend of Citrus Production Since 1975

The importance of the agriculture in economic development and the fact that the agriculture is the main sector in the development stage of a country was discussed in chapter 2. In consequence of that discussion it is clearly seen that the agricultural sector is the starting point for development for most underdeveloped countries. Agricultural sector acts as a source of financial sector at the beginning of the development stage as it provides financial source and labor to other sectors namely, industrial and service sectors.

In part 2.4 the agricultural sector in Northern Cyprus is presented and it is determined that the agricultural sector is playing an important role in the formation of GNP in the country. When the structure of the agricultural sector of the Northern Cyprus is analyzed, we realized that the citrus production is determined to be the main production unit of the sector. Citrus production and exportation provides income and foreign exchange to the country. As can be seen in Table 3.1 the exportation of citrus products have the main role in the overall exportation of the Northern Cyprus. The growth trends of the exportation of citrus and processed agricultural goods show, in total, an increasing rate of growth. The comparison of the growth rates with GNP and others will be analyzed in 3.2.

The statistical data at Table 3.1 shows us that the agricultural products are the main exportable goods. Also it shows that the citrus fruit exportation is forming almost all the agricultural exportation and besides citrus fruit exportation, other types of agricultural goods gain importance as they are showing an increasing trend since 1989 onward.

Before 1987 almost half of the exportation is based upon citrus fruit. But the situation has been changed especially after 1993, since the amount of foreign currency

gained by industrial goods exceeds the amount of currency supplied by citrus. The exportation of processed agricultural goods and other industrial goods shows a gradual but continues increase throughout the specified period. The ready-to-wear clothing, which forms almost all of 'other industry' in the table, shows an increasing trend. This may be checked from the TRNC State Planning Organization, 1999 Transition Year Program, on page 215 from Table 121.

As a result it can be said that, there is a decrease in the share of agriculture in formation of GNP of Northern Cyprus and this may be comprehended as against the hypothesis of the study. But in reality it supports the hypothesis since, the economies based on agricultural development show improvements in other sectors in time. The developments in agricultural sector supply the necessary capital and labor to other sectors and with development process the share of agriculture show a decrease as the other sectors increase their shares in GNP. This phenomenon indicates that the agriculture supports the development of other sectors of a developing economy.

The Table 3.1 shows the trends of the exports of Northern Cyprus. In this table it is clearly indicated that the citrus fruits are the main exportable goods until 1993. After 1993 the amount industrial goods exportation exceeds the value and share of other goods.

Year	Agricultural Products						Industrial Products						Minerals	
	Citrus		Potatoes		Live Animal		Other		Processed Agricultural Goods		Other (Ind.)		Minerals	
	USD	%	USD	%	USD	%	USD	%	USD	%	USD	%	USD	%
1977	15,7	65,7	1,8	7,5	0	0	1,0	4,2	0,9	3,8	2,0	8,3	2,50	10,50
1978	22,0	71,4	2,1	6,8	0	0	1,6	5,2	0,7	2,3	3,2	10,4	1,20	3,90
1979	24,4	68,3	2,6	7,2	0	0	1,6	4,5	0,8	2,2	6,4	17,8	0,00	0,00
1980	31,1	70,0	2,8	6,3	0,2	0,4	2,2	5,0	2,1	4,6	5,4	12,2	0,70	1,50
1981	24,3	65,9	1,6	4,3	1,2	3,3	2,7	7,3	2,1	5,7	4,4	11,9	0,60	1,60
1982	25,2	63,8	1,3	3,3	2,0	5,1	3,3	8,3	2,1	5,3	5,3	13,4	0,30	0,80
1983	23,8	58,5	2,2	5,4	3,3	8,1	2,0	4,9	2,3	5,7	6,8	16,7	0,30	0,70
1984	19,8	51,0	1,9	4,9	2,9	7,5	2,0	5,1	3,6	9,3	8,6	22,2	0,00	0,00
1985	29,9	64,6	2,6	5,6	2,3	5,0	1,1	2,4	3,9	8,4	6,4	13,8	0,10	0,20
1986	28,5	54,5	3,8	7,3	2,3	4,4	2,3	4,4	4,9	9,4	9,8	18,9	0,40	0,80
1987	22,5	40,8	2,3	4,2	1,8	3,3	4,5	8,2	6,9	12,5	16,6	30,1	0,50	0,90
1988	23,9	45,6	2,4	4,6	0,8	1,5	2,3	4,4	3,9	7,4	18,7	35,7	0,40	0,80
1989	21,6	39,1	1,7	3,1	0,3	0,5	6,6	12,0	6,8	12,3	17,8	32,3	0,40	0,70
1990	24,5	37,4	2,4	3,7	0,3	0,4	2,6	4,0	11,9	18,1	23,3	35,6	0,50	0,80
1991	21,6	41,1	2,4	4,6	0,1	0,2	2,9	5,5	8,4	16,0	16,8	32,0	0,30	0,60
1992	22,2	40,7	3,3	6,0	0,5	0,9	5,0	9,2	7,1	13,0	16,3	29,8	0,20	0,40
1993	16,6	30,5	1,3	2,4	0,0	0,0	6,4	11,7	8,2	15,0	21,8	40,0	0,20	0,40
1994	15,8	29,6	0,7	1,3	0,3	0,6	8,9	16,6	7,1	13,3	20,3	38,0	0,30	0,60
1995	22,1	32,8	1,4	2,1	0,4	0,6	3,0	4,5	11,9	17,7	27,9	41,4	0,60	0,90
1996	22,6	32,1	0,9	1,3	1,0	1,4	6,5	9,2	13,2	18,7	25,2	35,8	1,10	1,50
1997	15,1	26,2	0,4	0,7	0,2	0,3	2,8	4,9	11,8	20,4	26,7	46,3	0,70	1,20
1998	12,8	24,0	0,6	1,1	0,0	0,0	1,4	2,6	13,6	25,5	24,7	46,2	0,30	0,60
1999	12,1	23,1	0,1	0,2	0,0	0,0	7,9	15,1	12,5	23,8	19,6	37,4	0,20	0,40

Sources: TRNC, State Planning Organization, Economic and Social Indicators 1999, Table No: 25, p.54

Table 3.2: The Growth Rates of Area (Acre), Yield (Kg/Ac) and Production (Tons) of Production

YEAR	AREA (ACRE)	% Rate of ACRE	YIELD (KG/AC)	% Rate of YIELD	PRODUCTION (TONS)	%Rateof PRODUCTION
1975	73.956		1.800		133.108	
1976	74.910	1,29	1.538	-14,55	115.209	13,45
1977	68.076	-9,12	1.712	11,32	116.549	1,16
1978	66.874	-1,77	1.741	1,68	116.411	0,12
1979	60.182	-10,01	2.118	21,65	127.442	9,48
1980	58.980	-2,00	2.435	14,98	143.606	12,68
1981	57.695	-2,18	2.744	12,70	158.314	10,24
1982	57.819	0,21	2.698	-1,66	156.017	1,45
1983	57.545	-0,47	2.668	-1,12	153.545	1,58
1984	56.361	-2,06	3.708	38,95	208.961	36,09
1985	55.160	-2,13	2.871	-22,56	158.371	24,21
1986	55.127	-0,06	3.279	14,22	180.785	14,15
1987	54.803	-0,59	3.849	17,36	210.914	16,67
1988	54.556	-0,45	2.975	-22,71	162.289	23,05
1989	54.451	-0,19	3.625	21,86	197.392	21,63
1990	54.600	0,27	4.407	21,57	240.630	21,90
1991	54.315	-0,52	3.504	-20,50	190.307	20,91
1992	54.358	0,08	3.422	-2,34	186.009	2,26
1993	54.226	-0,24	3.889	13,64	210.862	13,36
1994	54.127	-0,18	3.135	-19,38	169.683	19,53
1995	52.474	-3,05	3.899	24,38	204.599	20,58
1996	47.770	-8,96	3.031	-22,26	144.776	29,24
1997	47.417	-0,74	2.680	-11,58	127.074	12,23
1998	46.303	-2,34	2.972	10,89	137.610	8,29
1999	45,036	-2,73	2.886	-2,89	129.972	5,55

Sources:

i) Prepared from, TRNC The Ministry of Agriculture Natural Resources and Energy, The Summary of Agricultural Statistics 1975-1995. Table No: 20a, p.31

ii) TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1996, 1997, Table No 24 a, p. 47

iii) TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1997, 1998, Table No 24 a, p. 47

In this part of the work, the growth trend of citrus production of Northern Cyprus will be examined in more detail for the period 1975-1999.

The aim is to show the growth (or decrease) in the citrus production and the area pertaining for citrus production. It is important to see how the citrus production trend is inclining and the reason of this situation. In table 2.4 the citrus production is displayed with the area (in acre) and the yield in the period 1975-1999 and in Table 3.2 their rates are provided.

In Table 3.2 the area used for the citrus production, the production in tons and the yield (Kg/Ac) of the citrus production in North Cyprus within the period 1975-1999 can be examined. It is obviously clear that the area pertaining for citrus production shows a diminishing trend within this specified period. However, although the area is diminished, the yield and production of the citrus product has not shown the same trend as the area. The quantity of production and the yield shows almost an increasing trend within the same period.

When the growth rates of the quantity of production and the yield of the citrus production are calculated, it can be seen that the trends are not showing a smooth increasing trend. Unfortunately, the trends show a fluctuating growth rate trends rather than a smooth one. At some years the trends show positive growth rates but at some others show negative growth rates because of fluctuations in market and also the weather conditions. But, it is clear that at the end of the period the citrus production shows an overall positive growth rate, which indicates that the citrus production is important for the economic development of the Northern Cyprus since it is the main exportable good of the country.

In section 3.2 the relation of the growth trends of agriculture, especially citrus production, and the GNP of the Northern Cyprus will be compared and analyzed.

3.2 The Relation of Growth Trends between Citrus Production and GNP

In this part of the work the relationship between GNP of the Northern Cyprus and the production, and also the exportation of citrus product will be examined. The growth trends of the GNP and production will be displayed with the help of the corresponding tables.

It is indicated in part 3.1, that the growth trend of citrus production shows an increasing trend within the period 1975-1999. In this part of the work the increasing growth trend of citrus production will be compared with the growth trend of GNP in the same period. It is important to examine and show the relation between GNP and citrus production, since this work's primary aim is to show that the citrus production plays an active role in the economy of Northern Cyprus. Citrus production is the main agricultural product that is exported to foreign countries. Exportation of the product supplies foreign currency to the country whereas acquiring foreign currency means increase in income, in other words increase in GNP of a country. According to basic economic principles, the GNP of a country is formed from consumption (C), government expenditure (G), investment (I) and net exports (X-M). Here, the net exports are determined by deducting the value of total imports from the value of total exports of a country. The above explanation can be shown by the formula presented below,

$$\text{GNP} = C + I + G + (X - M)$$

From the formula, it is clear that the value of export is one of the main components in the formation of the GNP. Also it is obvious that, if we increase the value of exports the value of GNP will increase in the economy of the country.

The GNP, its growth rate and the GNP per capital of the Northern Cyprus in the period from 1977 to 1999 are shown in Table 3.3. In Table 3.4 the composition and sectoral development in GNP is displayed. According to Table 3.3 the growth rate of the GNP of Northern Cyprus follows a fluctuating trend in the period 1977-1999. The growth rate is positive in almost all the years and it shows an increasing trend. But unfortunately, in certain years the growth rate is negative and within some periods the growth rate trend is decreasing.

In Table 3.4, the composition of sectors in the economy is displayed. It is clearly seen from the table that the share of the agriculture in the formation of the GNP is the

basic factor between the periods 1975-1980. This can be accepted as the first stages in the development process of the country, since it is expected that the development in the agricultural sector is the starting point for development. After 1980 the share of the agriculture in GNP began to decrease and the shares of trade-tourism and industrial sectors increased. However, the agricultural sector is still one of the main factors in the GNP formation. Here, the statistical data shows an important point such that; as the agricultural sector develops it acts as a source for developments of other sectors in the country. The increase in incomes gained from trade-tourism and industrial sectors are supported by agriculture development. The accumulated capital from agricultural production is used in other investments that are necessary for development in the economy of Northern Cyprus.

1980	5.693.0
1981	5.977.4
1982	6.006.1
1983	7.024.3
1984	7.347.4
1985	7.738.3
1986	7.457.8
1987	7.873.4
1988	7.985.4
1989	8.278.1
1990	7.53.4

Table 3.3: The GNP, GNP Growth Rate and Income Per Capita

(1977 Prices Million TL)

YEAR	GNP (Million TL)	GNP Growth Rate %	GNP per Capita (TL)
1977	3.810,5		26.279
1978	4.031,3	5,8	27.472
1979	4.210,1	4,4	28.351
1980	4.248,4	0,9	28.396
1981	3.929,8	-7,5	25.985
1982	4.369,5	11,2	28.430
1983	4.440,4	1,6	28.552
1984	4.725,2	6,4	29.909
1985	5.080,4	7,5	31.696
1986	5.324,1	4,8	32.728
1987	5.684,1	6,8	34.442
1988	6.084,0	7,0	36.375
1989	6.603,0	8,5	39.008
1990	6.977,4	5,7	40.692
1991	6.606,4	-5,3	38.021
1992	7.124,7	7,8	40.685
1993	7.547,4	5,9	42.612
1994	7.268,3	-3,7	40.558
1995	7.457,8	2,6	41.121
1996	7.673,4	2,9	41.865
1997	7.990,4	4,1	39.573
1998	8.468,1	6,0	41.465
1999	9.090,8	7,4	44.010

Sources:

i)TRNC State Planning Organization, Economic and Social Indicators, 1999 Table No: 2, p.8

ii)TRNC State Planning Organization, Economic and Social Indicators, p.2

Table 3.4: Sectoral Developments in Gross National Product and Net Factor Income

(1977 Prices Million TL)

Year	Agriculture	Industry	Construction	Trade & Tourism	Transport & Communication	Financial Institutions	Ownership of Dwellings	Business & Personal Services	Public Services	Import Duties	Net Factors Income from Abroad	GNP
1977	619,3	365,1	153,0	801,0	257,4	115,4	355,3	128,1	752,7	228,2	35,0	3810,5
1978	757,7	426,5	160,3	789,6	293,5	135,4	359,2	135,8	765,6	168,2	39,5	4031,3
1979	752,7	409,5	171,7	810,7	317,7	144,6	365,1	140,7	900,5	150,5	46,4	4210,1
1980	779,3	612,7	135,7	770,9	285,0	150,1	324,9	152,3	894,6	87,6	55,3	4248,4
1981	732,5	458,6	170,7	665,0	278,0	151,0	328,5	137,4	892,1	81,3	34,7	3929,8
1982	772,5	475,5	202,7	851,0	375,7	163,5	319,1	157,1	911,8	86,9	53,7	4369,5
1983	512,3	478,1	208,8	876,4	481,8	187,6	320,5	151,4	996,3	169,4	57,8	4440,4
1984	686,0	435,2	270,4	899,0	485,2	201,6	322,4	162,1	1019,9	155,3	88,1	4725,2
1985	801,0	510,8	263,8	957,3	474,5	217,5	337,5	169,4	1115,0	151,5	82,1	5080,4
1986	655,2	600,0	366,5	980,2	574,8	224,1	345,6	188,2	1137,2	160,5	91,8	5324,1
1987	677,9	634,4	451,3	1046,3	610,0	244,5	352,6	201,1	1181,2	181,4	103,4	5684,1
1988	726,7	700,1	465,6	1087,4	694,6	266,3	360,3	214,2	1197,8	286,1	84,9	6084,0
1989	709,1	912,3	501,3	1207,0	753,8	287,5	369,4	235,7	1227,7	312,1	87,1	6603,0
1990	639,7	947,3	506,5	1334,1	791,8	310,0	377,3	259,3	1278,1	491,7	41,6	6977,4
1991	580,4	925,3	540,1	1197,7	675,3	326,0	386,1	263,1	1292,6	363,6	54,2	6606,4
1992	827,0	949,7	655,2	1257,4	688,5	333,9	390,4	284,1	1303,6	392,2	42,7	7124,7
1993	891,1	953,6	704,7	1305,8	746,8	354,2	396,4	294,1	1320,8	457,0	122,9	7547,4
1994	781,1	952,8	646,7	1258,5	762,0	361,6	402,8	274,8	1346,2	357,5	124,3	7268,3
1995	799,8	1001,6	507,5	1392,6	812,4	409,5	410,6	280,6	1316,8	428,6	97,8	7457,8
1996	870,8	982,2	523,3	1244,5	856,9	423,7	417,2	518,5	1351,1	449,5	35,7	7673,4
1997	601,0	1017,7	647,5	1317,9	937,3	482,1	428,7	655,7	1358,6	521,1	22,8	7990,4
1998	636,2	1029,6	694,6	1450,9	974,6	524,4	440,6	679,2	1406,1	547,6	84,3	8468,1
1999	822,0	1054,2	708,6	1558,7	1043,3	568,4	451,7	784,0	1438,6	584,4	76,9	9090,8

Source: TRNC State Planning Organization, Economic and Social Indicators

Table 3.4: Sectoral Developments in Gross National Product and Their Share in GNP

(1977 Prices Million TL)												
Year	Agriculture	Industry	Construction	Trade & Tourism	Transport & Communication	Financial Institutions	Ownership of Dwellings	Business & Personal Services	Public Services	Import Duties	Net Factors Income from Abroad	GNP
1977	16 %	9,6 %	4,0 %	21,0 %	6,8 %	3,0 %	9,3 %	3,4 %	19,8 %	6,0 %	0,9 %	100 %
1978	19 %	10,6 %	4,0 %	19,6 %	7,3 %	3,4 %	8,9 %	3,4 %	19,0 %	4,2 %	1,0 %	100 %
1979	18 %	9,7 %	4,1 %	19,3 %	7,5 %	3,4 %	8,7 %	3,3 %	21,4 %	3,6 %	1,1 %	100 %
1980	18 %	14,4 %	3,2 %	18,1 %	6,7 %	3,5 %	7,6 %	3,6 %	21,1 %	2,1 %	1,3 %	100 %
1981	19 %	11,7 %	4,3 %	16,9 %	7,1 %	3,8 %	8,4 %	3,5 %	22,7 %	2,1 %	0,9 %	100 %
1982	18 %	10,9 %	4,6 %	19,5 %	8,6 %	3,7 %	7,3 %	3,6 %	20,9 %	2,0 %	1,2 %	100 %
1983	12 %	10,8 %	4,7 %	19,7 %	10,9 %	4,2 %	7,2 %	3,4 %	22,4 %	3,8 %	1,3 %	100 %
1984	15 %	9,2 %	5,7 %	19,0 %	10,3 %	4,3 %	6,8 %	3,4 %	21,6 %	3,3 %	1,9 %	100 %
1985	16 %	10,1 %	5,2 %	18,8 %	9,3 %	4,3 %	6,6 %	3,3 %	21,9 %	3,0 %	1,6 %	100 %
1986	12 %	11,3 %	6,9 %	18,4 %	10,8 %	4,2 %	6,5 %	3,5 %	21,4 %	3,0 %	1,7 %	100 %
1987	12 %	11,2 %	7,9 %	18,4 %	10,7 %	4,3 %	6,2 %	3,5 %	20,8 %	3,2 %	1,8 %	100 %
1988	12 %	11,5 %	7,7 %	17,9 %	11,4 %	4,4 %	5,9 %	3,5 %	19,7 %	4,7 %	1,4 %	100 %
1989	11 %	13,8 %	7,6 %	18,3 %	11,4 %	4,4 %	5,6 %	3,6 %	18,6 %	4,7 %	1,3 %	100 %
1990	9 %	13,6 %	7,3 %	19,1 %	11,3 %	4,4 %	5,4 %	3,7 %	18,3 %	7,0 %	0,6 %	100 %
1991	9 %	14,0 %	8,2 %	18,1 %	10,2 %	4,9 %	5,8 %	4,0 %	19,6 %	5,5 %	0,8 %	100 %
1992	12 %	13,3 %	9,2 %	17,6 %	9,7 %	4,7 %	5,5 %	4,0 %	18,3 %	5,5 %	0,6 %	100 %
1993	12 %	12,6 %	9,3 %	17,3 %	9,9 %	4,7 %	5,3 %	3,9 %	17,5 %	6,1 %	1,6 %	100 %
1994	11 %	13,1 %	8,9 %	17,3 %	10,5 %	5,0 %	5,5 %	3,8 %	18,5 %	4,9 %	1,7 %	100 %
1995	11 %	13,4 %	6,8 %	18,7 %	10,9 %	5,5 %	5,5 %	3,8 %	17,7 %	5,7 %	1,3 %	100 %
1996	11 %	12,8 %	6,8 %	16,2 %	11,2 %	5,5 %	5,4 %	6,8 %	17,6 %	5,9 %	0,5 %	100 %
1997	8 %	12,7 %	8,1 %	16,5 %	11,7 %	6,0 %	5,3 %	8,2 %	17,0 %	6,5 %	0,3 %	100 %
1998	8 %	12,2 %	8,2 %	17,1 %	11,5 %	6,2 %	5,2 %	8,0 %	16,6 %	6,5 %	1,0 %	100 %
1999	9 %	11,6 %	7,8 %	17,1 %	11,5 %	6,3 %	5,0 %	8,6 %	15,8 %	6,4 %	0,8 %	100 %

Source: TRNC State Planning Organization, Economic and Social Indicators

Here, it is beneficial to indicate the share of the public sector in the GNP. The public services always have a big share in the formation of the GNP, due to the structure of the economy. Since the other countries, except the Turkish Republic, do not recognize Northern Cyprus, most functions of the economy are carried out by the public sector.

After the consideration of the structure and formation of GNP, the composition of total exports of the country will be examined. The Table 3.1 shows the exports as the percentage and the amount of foreign exchange gained from each sector.

When the composition of exports of Northern Cyprus is examined, agricultural products are seen as the main exportable products. Exportation of the agricultural products is one of the basic sources of foreign currency of the country whereas the industrial products are the second source. Also we have to indicate that the trade and tourism is another sector that supply foreign currency as mentioned above with the help of data in Table 3.4.

Citrus fruit export is very significant for the economy since it forms most of the trade with other countries. However, unfortunately, after 1985 the percentage of the citrus exportation shows a declining trend. It can be seen from Table 3.1 that in 1980 the share of the citrus fruit exportation was 70 percent, in 1987 it was about 40,8 percent and it was 29,6 percent in 1994. The percentages show that the share of the citrus fruit exports is gradually falling down. (The reason of this decrease is explained in section 3.1.)

The decrease in the percentage of the citrus fruit in real terms did not reflect the money value of it. It actually show that the incomes gained from other sectors, as industry, increased in money values. These results may easily be seen from comparison of tables 2.6 and 3.1. So the decrease is actually because of some other items, such as ready-to-wear clothing, have realized a great deal of increase in exportation and eventually the share of citrus in total export performed such a decrease. When the amount of the foreign currency that the country gains from the exportation of the citrus fruit is considered, it is clear that there is not a definite decrease. Only, there exist a little decrease in the amount of foreign exchange after the Judgment of the Court of the

European Community about the movement of citrus fruits and potatoes in European Countries after 1992.¹⁵

This Judgment of the Court limits, in other words inhibits, the exportation of citrus fruits and potatoes originated from Northern Cyprus to European Countries. The subject about the Judgment of the Court will be distinguished in section 3.3 as the external problem of the citrus production and exportation.

Table 3.1, which shows the composition of exportation in Northern Cyprus, indicates the importance of the agriculture in the development of the country. There is a definite increase in the exported amount of the processed agricultural goods of the Northern Cyprus. Especially after 1980's there is a satisfactory increase in the exported processed agricultural goods. This shows that the decrease in the exportation of the citrus fruit is substituted with the increase in the exportation of processed agricultural goods.

Also as mentioned before the other industrial goods gains importance in exportation and both other industrial goods with the processed goods substituted the income supplied by the exportation of citrus. (Here it is beneficial to indicate that the processed agricultural goods are forming mainly from citrus-based products as can be seen from Table 3.5 which shows the composition of agricultural and processed agricultural goods export of Northern Cyprus between the periods 1993-1999. Also with the help of Table 3.6 the share of both agricultural products and processed agricultural products in exports of the country were shown and the stated table indicates that the citrus exportation has a big share in total exportation).

The point mentioned above has an importance because it indicates the significant role of agriculture in the development stage of the country, as given in chapter 2 of this thesis. Here the agricultural sector is acting as the leading sector for development by supplying factors of production to other sectors in the economy. The economies, that base their development to agricultural sector, expect the necessary capital and labor to be supplied throughout the development process. The agricultural sector is the main income-creating sector in the economy and the accumulation of savings from this sector goes to other sectors as investment. Also the incomes and

¹⁵ For more detail please look: Court of Justice of The European Countries, Judgment of The Court (5 July, 1994)

savings that come from agricultural sector are used for consumption. The increase in consumption acts as an income source for all other sectors, since the increasing demand creates its own supply in the market of other sectors, both as goods and services. This is the basic point of the hypothesis of this thesis.

As a result an increase in the exportation of the other industrial goods is expected from a country in the process of development.

3.3 Problems in Citrus Production and Exportation in North Cyprus

As the discussion above exposed that in North Cyprus, citrus is the main agricultural product and also it is the main exportable product in the country. However, the farmers and exporters face several problems during production and trading of citrus fruit. In this part of the work the problems in production and exportation will be analyzed under two headings as domestic and external problems. Also the domestic problem will be presented under two headings. The first one is the problem in production and the second one is the problems in exportation of the fruit explained with considering of the main exporter company Cypfruvex. Besides the domestic problems there exists an external problem, the Judgment of the Court of the European Community. This also will be examined in this part of the work. First of all the domestic problem will be examined in the following section.

Table 3.5: The Composition of Agricultural and Agricultural Based Products Export of North Cyprus

	1992-1993	1993-1994	1994-1995	1995-1996	(Tons) 1996-1997
Citrus	88.404	85.948	112.354	109.082	90.057
Concentrated Citrus	6.846	4.460	4.443	1.835	1.209
Citrus Perfume	238	107	88	12	38
Citrus (Orange) Peeling	0	0	37	12	0
Potatoes	13.041	5.682	9.092	5.829	2.278
Grape	109	79	0	14	1
Barley	20.039	101.322	0	21.900	0
Fodder Legumes	1	3	0	0	0
Melons	0	17	2	0	0
Industrial Plants	189	321	120	34	84
Other Vegetables	29		51	820	2
Fruits	3.262	5.467	2.527	143	2.216
Live Animals	0	1.567	1.591	3.149	4.691

Source:

Prepared from, TRNC State Planning Organization, 1999 Transition Year Program, Table No: 58, p. 105

Table 3.6: The Export Structure of Agricultural Products and Their Share in Total Export of North Cyprus

	1984		1985		1986		1987		1988		1989		1990	
	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export
1. Agricultural Products	26,6	68,5 %	35,9	77,6 %	36,9	70,9 %	31,1	56,5 %	29,4	56,1 %	30,2	54,7 %	29,8	45,5 %
a) Citrus	19,8	51,0 %	29,9	64,6 %	28,5	54,8 %	22,5	40,8 %	23,9	45,6 %	21,6	39,1 %	24,5	37,4 %
b) Potatoes	1,9	4,9 %	2,6	5,6 %	3,8	7,3 %	2,3	4,2 %	2,4	4,6 %	1,7	3,1 %	2,4	3,7 %
c) Live Animal	2,9	7,5 %	2,3	5,0 %	2,3	4,4 %	1,8	3,3 %	0,8	1,5 %	0,3	0,5 %	0,3	0,4 %
d) Other	2,0	5,1 %	1,1	2,4 %	2,3	4,4 %	4,5	8,2 %	2,3	4,4 %	6,6	12,0 %	2,6	4,0 %
2. Processed Agricultural Goods	3,6	9,3 %	3,9	8,4 %	4,9	9,4 %	6,9	12,5 %	3,9	7,4 %	6,8	12,3 %	11,9	18,1 %
Total Export	38,8	100 %	46,3	100 %	52,0	100 %	55,1	100 %	52,4	100 %	55,2	100 %	65,5	100 %

Table 3.6: The Export Structure of Agricultural Products and Their Share in Total Export of North Cyprus

	1991		1992		1993		1994		1995		1996		1997	
	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export
1. Agricultural Products	27,0	51,4 %	31,0	56,8 %	24,3	44,6 %	25,7	48,1 %	26,9	40,0 %	31,0	44,0 %	18,5	32,1 %
a) Citrus	21,6	41,1 %	22,2	40,7 %	16,6	30,5 %	15,8	29,6 %	22,1	32,8 %	22,6	32,1 %	15,1	26,2 %
b) Potatoes	2,4	4,6 %	3,3	6,0 %	1,3	2,4 %	0,7	1,3 %	1,4	2,1 %	0,9	1,3 %	0,4	0,7 %
c) Live Animal	0,1	0,2 %	0,5	0,9 %	-	-	0,3	0,6 %	0,4	0,6 %	1,0	1,4 %	0,2	0,3 %
d) Other	2,9	5,5 %	5,0	9,2 %	6,4	11,7 %	8,9	16,6 %	3,0	4,5 %	6,5	9,2 %	2,8	4,9 %
2. Processed Agricultural Goods	8,4	16,0 %	7,1	13,0 %	8,2	15,0 %	7,1	13,3 %	11,9	17,7 %	13,2	18,7 %	11,8	20,4 %
Total Export	52,5	100 %	54,6	100 %	54,5	100 %	53,4	100 %	67,3	100 %	70,5	100 %	57,7	100 %



Table 3.6: The Export Structure of Agricultural Products and Their Share in Total Export of North Cyprus

	1998		1999	
	Value	Share in Total Export	Value	Share in Total Export
1. Agricultural Products	14,8	27,7 %	20,1	38,4 %
a) Citrus	12,8	24,0 %	12,1	23,1 %
b) Potatoes	0,6	1,1 %	0,1	0,2 %
c) Live Animal	-	-	-	-
d) Other	1,4	2,6 %	7,9	15,1 %
2. Processed Agricultural Goods	13,6	25,5 %	12,5	23,8 %
Total Export	53,4	100 %	52,4	100 %

Source: TRNC State Planning Organization, Economic and Social Indicators 1999, Table No: 25, p.54

Year	Agriculture	Industry	Construction	& Tourism	& Communication	Financial Institution	of Dwellings	& Personal Service	Public Service	Import Duties	Income from Abroad	GNP
1978	22,3	16,8	4,8	-1,4	14,0	17,3	1,1	6,0	1,7	-26,3	12,9	5,8
1979	-0,7	-4,0	7,1	2,7	8,2	6,8	1,6	3,6	17,6	-10,5	17,5	4,4
1980	3,5	49,6	-21,0	-4,9	-10,3	3,8	-11,0	8,2	-0,7	-41,8	19,2	0,9
1981	-6,0	-25,2	25,8	-13,7	-2,5	0,6	1,1	-9,8	-0,3	-7,2	-37,3	-7,5
1982	5,5	3,7	18,7	28,0	35,1	8,3	-2,9	14,3	2,2	6,9	54,8	11,2
1983	-33,7	0,5	3,0	3,0	28,2	14,7	0,4	-3,6	9,3	94,9	7,6	1,6
1984	33,9	-9,0	29,5	2,6	0,7	7,5	0,6	7,1	2,4	-8,3	52,4	6,4
1985	16,8	17,4	-2,4	6,5	-2,2	7,9	4,7	4,5	9,3	-2,4	-6,8	7,5
1986	-18,2	17,5	38,9	2,4	21,1	3,0	2,4	11,1	2,0	5,9	11,8	4,8
1987	3,5	5,7	23,1	6,7	6,1	9,1	2,0	6,9	3,9	13,0	12,6	6,8
1988	7,2	10,4	3,2	3,9	13,9	8,9	2,2	6,5	1,4	57,7	-17,9	7,0
1989	-2,4	30,3	7,7	11,0	8,5	8,0	2,5	10,0	2,5	9,1	2,6	8,5
1990	-9,8	3,8	1,0	10,5	5,0	7,8	2,1	10,0	4,1	57,5	-52,2	5,7
1991	-9,3	-2,3	6,6	-10,1	-14,7	5,2	2,3	1,5	1,1	-26,1	30,3	-5,3
1992	42,5	2,6	21,3	4,8	2,0	2,4	1,1	8,0	0,9	7,9	-21,2	7,8
1993	7,8	0,4	7,6	3,8	8,5	6,1	1,5	3,5	1,3	16,5	187,8	5,9
1994	-12,3	-0,1	-8,2	-3,6	2,0	2,1	1,6	-6,6	1,9	-21,8	1,1	-3,7
1995	2,4	5,1	-21,5	10,7	6,6	13,2	1,9	2,1	-2,2	19,9	-21,3	2,6
1996	8,9	-1,9	3,1	-10,6	5,5	3,5	1,6	84,8	2,6	4,9	-63,5	2,9
1997	-31,0	3,6	23,7	5,9	9,4	13,8	2,8	26,5	0,6	15,9	-36,1	4,1
1998	5,9	1,2	7,3	10,1	4,0	8,8	2,8	3,6	3,5	5,1	269,3	6,0
1999	29,2	2,4	2,0	7,4	7,0	8,4	2,5	15,5	2,3	6,7	-8,8	7,4

Source: TRNC, State Planning Organization, Economic and Social Indicators, 1999, Table No: 3, p.10

3.3.1 Domestic Problems

Domestic problems will be studied as problems in production of citrus fruit and then as problems of trading companies. The Cyprus Fruit & Vegetable "Cypfruvex" Enterprises Ltd. will be examined in detail in this section, since it is the main trading company in Northern Cyprus.

a. Problems in Production

Before examining the problems in production of citrus fruit, it is beneficial to provide some information about the production of the fruit. The main citrus producing area is the North West Coast of the Northern Cyprus, where Lefke and Güzelyurt cities are located. The other citrus producing areas are Gazimağusa and Girne. "It is said that Lefke is the first area to grow citrus in Cyprus. It is well known that the Shamouti orange grown in Lefke is delicious. It has a good reputation due to its distinctive flavor and taste."¹⁶

The citrus production is one of the most important sources of money, Table 3.1 indicate the composition of exports in Northern Cyprus. According to statistical data 80 per cent of the production is exported.¹⁷

The production of "yellow gold", as the producers call citrus fruit, has been carried out since the 15th century in the island. But today, the farmers have problems in the production of this valuable fruit. The problems arose due to the economic and the weather conditions throughout the years.

The important problems in the production of the citrus fruit are as follows:

1. The first and the main problem in production of the citrus products is shortage of irrigation water and its quality. In Northern Cyprus the water sources are limited, as the rainfall is not enough and the water is being salted in Güzelyurt area. Irrigation of orchards has been a big problem, as there exists no running water. The water is mainly pumped from underground wells and it costs a lot of money, whereas all the competitor countries, such as Italy and Spain, have running water.¹⁸ The scarcity of water and the

¹⁶ Cypfruvex Enterprises Ltd., *Citrus Industry in North Cyprus*, (1995), p. 1

¹⁷ Cypfruvex Enterprises Ltd., *Citrus Industry in North Cyprus*, (1995), p. 1-2

¹⁸ Cypfruvex Enterprises Ltd., *Citrus Industry in North Cyprus*, (1995), p. 1-2

problem of drought are the factors that cause inefficiency and inconsistency in agricultural production.¹⁹

2. Secondly, the high inflation rates that raises the price of inputs and causes a decrease in profits. Continues increases in the price of the pesticides, irrigation water, electricity etc. make the cost of the production to increase at all the time. But the selling price of the citrus fruit is not increasing at the same rate as the cost. The selling price of the citrus fruit is determined in the world market and the price of the fruit is almost stable, apart from the times of fruit damage caused by terrible weather conditions, especially by frost.
3. Thirdly, the increase in the population of harmful insects and the increase in diseases of the citrus trees and products create another problem. This is because of ineffective fight with these harmful insects and diseases. Here, the Integrated Pest Management Project carried by the Ministry of Agriculture and Forestry has to be mentioned. This project will be examined in detail in the following parts of the thesis.

In citrus producing areas there are many diseases, harmful insects and wild plants. The main harmful insects are *Ceratitis capitata*, *Phyllocnistis citrella*, *Planococcus citri*, *Aonidiella aurantii*, *Dialeurodes citri*, *Icerya purchasi*, *Pyllocopra oleivora*, plant louse, *Panonychus citri* and *Cornvaspis beckii*. The main diseases are the *Phytophthora citrophthora*, *Deuterophoma tracheiphila*, *Pseudomonas syringae* and the viruses.²⁰ Also there are many types of wild plants in the citrus orchards.²¹

These are the factors which limits the yield in production, but still the citrus production is the main exportable agricultural product in the country, as can be seen in Tables 3.1, 3.5, 3.6 and 3.7 show the importance of the agricultural sector among the other sectors of the economy of Northern Cyprus.

¹⁹ For more information please look: TRNC The Prime Ministry State Planning Organization Undersecretary, Third Five Year Development Plan (1993-1997) Strategy, Aims, Macro Targets and Equilibriums, (October 1992) p. 16-30

²⁰ For more information please look: TRNC The Ministry of Agricultural Natural Resources and Energy, Turunçgil Zararlı ve Hastalıkları, (1985), p1-8

²¹ For more information please look: TRNC The Ministry of Agricultural Natural Resources and Energy, Turunçgil Bahçelerinde Entegre Mücadele Projesi, (1998), p.3-4

b. Problems in Exportation and the main exporter "Cypfruvex"

Besides the problems in production of the citrus fruit, there are problems in the trading of the product. The main Exporter Company of citrus fruit is the Cyprus Fruit & Vegetable "Cypfruvex" Enterprises Ltd.

Cypfruvex Ltd. was established in 21 November, 1974 under the Companies Law of Cyprus as a state owned economic enterprise. The capital of the company is 10,000,000,000 Turkish Lira since 28 February 1990. The State owns 51 per cent of the shares. The Cyprus Turkish Cooperative Central Bank Ltd. owns 10 per cent of the company and the public owns the remaining 39 per cent of the share.²²

At the beginning, Cypfruvex started its operations with four citrus packinghouses. At present Cypfruvex has five packinghouses with a capacity of about 600 tons of first class citrus fruit per eight hours. A brand new and modern concentrate and juice factory of about 250 tons per 24 hours capacity was established in 1980, and since then, besides the fresh fruit, Cypfruvex has also been exporting citrus concentrates and essential oils to various countries in Europe. Cypfruvex is the largest citrus exporting company in Cyprus.

The Cypfruvex Headquarters Office is in Güzelyurt. Cypfruvex has a subsidiary Company in London, established in 1977 and registered under the name of Cypfruvex (UK) Ltd. In 1979 Cypfruvex (European) B.V. was established in Rotterdam and now it is acting as a branch of Cypfruvex Ltd. A further branch of Cypfruvex Ltd. has been established in 1985 in Mersin Turkey.²³ The shipping and transit establishment are in the Gazimağusa Port on the Eastern Coast of Cyprus.

The Cypfruvex Company deals with all kinds of citrus fruits that are growing in Northern Cyprus. But unfortunately the company faces many problems in the trading of the citrus fruits and in this part these problems will be displayed in detail. The main problems that the company faces may be grouped into four points; and they will be explained in more detail in below section.

²² CFV "Cypfruvex" Ltd. The Information about the Functions and Accounts between 1975-1995, (1996), p. 1

²³ Brief Data About Cyprus Fruit & Vegetable "Cypfruvex" Enterprises Ltd., 1995, p. 1-2



NEAR EAST UNIVERSITY

**FACULTY OF ECONOMICS
AND
ADMINISTRATIVE SCIENCE**

**THE IMPORTANCE OF AGRICULTURAL
SECTOR IN NORTH CYPRUS
(In Case of Citrus Production)**

NIHAT EROK

GRADUATED THESIS

DEPARTMENT of ECONOMICS

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1. INTRODUCTION

Attaining a sustainable rate of growth and development is always the main target of the developing countries. As the poor population of these countries aim to become richer, the governments have to take several precautions for the development of their country.

Growth and development depends on several factors as economic, political and social. These can be measured by many different ways, as well as by the increase in gross national product (GNP) and the income per capita. For the achievement of the growth, structural changes are required in the economic life of a developing country. Therefore in order to reach the development target, developing countries have to apply some strategies according to the sectors of their economic life.

Usually the agricultural sector is the leading sector in the development stage of an underdeveloped country; so, the agricultural development gains importance for such countries. The development of the agricultural sector leads to development of other sectors of the economy.

1.1 The Aim of The Study

Turkish Republic of Northern Cyprus is a country, which has been trying to attain economic development. The agricultural sector, in this country too, is the leading sector in this process. This study displays the importance of agriculture for developing countries in general and for Northern Cyprus in particular. Also, by indicating the importance of agricultural sector, in this study it is determined that the citrus production in Northern Cyprus is the main agricultural product.

In chapter 2 of this study the development phenomenon and its importance for the developing countries is explained. In this part of the study the importance of agricultural development strategy is emphasized besides other strategies.

Also, the importance of the agricultural sector as a determinant factor for the economy of Northern Cyprus is displayed in this section. This investigation is to show that the citrus fruit production is the most significant type of production and also it is the main exportable agricultural product in the country. This phenomenon forms the

hypothesis of the thesis. Since developing countries are in lack of capital, they need inexpensive investment. The limited savings have to be used in the investment of agricultural projects, which are inexpensive when compared with other projects as industrial. The investments in agricultural sector will lead into accumulation of necessary capital for investments in other sectors. Also the labor force for other developing sectors will be supplied by the agricultural sector.

In chapter 3 of the study the growth trend in citrus production, since 1975 is investigated with the help of statistical data. Also the growth trend of GNP and the citrus production is determined in this part. These calculations are prepared for the test of the hypothesis of the study.

After determining the performance of the citrus production and exportation (1975-1999), the problems in this sector are considered in chapter 3. The problems both in production and exportation can be classified as domestic and external problems. In the section related with domestic problem, the Cypfruvex Ltd. is determined as the main exporting company of the country. In addition, the decision of the European Union (EU) Court of Justice about the exports is discussed together with the relations of EU and Northern Cyprus.

Suggestions for agricultural development and improving production of citrus fruit are given in chapter 4. Also, the obstacles to economic development and the ways of overcoming these obstacles are discussed in general. After providing this information, a project about the improvement of the citrus production and thus the agricultural development of Northern Cyprus is presented.

The Integrated Pest Management Project is considered to be a very important step in the achievement of development in agricultural sector.

In the conclusion chapter, the results of the study are displayed.

1.2 Methodology Used in The Study

The methodology of this study: The economic literature, using mainly the sources from the library of the Eastern Mediterranean University and also some sources from the library of Near East University prepares the theoretical part of the study. Interviews

were carried out with the executives of the Ministry of Agriculture and Forestry, executives of Cypfruvex, Citrus Producers Union and farmers.

In the test of the hypothesis the statistical data from

- a) TRNC the Ministry of Agriculture and Forestry – Statistic and Planning Division, Agricultural Structure and Production 1999
- b) TRNC State Planning Organization, Statistic and Reserch Department Statistical Yearbook 1999

are used in calculations for analytical searches. These data are essential for determining the role of agriculture in general and citrus production in the economy of North Cyprus.

The statistical data are used in calculations of rate of changes mainly in GNP, agricultural sector, citrus fruit production and exportation. The obtained data from these calculations are used for determining the expected results that are put forward in the hypothesis of this study.

2. AGRICULTURAL PRODUCTIONS AND ECONOMIC DEVELOPMENT

As indicated in the introduction part of the study, the agricultural production and the development of a country are interrelated. The development in agricultural sector is acting as a source of essential capita and labor, and in this chapter the economic development and the role of agricultural production is displayed.

2.1 Economic Development

The major goal of most developing countries is economic development and growth. These two terms are not identical. Growth may be necessary but not sufficient for development. Economic growth refers to increase in a country's production or income per capital. Production is usually measured by gross national product (GNP), an economy's total output of goods and services. Economic development refers to economic growth accompanied by changes in output distribution and economic structure. These changes may include an improvement in the material well being of the poorer half of the population; a decline in agriculture's share in GNP and a corresponding increase in the GNP share of manufacturing, finance, construction, and government administration (welfare services); an increase in the education and skills of the labor force; and substantial technical advances originating within the country.¹

2.2. Development Strategies

In the search for development, developing countries have a number of policy-options such as agricultural developrnent etc. The choice of policy options is in part a matter what planners believe will work and in part a question of the nature of the

¹For more detail please look: E. Wayne Nafziger. The Economics of Developing Countries, second ed.

(United States of America: Prentice Hall Inc., 1990), p.8-9

society that will be created, once the development has occurred.² Policy options show differences but they all have a common target as all of them are aiming to develop economic situation of the country.

Economic development involves the transformation of an economy from dependence upon agriculture to a greater emphasis upon manufacturing and services. With the economic development, the country face with the requirements of modernization of agriculture in order to release labor for the industrial sector even if the labors will work harder and for longer hours.³

In the development process the governments and the planners of the economy have important and serious obligations to do. The first obligation is selecting the development strategy, which, is the best for the country's economic development for the requirement of the least opportunity cost.

Government must choose between agricultural and industrial emphases, between different kinds of industrial development and between more or less reliance on foreign trade. Several possibilities have been widely advocated and each has been tried, none of them is without difficulties.

The main development strategies will be determined as agricultural development (this is the main strategy that the developing countries use for development), specialization, import substitution, export development and cartelization.⁴

² For more detail please look: Richard G. Lipsey, Peter O. Steiner, Douglas D. Purvis, Economics, eighth ed. (United States of America: Harper & Row, Publisher Inc., 1987), p.859

³ For more detail please look: McCormick B.J., The World Economy, first ed. (United State of America: Philip Allan/Barnes & Noble Books, 1988), p.82-85

⁴ This section is prepared mainly from the works of Richard G., Peter O. Steiner, Douglas D. Purvis. for more information on the matters please look to the Economics, eighth ed. (United States of America: Harper & Row, Publisher Inc., 1987), p.859-866

2.2.1. Agricultural Development

As mentioned above, agricultural development is one of the main and important strategies for the development of a developing country. This is obvious from the needs of the country, as everyone needs food in the world.

A country may choose to devote a major portion of its resources to stimulating agricultural production, by mechanizing farms, irrigating land and utilizing new seeds and fertilizers. If the country is successful, then will stave off starvation for its current population, and it may even develop an excess over current needs and so have a crop available to export. A food surplus can earn foreign exchange to buy needed imports.

Agriculture plays many roles in the processes of economic growth and development. The main roles of the agricultural sector are providing food and raw materials, serving as a market for products of industrial sector, supplying savings and providing productive employment to other sectors of the economy.⁵

Some of the attractions of the agricultural strategy are that it does not require a great deal of technical training or hard-to-acquire know-how or does it place the country in direct competition with highly industrial countries.

"India, Pakistan, Taiwan, and other Asian countries have achieved dramatic increases in food production by the application of new technology and the use of new seeds in agricultural production. Increases of up to 50 percent have been achieved in grain production, and it has been estimated that with adequate supplies of water, pesticides, fertilizers, and modern equipment, production could be doubled or tripled. This has been labeled as Green Revolution".⁶

Big, rural, poor countries are usually well advised to start with policies designed to increase agricultural output in order to utilize the existing labor force and increase standard of living. But the gains from this strategy, while large at first, is subject to diminishing returns. Further gains in agricultural production have an ever-

⁵ For more detail please look: Zuvekas Clarence Jr., *Economic Development An Introduction*, first ed. (St. Martin's Press Inc., New York, 1979), p.204-207

⁶ Richard G. Lipsey, Peter O. Steiner, Douglas D. Purvis, *Economics*, eight ed. (United States of America: Harper & Row, Publisher Inc., 1987), p.860

higher opportunity cost in the resources needed to irrigate land and to mechanize production. Critics of sole reliance on agricultural output argue that underdeveloped economies must start at once to develop other bases for economic growth.⁷

The reliance only on agricultural sector may have problems too. One of these problems may be subsidizing both production and consumption of agricultural products during the same time. The poor population of the country may need subsidies for their consumption of foods and also the poor farmers may need subsidization of their production. This is because of the cost of production as the input prices are often high. The high inflation rates in developing countries resulted in high input prices.

2.3 Role of Agricultural Production in Economic Development

In this section of the work the role of agricultural production is going to be determined especially for the developing countries. As it is stated, in developing countries agriculture plays an important role in development and economic growth.

The first and the main role of agricultural production in a country is providing food and raw materials for the people of that country. It is essential to keep a growing population alive, the supply of food has to increase at least with the same rate as the population growth rate. The greater the growth rate of population in a country the greater rate of food supply is needed. If the food supply is not increasing in a sufficient level, then the governments will maintain the nutritional standards. In such a case, the governments have to have food imports for the people. But the increasing food import means that the developing country is spending its scarce foreign exchange on food. This may be explained as waste of the limited foreign exchange that can be used to import capital, technology, skilled labor and management i.e. factors of production to the country for its development.⁸

⁷ For more detail please look: Richard G. Lipsey, Peter O. Steiner, Douglas D. Purvis, Economics, eight ed. (United States of America: Harper & Row, Publisher Inc., 1987), p. 859-862

⁸ For more detail please look: Clarence Zuvekas Jr., Economic Development An Introduction (New York: St Martin's Press, 1979), p. 204.

The second role of the agricultural production may be that it does not only supply food for domestic consumption but also for exportation. Although exportation of primary products is suggested to be damaging to developing countries because of facing inelastic demand in the world market, but it is providing valuable foreign currency for the country. In order to reduce risk, it is advised to diversify their export bases; in other words, "not put all the eggs in the same basket". The exportation of agricultural goods provides capital to import the technology, machinery, skilled labor etc. for development in other sectors.⁹

Thirdly, the food production also contributes to the formation of human capital, which may be given as a characteristic of the developing and underdeveloped countries. In other words, food utilization should be considered as an investment, which improves the quality of labor force. Poor diets and malnutrition cause mental and physical retardation. This results in a lower productivity of labor force than a well-nourished labor force.¹⁰

Fourthly, another major role of agriculture in economic development is the provision of a market for the products of industrial sector. Industrialization process depends on agricultural development; i.e. the rising income on agricultural sector. In the early periods of economic growth the domestic market relies upon the incomes generated by agricultural sector. The enlarging money supply and real income also stimulate the demand for industrial products and thus, industrialization.

As the fifth factor, agricultural sector is the main source of capital formation in a country where the country do not have its natural resources such as petroleum, minerals as copper or tourist attraction, then the country's national income is formed by agriculture and related activities.

If the agriculture is the only sector that provides the national income then it is the sector, which fosters the saving i.e., capital formation. Unfortunately capital accumulation depends upon the elasticity of food supply. If the profits are decreased as a result of bottlenecks in the supply side of the agricultural production the task of

⁹ For more detail please look; Subrata Ghatak, *Introduction to Development Economics*, 3rd ed. (London and New York: Routledge, 1995), p.272.

¹⁰ For more detail please look: Clarence Zuvekas Jr., *op. cit.*, p. 205.

capital formation becomes even more difficult, which leads to an overall decline in surplus and growth.

Another role of agriculture in development process is providing jobs to the people of the country. It is supposed that agricultural sector is providing labor to the other sectors. But the industrial sector is unable to create enough jobs to the growing population and the migrants from rural to urban areas. In this situation agricultural sector must be analyzed more carefully and try to create job to the people in the agricultural sector. As the unemployment and underemployment in developing and less developed countries are relatively high compared with developed countries, it is more crucial to create jobs in agricultural sector with reasonable wages and social security.

After summarizing the main roles of the agricultural sector for the development in general the importance of the agriculture for the economy of Northern Cyprus is presented in the following section.

2.4 The Main Agricultural Products and Citrus Production in Northern Cyprus

In Northern Cyprus 60 percent of the population is living in rural areas and around 18 per cent of the working population is engaged in agricultural sector. Agriculture in Northern Cyprus is considered to be one of the most important sectors of the economy, mainly due to its contribution to the GDP, employment, food production and exports. In 1999 the average annual share of agricultural sector in the total GDP was 9.1 per cent¹¹ and share of agricultural products in the total exports was 38.4 per cent.

Out of the total area of the country 56.7 per cent is agricultural land. Intensive irrigated crop productions, include citrus, potatoes, deciduous fruits, table grapes, vegetables and the other areas, are used for the traditional dry-land crop productions which include cereals, animal fodder, olives, carobs, almond and wine grapes. Agricultural products for exports mostly derive from the intensive irrigated crops.¹²

¹¹ TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999,

¹² TRNC The Ministry of Agriculture Natural Resources and Energy, The Summary of Agricultural Statistics 1975-1995, (July 1996)

Gross National Product (GNP) in Northern Cyprus is composed of the sectors listed in Table 2.1, and when this table is studied, it is obvious that agriculture has an important place in the GNP of Northern Cyprus.

As indicated in Table 2.1, the agricultural sector is one of the leading sectors in the economy. The land used for the agricultural production also gains importance, since the share of the agricultural land in total area of the country is substantial.

Table 2.1 Shares of Sectors in GNP (1999)

Economic Activities	Share in GNP (Percentage)
1. Agriculture, Forestry and Fishing	8.0
2. Industry	10.5
3. Construction	4.0
4. Trade - Tourism	17.0
5. Transport - Communication	11.0
6. Financial Institutions	6.3
7. Ownership of Dwelling	2.5
8. Business and Personal Services	9.4
9. Public Services	22.4
10. Import Duties	8.1
11. Net Factor Income from Abroad	0.8

Source: TRNC State Planning Organization, Economic and Social Indicators, Statistical Yearbook, 1999, Prepared from Table No: 2, p.9

If we examine the land existence and distribution of land in Northern Cyprus, we will see that agricultural land has the highest share in total area of the country. About 56.71 per cent of the land is used for agricultural production purposes. In Table 2.2 the land distribution in the country is provided and it is obvious that the most of the land is used for agriculture. After the agricultural land, the second largest land area is used as the forest area.

Table 2.2 Land Distribution (1999)

Kind of Land	Acre	Per Cent
a) Agricultural Land	1,398,123	56.71
b) Forest Land	480,740	19.50
c) Grasing and Hali Land	122,157	4.95
d) Town, Village, Rivers and Dome Land	263,471	10.69
e) Unused Land	201,061	8.15

Source: TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999, Table No: la. p.3

After examining the existing land distribution and the share of agricultural land, it is beneficial to distinguish the agricultural products that are produced.

Northern Cyprus agricultural production might be categorized into two primary types namely, crop production and livestock production. Crop production can further be distinguished into rain fed farming and irrigated farming; and the statistical data shows that, the rain fed farming dominates in Northern Cyprus. The share of irrigated farming in the total agricultural land is only %5.16 and the rest of the land is used for rain fed farming.

The major rain fed crops are cereals mainly wheat and barley, and legumes. Major irrigated crops include citrus, vegetables and fruit. The share of the land occupied for the citrus production is about %3.22. In Table 2.3 the distribution of land according to the agricultural production types is given in acre and as the share of the land.

Table 2.3 shows that the land used for citrus production is 45,036 acre, which means that the 5.3 per cent of the cultivated area are used as citrus yards. Its share is the fourth largest after cereal (42.14 per cent), fallow land (5.06 per cent) and pulses (3.31 per cent). The statistical data show that the land used for citrus production is almost 10 percent of cereal land but the economic importance of the citrus production is greater

than cereal product. As will be discussed in the following chapter it is clear that value of citrus production and exportation is higher than other agricultural products.

The citrus production is the main product, which is obtained from irrigated land in Northern Cyprus, the other products are melons, fruits etc. There are many types of citrus products that are produced; these products are Valencia, Shiamouti, Washington, Tangerines, Lemons and Grapefruits.¹³ These products are also the main exportable agricultural products in the country.

As a result the citrus production is the main exportable agricultural product of the Northern Cyprus; so, the production and yield of the citrus trees have important role in the development of the country. The area that is used for citrus production is examined, a decrease in the share of land used for this purpose can be seen since 1975. The production of citrus fruits in tons is not decreasing since the yield per acre shows an increasing rate. This increase in the yield is mainly due to the use of new fertilizers, pesticides and machinery. The changes in use of these inputs and the plans for the improvements about these will be discussed in chapter 4 of this work.

The total citrus production areas, production in kilogram per acre and production tonnage are displaced in Table 2.4 from 1975 onward.

Since agricultural products, especially the citrus products, are the main exportable goods of Northern Cyprus, eventually h is one of the main sources of gaining important amount of foreign currency. Citrus products are exported as,¹⁴

- a) fruits
- b) concentrated citrus
- c) citrus perfume

These products are mainly exported to EU Countries, Eastern European Countries, and mainly to Turkey. EU Countries are the main market for exportation, but in the last few years there is a tendency to export the products mainly to Turkey and Russia. This is because of many political restrictions faced in exporting the products of Northern Cyprus to EU Countries. The restrictions did not only decrease the number of

¹³ Valencia and Grapefruit are the types that mostly produced in TRNC. In 1995 Valencia and grapefruit are produced by 122,738 and 53,157 tons. See from, TRNC The Ministry of Agriculture Natural Resources and Energy, The Summary of Agricultural Statistics 1975-1995, July 1996, Table No: p.30

countries that Northern Cyprus was exporting to, but they also reduced the amount of citrus export.

Table 2.5 indicates the main exporter companies and the total exported citrus products in tons, which shows a decreasing behavior. The main exporter companies are Cypfruvex, Sunzest and some other small ones as given at table 2.5. Table 2.6 indicates the citrus export according to countries.

Tables 2.4, 2.5, 2.6 provide some of the main information about the citrus production in Northern Cyprus. The more and detailed information about the citrus production and the problems in both production and exportation of this valuable product are discussed in the following section of the thesis.

¹⁴ In the determination of the types of citrus production the used source is; TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999, Table No: 40, p.86

Table 2.3 Distribution of Agricultural Land (1999)

Kind of Land	Acre	Share (Per Cent)
Cultivated Land	846,262	60.53
1. Cereal	589,152	42.14
2. Fallow	70,739	5.06
3. Pulses	46,243	3.31
4. Industrial Crops	2,100	0.15
5. Oil Seeds	3,318	0.24
6. Tuber Crops	4,354	0.31
7. Fodder Crops	26,286	1.88
8. Leafy or Edible Stem Vegetables	1,568	0.11
9. Fruits Bearing Vegetables	4,639	0.33
10. Leguminous Vegetables	1,928	0.14
11. Root, Bulb and Tuberous Vegetables	835	0.06
12. Other Vegetables	583	0.04
13. Nuts	2,547	0.18
14. Pome Fruits	779	0.06
15. Stone Fruits	1,130	0.08
16. Grape and Grape like Fruits	43,839	3.14
17. Citrus Fruits	45,036	3.22
18. Greenhouses and Tunnels	1,186	0.08
Uncultivated Land	551,861	39.47
TOTAL	1,398,123	100

Source: TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999, Table No: lb. p.3

Table 2.4 The Total Citrus Area, Yields and Productions (1975 - 1999)

Year	Area (Acre)	Yield (Kg/Ac)	Productions(Tons)
1975	73,956	1,800	133,108
1976	74,910	1,538	115,209
1977	68,076	1,712	116,549
1978	66,874	1,741	116,411
1979	60,182	2,118	127,442
1980	58,980	2,435	143,606
1981	57,695	2,744	158,314
1982	57,819	2,698	156,017
1983	57,545	2,668	153,545
1984	56,361	3,708	208,961
1985	55,160	2,871	158,371
1986	55,127	3,279	180,785
1987	54,803	3,849	210,914
1988	54,556	2,975	162,289
1989	54,451	3,625	197,392
1990	54,600	4,407	240,630
1991	54,315	3,504	190,307
1992	54,358	3,422	186,009
1993	54,226	3,889	210,862
1994	54,127	3,315	169,683
1995	52,474	3,899	204,599
1996	47,770	3,031	144,776
1997	47,417	2,680	127,074
1998	46,303	2,972	137,610
1999	45,036	2,886	129,972

Sources:

-TRNC The Ministry of Agriculture and Forestry, The Summary of Agricultural Statistics 1975-1995, Table No: 20 b, p.31

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1996, 1997, 1998, Table No: 24 a, p.47

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999, Table No: 24b. p.47

Table 2.5 Exporter Companies in Citrus Export (1986 - 1999)

Years	Cypfruvex	Sunzest	Other	Total
1986	50,530	39,499	44,438	134,467
1987	50,000	59,773	28,825	138,598
1988	37,531	69,648	8,946	116,125
1989	31,314	63,637	8,489	103,440
1990	21,106	81,120	10,603	112,829
1991	40,544	51,379	19,594	111,517
1992	41,171	50,028	20,475	111,674
1993	32,782	37,633	17,989	88,404
1994	35,509	30,417	20,022	85,948
1995	59,250	1,416	51,688	112,454
1996	17,118	0	91,964	109,082
1997	19,562	0	70,495	90,057
1998	5,479	0	90,650	96,129
1999	8,083	0	73,932	82,015

Sources:

-TRNC The Ministry of Agriculture Natural Resources and Energy, The Summary of Agricultural Statistics 1975-1995, July 1996, Table No: 36, p.59

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1996, 1997, Table No: 42. p.89

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1997, 1998, Table No: 42. p.89

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999, Table No: 42. p.89

2.6 Citrus Export According to Countries

(TONS)

	EU Countries	Other European Countries	Eastern European Countries	Arabic Countries	Turkey	Others	Total
	89,070	11,983	10,589	8,172	14,590	NA	134,404
	93,840	7,001	3,932	14,647	18,685	493	138,598
	83,494	1,659	7,754	16,004	7,264	NA	116,175
	74,057	861	12,341	12,966	3,215	NA	103,440
	76,187	5,662	6,457	23,995	518	NA	112,819
	68,485	9,373	8,636	21,822	3,048	153	111,517
	76,561	15,360	NA	7,690	8,585	3,487	111,683
	59,661	9,789	6,510	NA	12,444	NA	88,404
	62,119	5,526	3,008	NA	15,295	NA	85,948
	41,969	NA	29,109	1,439	38,863	974	112,354
	15,330	0	14,666	40	79,046	0	109,082
	14,844	0	20,153	0	55,060	0	90,057
	0	0	13,355	0	82,774	0	96,129
	765	1,218	2,022	0	74,446	3,562	82,015

ces:

-TRNC The Ministry of Agriculture and Forestry, The Summary of Agricultural Statistics 1975-1995, Table No: 35, p.59

-TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1996, 1997, 1998, 1999, Table No: 41, p.89

3. THE GROWTH TREND IN CITRUS PRODUCTION AND GNP

The growth trend of GNP is affected by several factors. Here in this work the effect of agricultural production, especially citrus fruit, on the formation of GNP will be discussed.

3.1 The Growth Trend of Citrus Production Since 1975

The importance of the agriculture in economic development and the fact that the agriculture is the main sector in the development stage of a country was discussed in chapter 2. In consequence of that discussion it is clearly seen that the agricultural sector is the starting point for development for most underdeveloped countries. Agricultural sector acts as a source of financial sector at the beginning of the development stage as it provides financial source and labor to other sectors namely, industrial and service sectors.

In part 2.4 the agricultural sector in Northern Cyprus is presented and it is determined that the agricultural sector is playing an important role in the formation of GNP in the country. When the structure of the agricultural sector of the Northern Cyprus is analyzed, we realized that the citrus production is determined to be the main production unit of the sector. Citrus production and exportation provides income and foreign exchange to the country. As can be seen in Table 3.1 the exportation of citrus products have the main role in the overall exportation of the Northern Cyprus. The growth trends of the exportation of citrus and processed agricultural goods show, in total, an increasing rate of growth. The comparison of the growth rates with GNP and others will be analyzed in 3.2.

The statistical data at Table 3.1 shows us that the agricultural products are the main exportable goods. Also it shows that the citrus fruit exportation is forming almost all the agricultural exportation and besides citrus fruit exportation, other types of agricultural goods gain importance as they are showing an increasing trend since 1989 onward.

Before 1987 almost half of the exportation is based upon citrus fruit. But the situation has been changed especially after 1993, since the amount of foreign currency

gained by industrial goods exceeds the amount of currency supplied by citrus. The exportation of processed agricultural goods and other industrial goods shows a gradual but continues increase throughout the specified period. The ready-to-wear clothing, which forms almost all of 'other industry' in the table, shows an increasing trend. This may be checked from the TRNC State Planning Organization, 1999 Transition Year Program, on page 215 from Table 121.

As a result it can be said that, there is a decrease in the share of agriculture in formation of GNP of Northern Cyprus and this may be comprehended as against the hypothesis of the study. But in reality it supports the hypothesis since, the economies based on agricultural development show improvements in other sectors in time. The developments in agricultural sector supply the necessary capital and labor to other sectors and with development process the share of agriculture show a decrease as the other sectors increase their shares in GNP. This phenomenon indicates that the agriculture supports the development of other sectors of a developing economy.

The Table 3.1 shows the trends of the exports of Northern Cyprus. In this table it is clearly indicated that the citrus fruits are the main exportable goods until 1993. After 1993 the amount industrial goods exportation exceeds the value and share of other goods.

Year	Agricultural Products						Industrial Products						Minerals	
	Citrus		Potatoes		Live Animal		Other		Processed Agricultural Goods		Other (Ind.)		Minerals	
	USD	%	USD	%	USD	%	USD	%	USD	%	USD	%	USD	%
1977	15,7	65,7	1,8	7,5	0	0	1,0	4,2	0,9	3,8	2,0	8,3	2,50	10,50
1978	22,0	71,4	2,1	6,8	0	0	1,6	5,2	0,7	2,3	3,2	10,4	1,20	3,90
1979	24,4	68,3	2,6	7,2	0	0	1,6	4,5	0,8	2,2	6,4	17,8	0,00	0,00
1980	31,1	70,0	2,8	6,3	0,2	0,4	2,2	5,0	2,1	4,6	5,4	12,2	0,70	1,50
1981	24,3	65,9	1,6	4,3	1,2	3,3	2,7	7,3	2,1	5,7	4,4	11,9	0,60	1,60
1982	25,2	63,8	1,3	3,3	2,0	5,1	3,3	8,3	2,1	5,3	5,3	13,4	0,30	0,80
1983	23,8	58,5	2,2	5,4	3,3	8,1	2,0	4,9	2,3	5,7	6,8	16,7	0,30	0,70
1984	19,8	51,0	1,9	4,9	2,9	7,5	2,0	5,1	3,6	9,3	8,6	22,2	0,00	0,00
1985	29,9	64,6	2,6	5,6	2,3	5,0	1,1	2,4	3,9	8,4	6,4	13,8	0,10	0,20
1986	28,5	54,5	3,8	7,3	2,3	4,4	2,3	4,4	4,9	9,4	9,8	18,9	0,40	0,80
1987	22,5	40,8	2,3	4,2	1,8	3,3	4,5	8,2	6,9	12,5	16,6	30,1	0,50	0,90
1988	23,9	45,6	2,4	4,6	0,8	1,5	2,3	4,4	3,9	7,4	18,7	35,7	0,40	0,80
1989	21,6	39,1	1,7	3,1	0,3	0,5	6,6	12,0	6,8	12,3	17,8	32,3	0,40	0,70
1990	24,5	37,4	2,4	3,7	0,3	0,4	2,6	4,0	11,9	18,1	23,3	35,6	0,50	0,80
1991	21,6	41,1	2,4	4,6	0,1	0,2	2,9	5,5	8,4	16,0	16,8	32,0	0,30	0,60
1992	22,2	40,7	3,3	6,0	0,5	0,9	5,0	9,2	7,1	13,0	16,3	29,8	0,20	0,40
1993	16,6	30,5	1,3	2,4	0,0	0,0	6,4	11,7	8,2	15,0	21,8	40,0	0,20	0,40
1994	15,8	29,6	0,7	1,3	0,3	0,6	8,9	16,6	7,1	13,3	20,3	38,0	0,30	0,60
1995	22,1	32,8	1,4	2,1	0,4	0,6	3,0	4,5	11,9	17,7	27,9	41,4	0,60	0,90
1996	22,6	32,1	0,9	1,3	1,0	1,4	6,5	9,2	13,2	18,7	25,2	35,8	1,10	1,50
1997	15,1	26,2	0,4	0,7	0,2	0,3	2,8	4,9	11,8	20,4	26,7	46,3	0,70	1,20
1998	12,8	24,0	0,6	1,1	0,0	0,0	1,4	2,6	13,6	25,5	24,7	46,2	0,30	0,60
1999	12,1	23,1	0,1	0,2	0,0	0,0	7,9	15,1	12,5	23,8	19,6	37,4	0,20	0,40

Sources: TRNC, State Planning Organization, Economic and Social Indicators 1999, Table No: 25, p.54

Table 3.2: The Growth Rates of Area (Acre), Yield (Kg/Ac) and Production (Tons) of Production

YEAR	AREA (ACRE)	% Rate of ACRE	YIELD (KG/AC)	% Rate of YIELD	PRODUCTION (TONS)	%Rateof PRODUCTION
1975	73.956		1.800		133.108	
1976	74.910	1,29	1.538	-14,55	115.209	13,45
1977	68.076	-9,12	1.712	11,32	116.549	1,16
1978	66.874	-1,77	1.741	1,68	116.411	0,12
1979	60.182	-10,01	2.118	21,65	127.442	9,48
1980	58.980	-2,00	2.435	14,98	143.606	12,68
1981	57.695	-2,18	2.744	12,70	158.314	10,24
1982	57.819	0,21	2.698	-1,66	156.017	1,45
1983	57.545	-0,47	2.668	-1,12	153.545	1,58
1984	56.361	-2,06	3.708	38,95	208.961	36,09
1985	55.160	-2,13	2.871	-22,56	158.371	24,21
1986	55.127	-0,06	3.279	14,22	180.785	14,15
1987	54.803	-0,59	3.849	17,36	210.914	16,67
1988	54.556	-0,45	2.975	-22,71	162.289	23,05
1989	54.451	-0,19	3.625	21,86	197.392	21,63
1990	54.600	0,27	4.407	21,57	240.630	21,90
1991	54.315	-0,52	3.504	-20,50	190.307	20,91
1992	54.358	0,08	3.422	-2,34	186.009	2,26
1993	54.226	-0,24	3.889	13,64	210.862	13,36
1994	54.127	-0,18	3.135	-19,38	169.683	19,53
1995	52.474	-3,05	3.899	24,38	204.599	20,58
1996	47.770	-8,96	3.031	-22,26	144.776	29,24
1997	47.417	-0,74	2.680	-11,58	127.074	12,23
1998	46.303	-2,34	2.972	10,89	137.610	8,29
1999	45,036	-2,73	2.886	-2,89	129.972	5,55

Sources:

i) Prepared from, TRNC The Ministry of Agriculture Natural Resources and Energy, The Summary of Agricultural Statistics 1975-1995. Table No: 20a, p.31

ii) TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1996, 1997, Table No 24 a, p. 47

iii) TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1997, 1998, Table No 24 a, p. 47

In this part of the work, the growth trend of citrus production of Northern Cyprus will be examined in more detail for the period 1975-1999.

The aim is to show the growth (or decrease) in the citrus production and the area pertaining for citrus production. It is important to see how the citrus production trend is inclining and the reason of this situation. In table 2.4 the citrus production is displayed with the area (in acre) and the yield in the period 1975-1999 and in Table 3.2 their rates are provided.

In Table 3.2 the area used for the citrus production, the production in tons and the yield (Kg/Ac) of the citrus production in North Cyprus within the period 1975-1999 can be examined. It is obviously clear that the area pertaining for citrus production shows a diminishing trend within this specified period. However, although the area is diminished, the yield and production of the citrus product has not shown the same trend as the area. The quantity of production and the yield shows almost an increasing trend within the same period.

When the growth rates of the quantity of production and the yield of the citrus production are calculated, it can be seen that the trends are not showing a smooth increasing trend. Unfortunately, the trends show a fluctuating growth rate trends rather than a smooth one. At some years the trends show positive growth rates but at some others show negative growth rates because of fluctuations in market and also the weather conditions. But, it is clear that at the end of the period the citrus production shows an overall positive growth rate, which indicates that the citrus production is important for the economic development of the Northern Cyprus since it is the main exportable good of the country.

In section 3.2 the relation of the growth trends of agriculture, especially citrus production, and the GNP of the Northern Cyprus will be compared and analyzed.

3.2 The Relation of Growth Trends between Citrus Production and GNP

In this part of the work the relationship between GNP of the Northern Cyprus and the production, and also the exportation of citrus product will be examined. The growth trends of the GNP and production will be displayed with the help of the corresponding tables.

It is indicated in part 3.1, that the growth trend of citrus production shows an increasing trend within the period 1975-1999. In this part of the work the increasing growth trend of citrus production will be compared with the growth trend of GNP in the same period. It is important to examine and show the relation between GNP and citrus production, since this work's primary aim is to show that the citrus production plays an active role in the economy of Northern Cyprus. Citrus production is the main agricultural product that is exported to foreign countries. Exportation of the product supplies foreign currency to the country whereas acquiring foreign currency means increase in income, in other words increase in GNP of a country. According to basic economic principles, the GNP of a country is formed from consumption (C), government expenditure (G), investment (I) and net exports (X-M). Here, the net exports are determined by deducting the value of total imports from the value of total exports of a country. The above explanation can be shown by the formula presented below,

$$\text{GNP} = C + I + G + (X - M)$$

From the formula, it is clear that the value of export is one of the main components in the formation of the GNP. Also it is obvious that, if we increase the value of exports the value of GNP will increase in the economy of the country.

The GNP, its growth rate and the GNP per capital of the Northern Cyprus in the period from 1977 to 1999 are shown in Table 3.3. In Table 3.4 the composition and sectoral development in GNP is displayed. According to Table 3.3 the growth rate of the GNP of Northern Cyprus follows a fluctuating trend in the period 1977-1999. The growth rate is positive in almost all the years and it shows an increasing trend. But unfortunately, in certain years the growth rate is negative and within some periods the growth rate trend is decreasing.

In Table 3.4, the composition of sectors in the economy is displayed. It is clearly seen from the table that the share of the agriculture in the formation of the GNP is the

basic factor between the periods 1975-1980. This can be accepted as the first stages in the development process of the country, since it is expected that the development in the agricultural sector is the starting point for development. After 1980 the share of the agriculture in GNP began to decrease and the shares of trade-tourism and industrial sectors increased. However, the agricultural sector is still one of the main factors in the GNP formation. Here, the statistical data shows an important point such that; as the agricultural sector develops it acts as a source for developments of other sectors in the country. The increase in incomes gained from trade-tourism and industrial sectors are supported by agriculture development. The accumulated capital from agricultural production is used in other investments that are necessary for development in the economy of Northern Cyprus.

1980	5.693.0
1981	5.977.4
1982	6.006.1
1983	7.024.3
1984	7.347.4
1985	7.738.3
1986	7.457.8
1987	7.873.4
1988	7.985.4
1989	8.278.1
1990	7.53.4

Table 3.3: The GNP, GNP Growth Rate and Income Per Capita**(1977 Prices Million TL)**

YEAR	GNP (Million TL)	GNP Growth Rate %	GNP per Capita (TL)
1977	3.810,5		26.279
1978	4.031,3	5,8	27.472
1979	4.210,1	4,4	28.351
1980	4.248,4	0,9	28.396
1981	3.929,8	-7,5	25.985
1982	4.369,5	11,2	28.430
1983	4.440,4	1,6	28.552
1984	4.725,2	6,4	29.909
1985	5.080,4	7,5	31.696
1986	5.324,1	4,8	32.728
1987	5.684,1	6,8	34.442
1988	6.084,0	7,0	36.375
1989	6.603,0	8,5	39.008
1990	6.977,4	5,7	40.692
1991	6.606,4	-5,3	38.021
1992	7.124,7	7,8	40.685
1993	7.547,4	5,9	42.612
1994	7.268,3	-3,7	40.558
1995	7.457,8	2,6	41.121
1996	7.673,4	2,9	41.865
1997	7.990,4	4,1	39.573
1998	8.468,1	6,0	41.465
1999	9.090,8	7,4	44.010

Sources:

i)TRNC State Planning Organization, Economic and Social Indicators, 1999 Table No: 2, p.8

ii)TRNC State Planning Organization, Economic and Social Indicators, p.2

Table 3.4: Sectoral Developments in Gross National Product and Net Factor Income

(1977 Prices Million TL)

Year	Agriculture	Industry	Construction	Trade & Tourism	Transport & Communication	Financial Institutions	Ownership of Dwellings	Business & Personal Services	Public Services	Import Duties	Net Factors Income from Abroad	GNP
1977	619,3	365,1	153,0	801,0	257,4	115,4	355,3	128,1	752,7	228,2	35,0	3810,5
1978	757,7	426,5	160,3	789,6	293,5	135,4	359,2	135,8	765,6	168,2	39,5	4031,3
1979	752,7	409,5	171,7	810,7	317,7	144,6	365,1	140,7	900,5	150,5	46,4	4210,1
1980	779,3	612,7	135,7	770,9	285,0	150,1	324,9	152,3	894,6	87,6	55,3	4248,4
1981	732,5	458,6	170,7	665,0	278,0	151,0	328,5	137,4	892,1	81,3	34,7	3929,8
1982	772,5	475,5	202,7	851,0	375,7	163,5	319,1	157,1	911,8	86,9	53,7	4369,5
1983	512,3	478,1	208,8	876,4	481,8	187,6	320,5	151,4	996,3	169,4	57,8	4440,4
1984	686,0	435,2	270,4	899,0	485,2	201,6	322,4	162,1	1019,9	155,3	88,1	4725,2
1985	801,0	510,8	263,8	957,3	474,5	217,5	337,5	169,4	1115,0	151,5	82,1	5080,4
1986	655,2	600,0	366,5	980,2	574,8	224,1	345,6	188,2	1137,2	160,5	91,8	5324,1
1987	677,9	634,4	451,3	1046,3	610,0	244,5	352,6	201,1	1181,2	181,4	103,4	5684,1
1988	726,7	700,1	465,6	1087,4	694,6	266,3	360,3	214,2	1197,8	286,1	84,9	6084,0
1989	709,1	912,3	501,3	1207,0	753,8	287,5	369,4	235,7	1227,7	312,1	87,1	6603,0
1990	639,7	947,3	506,5	1334,1	791,8	310,0	377,3	259,3	1278,1	491,7	41,6	6977,4
1991	580,4	925,3	540,1	1197,7	675,3	326,0	386,1	263,1	1292,6	363,6	54,2	6606,4
1992	827,0	949,7	655,2	1257,4	688,5	333,9	390,4	284,1	1303,6	392,2	42,7	7124,7
1993	891,1	953,6	704,7	1305,8	746,8	354,2	396,4	294,1	1320,8	457,0	122,9	7547,4
1994	781,1	952,8	646,7	1258,5	762,0	361,6	402,8	274,8	1346,2	357,5	124,3	7268,3
1995	799,8	1001,6	507,5	1392,6	812,4	409,5	410,6	280,6	1316,8	428,6	97,8	7457,8
1996	870,8	982,2	523,3	1244,5	856,9	423,7	417,2	518,5	1351,1	449,5	35,7	7673,4
1997	601,0	1017,7	647,5	1317,9	937,3	482,1	428,7	655,7	1358,6	521,1	22,8	7990,4
1998	636,2	1029,6	694,6	1450,9	974,6	524,4	440,6	679,2	1406,1	547,6	84,3	8468,1
1999	822,0	1054,2	708,6	1558,7	1043,3	568,4	451,7	784,0	1438,6	584,4	76,9	9090,8

Source: TRNC State Planning Organization, Economic and Social Indicators

Table 3.4: Sectoral Developments in Gross National Product and Their Share in GNP

(1977 Prices Million TL)												
Year	Agriculture	Industry	Construction	Trade & Tourism	Transport & Communication	Financial Institutions	Ownership of Dwellings	Business & Personal Services	Public Services	Import Duties	Net Factors Income from Abroad	GNP
1977	16 %	9,6 %	4,0 %	21,0 %	6,8 %	3,0 %	9,3 %	3,4 %	19,8 %	6,0 %	0,9 %	100 %
1978	19 %	10,6 %	4,0 %	19,6 %	7,3 %	3,4 %	8,9 %	3,4 %	19,0 %	4,2 %	1,0 %	100 %
1979	18 %	9,7 %	4,1 %	19,3 %	7,5 %	3,4 %	8,7 %	3,3 %	21,4 %	3,6 %	1,1 %	100 %
1980	18 %	14,4 %	3,2 %	18,1 %	6,7 %	3,5 %	7,6 %	3,6 %	21,1 %	2,1 %	1,3 %	100 %
1981	19 %	11,7 %	4,3 %	16,9 %	7,1 %	3,8 %	8,4 %	3,5 %	22,7 %	2,1 %	0,9 %	100 %
1982	18 %	10,9 %	4,6 %	19,5 %	8,6 %	3,7 %	7,3 %	3,6 %	20,9 %	2,0 %	1,2 %	100 %
1983	12 %	10,8 %	4,7 %	19,7 %	10,9 %	4,2 %	7,2 %	3,4 %	22,4 %	3,8 %	1,3 %	100 %
1984	15 %	9,2 %	5,7 %	19,0 %	10,3 %	4,3 %	6,8 %	3,4 %	21,6 %	3,3 %	1,9 %	100 %
1985	16 %	10,1 %	5,2 %	18,8 %	9,3 %	4,3 %	6,6 %	3,3 %	21,9 %	3,0 %	1,6 %	100 %
1986	12 %	11,3 %	6,9 %	18,4 %	10,8 %	4,2 %	6,5 %	3,5 %	21,4 %	3,0 %	1,7 %	100 %
1987	12 %	11,2 %	7,9 %	18,4 %	10,7 %	4,3 %	6,2 %	3,5 %	20,8 %	3,2 %	1,8 %	100 %
1988	12 %	11,5 %	7,7 %	17,9 %	11,4 %	4,4 %	5,9 %	3,5 %	19,7 %	4,7 %	1,4 %	100 %
1989	11 %	13,8 %	7,6 %	18,3 %	11,4 %	4,4 %	5,6 %	3,6 %	18,6 %	4,7 %	1,3 %	100 %
1990	9 %	13,6 %	7,3 %	19,1 %	11,3 %	4,4 %	5,4 %	3,7 %	18,3 %	7,0 %	0,6 %	100 %
1991	9 %	14,0 %	8,2 %	18,1 %	10,2 %	4,9 %	5,8 %	4,0 %	19,6 %	5,5 %	0,8 %	100 %
1992	12 %	13,3 %	9,2 %	17,6 %	9,7 %	4,7 %	5,5 %	4,0 %	18,3 %	5,5 %	0,6 %	100 %
1993	12 %	12,6 %	9,3 %	17,3 %	9,9 %	4,7 %	5,3 %	3,9 %	17,5 %	6,1 %	1,6 %	100 %
1994	11 %	13,1 %	8,9 %	17,3 %	10,5 %	5,0 %	5,5 %	3,8 %	18,5 %	4,9 %	1,7 %	100 %
1995	11 %	13,4 %	6,8 %	18,7 %	10,9 %	5,5 %	5,5 %	3,8 %	17,7 %	5,7 %	1,3 %	100 %
1996	11 %	12,8 %	6,8 %	16,2 %	11,2 %	5,5 %	5,4 %	6,8 %	17,6 %	5,9 %	0,5 %	100 %
1997	8 %	12,7 %	8,1 %	16,5 %	11,7 %	6,0 %	5,3 %	8,2 %	17,0 %	6,5 %	0,3 %	100 %
1998	8 %	12,2 %	8,2 %	17,1 %	11,5 %	6,2 %	5,2 %	8,0 %	16,6 %	6,5 %	1,0 %	100 %
1999	9 %	11,6 %	7,8 %	17,1 %	11,5 %	6,3 %	5,0 %	8,6 %	15,8 %	6,4 %	0,8 %	100 %

Source: TRNC State Planning Organization, Economic and Social Indicators

Here, it is beneficial to indicate the share of the public sector in the GNP. The public services always have a big share in the formation of the GNP, due to the structure of the economy. Since the other countries, except the Turkish Republic, do not recognize Northern Cyprus, most functions of the economy are carried out by the public sector.

After the consideration of the structure and formation of GNP, the composition of total exports of the country will be examined. The Table 3.1 shows the exports as the percentage and the amount of foreign exchange gained from each sector.

When the composition of exports of Northern Cyprus is examined, agricultural products are seen as the main exportable products. Exportation of the agricultural products is one of the basic sources of foreign currency of the country whereas the industrial products are the second source. Also we have to indicate that the trade and tourism is another sector that supply foreign currency as mentioned above with the help of data in Table 3.4.

Citrus fruit export is very significant for the economy since it forms most of the trade with other countries. However, unfortunately, after 1985 the percentage of the citrus exportation shows a declining trend. It can be seen from Table 3.1 that in 1980 the share of the citrus fruit exportation was 70 percent, in 1987 it was about 40,8 percent and it was 29,6 percent in 1994. The percentages show that the share of the citrus fruit exports is gradually falling down. (The reason of this decrease is explained in section 3.1.)

The decrease in the percentage of the citrus fruit in real terms did not reflect the money value of it. It actually show that the incomes gained from other sectors, as industry, increased in money values. These results may easily be seen from comparison of tables 2.6 and 3.1. So the decrease is actually because of some other items, such as ready-to-wear clothing, have realized a great deal of increase in exportation and eventually the share of citrus in total export performed such a decrease. When the amount of the foreign currency that the country gains from the exportation of the citrus fruit is considered, it is clear that there is not a definite decrease. Only, there exist a little decrease in the amount of foreign exchange after the Judgment of the Court of the

European Community about the movement of citrus fruits and potatoes in European Countries after 1992.¹⁵

This Judgment of the Court limits, in other words inhibits, the exportation of citrus fruits and potatoes originated from Northern Cyprus to European Countries. The subject about the Judgment of the Court will be distinguished in section 3.3 as the external problem of the citrus production and exportation.

Table 3.1, which shows the composition of exportation in Northern Cyprus, indicates the importance of the agriculture in the development of the country. There is a definite increase in the exported amount of the processed agricultural goods of the Northern Cyprus. Especially after 1980's there is a satisfactory increase in the exported processed agricultural goods. This shows that the decrease in the exportation of the citrus fruit is substituted with the increase in the exportation of processed agricultural goods.

Also as mentioned before the other industrial goods gains importance in exportation and both other industrial goods with the processed goods substituted the income supplied by the exportation of citrus. (Here it is beneficial to indicate that the processed agricultural goods are forming mainly from citrus-based products as can be seen from Table 3.5 which shows the composition of agricultural and processed agricultural goods export of Northern Cyprus between the periods 1993-1999. Also with the help of Table 3.6 the share of both agricultural products and processed agricultural products in exports of the country were shown and the stated table indicates that the citrus exportation has a big share in total exportation).

The point mentioned above has an importance because it indicates the significant role of agriculture in the development stage of the country, as given in chapter 2 of this thesis. Here the agricultural sector is acting as the leading sector for development by supplying factors of production to other sectors in the economy. The economies, that base their development to agricultural sector, expect the necessary capital and labor to be supplied throughout the development process. The agricultural sector is the main income-creating sector in the economy and the accumulation of savings from this sector goes to other sectors as investment. Also the incomes and

¹⁵ For more detail please look: Court of Justice of The European Countries, Judgment of The Court (5 July, 1994)

savings that come from agricultural sector are used for consumption. The increase in consumption acts as an income source for all other sectors, since the increasing demand creates its own supply in the market of other sectors, both as goods and services. This is the basic point of the hypothesis of this thesis.

As a result an increase in the exportation of the other industrial goods is expected from a country in the process of development.

3.3 Problems in Citrus Production and Exportation in North Cyprus

As the discussion above exposed that in North Cyprus, citrus is the main agricultural product and also it is the main exportable product in the country. However, the farmers and exporters face several problems during production and trading of citrus fruit. In this part of the work the problems in production and exportation will be analyzed under two headings as domestic and external problems. Also the domestic problem will be presented under two headings. The first one is the problem in production and the second one is the problems in exportation of the fruit explained with considering of the main exporter company Cypfruvex. Besides the domestic problems there exists an external problem, the Judgment of the Court of the European Community. This also will be examined in this part of the work. First of all the domestic problem will be examined in the following section.

Table 3.5: The Composition of Agricultural and Agricultural Based Products Export of North Cyprus

	1992-1993	1993-1994	1994-1995	1995-1996	(Tons) 1996-1997
Citrus	88.404	85.948	112.354	109.082	90.057
Concentrated Citrus	6.846	4.460	4.443	1.835	1.209
Citrus Perfume	238	107	88	12	38
Citrus (Orange) Peeling	0	0	37	12	0
Potatoes	13.041	5.682	9.092	5.829	2.278
Grape	109	79	0	14	1
Barley	20.039	101.322	0	21.900	0
Fodder Legumes	1	3	0	0	0
Melons	0	17	2	0	0
Industrial Plants	189	321	120	34	84
Other Vegetables	29		51	820	2
Fruits	3.262	5.467	2.527	143	2.216
Live Animals	0	1.567	1.591	3.149	4.691

Source:

Prepared from, TRNC State Planning Organization, 1999 Transition Year Program, Table No: 58, p. 105

Table 3.6: The Export Structure of Agricultural Products and Their Share in Total Export of North Cyprus

	1984		1985		1986		1987		1988		1989		1990	
	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export
1. Agricultural Products	26,6	68,5 %	35,9	77,6 %	36,9	70,9 %	31,1	56,5 %	29,4	56,1 %	30,2	54,7 %	29,8	45,5 %
a) Citrus	19,8	51,0 %	29,9	64,6 %	28,5	54,8 %	22,5	40,8 %	23,9	45,6 %	21,6	39,1 %	24,5	37,4 %
b) Potatoes	1,9	4,9 %	2,6	5,6 %	3,8	7,3 %	2,3	4,2 %	2,4	4,6 %	1,7	3,1 %	2,4	3,7 %
c) Live Animal	2,9	7,5 %	2,3	5,0 %	2,3	4,4 %	1,8	3,3 %	0,8	1,5 %	0,3	0,5 %	0,3	0,4 %
d) Other	2,0	5,1 %	1,1	2,4 %	2,3	4,4 %	4,5	8,2 %	2,3	4,4 %	6,6	12,0 %	2,6	4,0 %
2. Processed Agricultural Goods	3,6	9,3 %	3,9	8,4 %	4,9	9,4 %	6,9	12,5 %	3,9	7,4 %	6,8	12,3 %	11,9	18,1 %
Total Export	38,8	100 %	46,3	100 %	52,0	100 %	55,1	100 %	52,4	100 %	55,2	100 %	65,5	100 %

Table 3.6: The Export Structure of Agricultural Products and Their Share in Total Export of North Cyprus

	1991		1992		1993		1994		1995		1996		1997	
	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export	Value	Share in Total Export
1. Agricultural Products	27,0	51,4 %	31,0	56,8 %	24,3	44,6 %	25,7	48,1 %	26,9	40,0 %	31,0	44,0 %	18,5	32,1 %
a) Citrus	21,6	41,1 %	22,2	40,7 %	16,6	30,5 %	15,8	29,6 %	22,1	32,8 %	22,6	32,1 %	15,1	26,2 %
b) Potatoes	2,4	4,6 %	3,3	6,0 %	1,3	2,4 %	0,7	1,3 %	1,4	2,1 %	0,9	1,3 %	0,4	0,7 %
c) Live Animal	0,1	0,2 %	0,5	0,9 %	-	-	0,3	0,6 %	0,4	0,6 %	1,0	1,4 %	0,2	0,3 %
d) Other	2,9	5,5 %	5,0	9,2 %	6,4	11,7 %	8,9	16,6 %	3,0	4,5 %	6,5	9,2 %	2,8	4,9 %
2. Processed Agricultural Goods	8,4	16,0 %	7,1	13,0 %	8,2	15,0 %	7,1	13,3 %	11,9	17,7 %	13,2	18,7 %	11,8	20,4 %
Total Export	52,5	100 %	54,6	100 %	54,5	100 %	53,4	100 %	67,3	100 %	70,5	100 %	57,7	100 %



Table 3.6: The Export Structure of Agricultural Products and Their Share in Total Export of North Cyprus

	1998		1999	
	Value	Share in Total Export	Value	Share in Total Export
1. Agricultural Products	14,8	27,7 %	20,1	38,4 %
a) Citrus	12,8	24,0 %	12,1	23,1 %
b) Potatoes	0,6	1,1 %	0,1	0,2 %
c) Live Animal	-	-	-	-
d) Other	1,4	2,6 %	7,9	15,1 %
2. Processed Agricultural Goods	13,6	25,5 %	12,5	23,8 %
Total Export	53,4	100 %	52,4	100 %

Source: TRNC State Planning Organization, Economic and Social Indicators 1999, Table No: 25, p.54

Year	Agriculture	Industry	Construction	& Tourism	& Communication	Financial Institution	of Dwellings	& Personal Service	Public Service	Import Duties	Income from Abroad	GNP
1978	22,3	16,8	4,8	-1,4	14,0	17,3	1,1	6,0	1,7	-26,3	12,9	5,8
1979	-0,7	-4,0	7,1	2,7	8,2	6,8	1,6	3,6	17,6	-10,5	17,5	4,4
1980	3,5	49,6	-21,0	-4,9	-10,3	3,8	-11,0	8,2	-0,7	-41,8	19,2	0,9
1981	-6,0	-25,2	25,8	-13,7	-2,5	0,6	1,1	-9,8	-0,3	-7,2	-37,3	-7,5
1982	5,5	3,7	18,7	28,0	35,1	8,3	-2,9	14,3	2,2	6,9	54,8	11,2
1983	-33,7	0,5	3,0	3,0	28,2	14,7	0,4	-3,6	9,3	94,9	7,6	1,6
1984	33,9	-9,0	29,5	2,6	0,7	7,5	0,6	7,1	2,4	-8,3	52,4	6,4
1985	16,8	17,4	-2,4	6,5	-2,2	7,9	4,7	4,5	9,3	-2,4	-6,8	7,5
1986	-18,2	17,5	38,9	2,4	21,1	3,0	2,4	11,1	2,0	5,9	11,8	4,8
1987	3,5	5,7	23,1	6,7	6,1	9,1	2,0	6,9	3,9	13,0	12,6	6,8
1988	7,2	10,4	3,2	3,9	13,9	8,9	2,2	6,5	1,4	57,7	-17,9	7,0
1989	-2,4	30,3	7,7	11,0	8,5	8,0	2,5	10,0	2,5	9,1	2,6	8,5
1990	-9,8	3,8	1,0	10,5	5,0	7,8	2,1	10,0	4,1	57,5	-52,2	5,7
1991	-9,3	-2,3	6,6	-10,1	-14,7	5,2	2,3	1,5	1,1	-26,1	30,3	-5,3
1992	42,5	2,6	21,3	4,8	2,0	2,4	1,1	8,0	0,9	7,9	-21,2	7,8
1993	7,8	0,4	7,6	3,8	8,5	6,1	1,5	3,5	1,3	16,5	187,8	5,9
1994	-12,3	-0,1	-8,2	-3,6	2,0	2,1	1,6	-6,6	1,9	-21,8	1,1	-3,7
1995	2,4	5,1	-21,5	10,7	6,6	13,2	1,9	2,1	-2,2	19,9	-21,3	2,6
1996	8,9	-1,9	3,1	-10,6	5,5	3,5	1,6	84,8	2,6	4,9	-63,5	2,9
1997	-31,0	3,6	23,7	5,9	9,4	13,8	2,8	26,5	0,6	15,9	-36,1	4,1
1998	5,9	1,2	7,3	10,1	4,0	8,8	2,8	3,6	3,5	5,1	269,3	6,0
1999	29,2	2,4	2,0	7,4	7,0	8,4	2,5	15,5	2,3	6,7	-8,8	7,4

Source: TRNC, State Planning Organization, Economic and Social Indicators, 1999, Table No: 3, p.10

3.3.1 Domestic Problems

Domestic problems will be studied as problems in production of citrus fruit and then as problems of trading companies. The Cyprus Fruit & Vegetable "Cypfruvex" Enterprises Ltd. will be examined in detail in this section, since it is the main trading company in Northern Cyprus.

a. Problems in Production

Before examining the problems in production of citrus fruit, it is beneficial to provide some information about the production of the fruit. The main citrus producing area is the North West Coast of the Northern Cyprus, where Lefke and Güzelyurt cities are located. The other citrus producing areas are Gazimağusa and Girne. "It is said that Lefke is the first area to grow citrus in Cyprus. It is well known that the Shamouti orange grown in Lefke is delicious. It has a good reputation due to its distinctive flavor and taste."¹⁶

The citrus production is one of the most important sources of money, Table 3.1 indicate the composition of exports in Northern Cyprus. According to statistical data 80 per cent of the production is exported.¹⁷

The production of "yellow gold", as the producers call citrus fruit, has been carried out since the 15th century in the island. But today, the farmers have problems in the production of this valuable fruit. The problems arose due to the economic and the weather conditions throughout the years.

The important problems in the production of the citrus fruit are as follows:

1. The first and the main problem in production of the citrus products is shortage of irrigation water and its quality. In Northern Cyprus the water sources are limited, as the rainfall is not enough and the water is being salted in Güzelyurt area. Irrigation of orchards has been a big problem, as there exists no running water. The water is mainly pumped from underground wells and it costs a lot of money, whereas all the competitor countries, such as Italy and Spain, have running water.¹⁸ The scarcity of water and the

¹⁶ Cypfruvex Enterprises Ltd., *Citrus Industry in North Cyprus*, (1995), p. 1

¹⁷ Cypfruvex Enterprises Ltd., *Citrus Industry in North Cyprus*, (1995), p. 1-2

¹⁸ Cypfruvex Enterprises Ltd., *Citrus Industry in North Cyprus*, (1995), p. 1-2

problem of drought are the factors that cause inefficiency and inconsistency in agricultural production.¹⁹

2. Secondly, the high inflation rates that raises the price of inputs and causes a decrease in profits. Continues increases in the price of the pesticides, irrigation water, electricity etc. make the cost of the production to increase at all the time. But the selling price of the citrus fruit is not increasing at the same rate as the cost. The selling price of the citrus fruit is determined in the world market and the price of the fruit is almost stable, apart from the times of fruit damage caused by terrible weather conditions, especially by frost.
3. Thirdly, the increase in the population of harmful insects and the increase in diseases of the citrus trees and products create another problem. This is because of ineffective fight with these harmful insects and diseases. Here, the Integrated Pest Management Project carried by the Ministry of Agriculture and Forestry has to be mentioned. This project will be examined in detail in the following parts of the thesis.

In citrus producing areas there are many diseases, harmful insects and wild plants. The main harmful insects are *Ceratitis capitata*, *Phyllocnistis citrella*, *Planococcus citri*, *Aonidiella aurantii*, *Dialeurodes citri*, *Icerya purchasi*, *Pyllocopra oleivora*, plant louse, *Panonychus citri* and *Cornvaspis beckii*. The main diseases are the *Phytophthora citrophthora*, *Deuterophoma tracheiphila*, *Pseudomonas syringae* and the viruses.²⁰ Also there are many types of wild plants in the citrus orchards.²¹

These are the factors which limits the yield in production, but still the citrus production is the main exportable agricultural product in the country, as can be seen in Tables 3.1, 3.5, 3.6 and 3.7 show the importance of the agricultural sector among the other sectors of the economy of Northern Cyprus.

¹⁹ For more information please look: TRNC The Prime Ministry State Planning Organization Undersecretary, Third Five Year Development Plan (1993-1997) Strategy, Aims, Macro Targets and Equilibriums, (October 1992) p. 16-30

²⁰ For more information please look: TRNC The Ministry of Agricultural Natural Resources and Energy, Turunçgil Zararlı ve Hastalıkları, (1985), p1-8

²¹ For more information please look: TRNC The Ministry of Agricultural Natural Resources and Energy, Turunçgil Bahçelerinde Entegre Mücadele Projesi, (1998), p.3-4

b. Problems in Exportation and the main exporter "Cypfruvex"

Besides the problems in production of the citrus fruit, there are problems in the trading of the product. The main Exporter Company of citrus fruit is the Cyprus Fruit & Vegetable "Cypfruvex" Enterprises Ltd.

Cypfruvex Ltd. was established in 21 November, 1974 under the Companies Law of Cyprus as a state owned economic enterprise. The capital of the company is 10,000,000,000 Turkish Lira since 28 February 1990. The State owns 51 per cent of the shares. The Cyprus Turkish Cooperative Central Bank Ltd. owns 10 per cent of the company and the public owns the remaining 39 per cent of the share.²²

At the beginning, Cypfruvex started its operations with four citrus packinghouses. At present Cypfruvex has five packinghouses with a capacity of about 600 tons of first class citrus fruit per eight hours. A brand new and modern concentrate and juice factory of about 250 tons per 24 hours capacity was established in 1980, and since then, besides the fresh fruit, Cypfruvex has also been exporting citrus concentrates and essential oils to various countries in Europe. Cypfruvex is the largest citrus exporting company in Cyprus.

The Cypfruvex Headquarters Office is in Güzeyurt. Cypfruvex has a subsidiary Company in London, established in 1977 and registered under the name of Cypfruvex (UK) Ltd. In 1979 Cypfruvex (European) B.V. was established in Rotterdam and now it is acting as a branch of Cypfruvex Ltd. A further branch of Cypfruvex Ltd. has been established in 1985 in Mersin Turkey.²³ The shipping and transit establishment are in the Gazimağusa Port on the Eastern Coast of Cyprus.

The Cypfruvex Company deals with all kinds of citrus fruits that are growing in Northern Cyprus. But unfortunately the company faces many problems in the trading of the citrus fruits and in this part these problems will be displayed in detail. The main problems that the company faces may be grouped into four points; and they will be explained in more detail in below section.

²² CFV "Cypfruvex" Ltd. The Information about the Functions and Accounts between 1975-1995, (1996), p. 1

²³ Brief Data About Cyprus Fruit & Vegetable "Cypfruvex" Enterprises Ltd., 1995, p. 1-2

- i) The debts of the company to Banks and capital,
- ii) The high inflation in the country,
- iii) The decrease in the quality of the citrus production,
- iv) The Judgment of the Court of Justice of the European Countries and the consequent increase in tariffs and freight.

As Cypfruvex Ltd. tries to protect the producer and employ many people, the company faces many internal and external problems. The income and cost of the company is not in balance and this imbalance creates more debts and threatens the survival of the company. The main problems summarized in four headings can briefly be explained as follows:

i) The debts of the company to banks and its capital:

The capital of the company is inadequate for its production capacity, and also the capital is diminishing all the time because of the high inflation rate in the country. With inadequate capital, the company tries to meet its deficit and costs by borrowing from the banks, but the prevailing high interest rates worsens the situation.

ii) The high inflation in the country:

The high inflation rate raises the cost of the company all the time, while the income does not increase at the same rate. The cost of the labor increases as the Government gives wage raises, at every two months, according to the inflation rate realized. This causes an automatic increase in labor cost and also cost of the other services that the company benefits. However, since the prices of the fruits that are exported are determined in the world market, the income of the company is not increasing as the costs.

iii) The decrease in the quality of the citrus production:

In Northern Cyprus the quality of the citrus production is falling every year because of the unsuitable climate and insufficient care of the citrus trees. The insufficient production causes the company to work with higher costs and therefore, the profit of the company decreases. *Also the producers in the Country do not grow different types of citrus trees, which have demand in the world market.*

iv) The Judgment of the Court of Justice of the European Countries and the consequent increase in tariffs and freight

In July 1994, at the request of the Southern Part of the Island, The Court of Justice of the European Communities produced a judgment against Northern Cyprus. As a result of this judgement, the exporters of the Country are restricted to export their goods to EU countries. In order to export goods, companies must pay high tariffs, and also the company's freight costs are increased due to the need to send the ships to Mersin first in order to complete the necessary procedure for export.

3.3.2. External Problems

The external problem of the citrus production and exportation originate from the political status of Northern Cyprus. "On 15 November 1983, the independent Turkish Republic of Northern Cyprus (TRNC) was proclaimed by the Legislative Assembly of the Turkish Federated State of Cyprus. Turkey recognized the TRNC the same day. No other state has so far done so"²⁴. The political status of Northern Cyprus creates problems in trade with other countries. The trade of the Northern Cyprus is mainly with Turkey and European Countries, especially the United Kingdom.²⁵

United Kingdom (UK) applied preferential tariffs to imports from Cyprus, with the establishment of Republic of Cyprus in 16 August 1960. In 1 August 1961 UK applied for the membership to the European Community. "Cyprus in fear of loosing the UK market, in line with the article 288 of the Rome Treaty, also applied for the membership to the European Community in 1962. It is important to note that the decision for the application was taken with the consent of both communities on the Island as by then Turkish Cypriots were in the Cyprus Government."²⁶

²⁴ Mendelson Maurice Q. C., EU and Cyprus: A Expert View, Opinion of Professor M.H. Mendelson Q.C. on the Application of "The Republic of Cyprus" to Join the European Union, (Lefkosa, 1997), P.21

²⁵ The figures about this concept can be seen from the "Table 27 Foreign Trade by Countries" in the Economic and Social Indicators, State Planning Organization, 1995, p.34-35

²⁶ Biçak Hasan Ali, Recent Development in Cyprus-EU Relations, (Eastern Mediterranean University, Gazimağusa, North Cyprus), p.1

But in 1963 the Turkish Cypriots were thrown out of the government of the Republic of Cyprus. On 19 December 1972 the Association Agreement was signed and put into force on 1 January 1973 between the European Community on one side and so called "Cyprus Government" on the other side. The Association Agreement was to apply to the whole Cyprus without any discrimination between the two communities on the island. With the Association Agreement the European Community reduced the custom duties on industrial products originating from Cyprus by 70 per cent and abolished quota restrictions and also the Greek Cypriots and Turkish Cypriots reduced the custom duties on imports from European Community. In the trade between the European Community and the Cyprus the community had to obey the principle of the "rules of origin". After all these developments briefly provided above, the Greek Cypriot administration made a unilateral application for the membership to the European Community as "the Government of the Republic of Cyprus" on behalf of the whole Cyprus.²⁷ The application is illegal since the Greek Cypriot Administration has no lawful authority to make application on behalf of the whole island. "This unlawful and unilateral application was immediately and strongly opposed by the Turkish Cypriot side with Memoranda addressed to the European Union dated 12 July 1990 and 3 September 1990".

All these political events brought social and economic problems within the same period. The EEC-Cyprus Association Agreement that enables the "Republic of Cyprus" to export citrus fruits and potatoes to the community became a problem of the Northern Cyprus. At 5 July 1994 the Court of Justice of the European Communities had a judgement against the Northern Cyprus as a result of the complaint by S.P. Anastasiou (Pissouri) Ltd. and 14 Greek companies.

The judgment of the Court is about the movement of the citrus fruits and potatoes in European Countries. The judgment says that "Trade in citrus fruit and potatoes between the Republic of Cyprus and the Community is governed by the

²⁷ Ertekün Necati Münir, The Greek Cypriot Eagerness and Agitation for the EU Membership- Why?, Cyprus and The European Union: The Turkish Cypriot View and Some Selected Articles. (United Nations Association of Northern Cyprus), p. 19

Association Agreement and the protocols thereto, as amended or replaced²⁸. And under this Association Agreement and the protocols the citrus fruit and potatoes originating from Cyprus benefit from preferential arrangements.

In this article the "Republic of Cyprus" is referring to the Southern Part of the island and they are recognized as the government of the whole island. According to the protocols, the exporters must have movement certificates and phytosanitary certificates issued by the custom authorities of the exporting State.

The government in the Northern Part (T.R.N.C) as mentioned before is not recognized by the European Countries. This situation makes the movement certificates and phytosanitary certificates, which are issued by the government of the Northern Part, to be invalid. The Judgment of the Court does not forbid the trade between Northern Cyprus and European Countries but according to the judgment, the Turkish Exporter Companies must have movement certificates and phytosanitary certificates issued by the "Republic of Cyprus". Otherwise the exporters of Northern Cyprus face with high custom duties in the trade with European Countries and this reduces the competitiveness of the Turkish Companies to low levels when compared with other Country's exporter companies.²⁹

Therefore high custom duties for the citrus fruit and potatoes originate from the unusable of the Association Agreement. All these disadvantages in the exportation of citrus fruit and also potatoes lead to a decrease in the overall export quantity of the Northern Cyprus economy. The figures about the decrease can be seen in Table 2.6 in the second part of the work.

²⁸ Court of Justice of The European Countries, Judgment of The Court (5 July, 1994), p. 3

²⁹ Tamçelik Soyalp, Avrupa Birliği Güney Kıbrıs Rum Yönetimi Münasebetlerinin Kuzey Kıbrıs Türk Cumhuriyeti'ne İktisadi, Siyasi ve Hukuki Tesirleri (İzmir: Nil A.Ş., 1997), p.213-219

4.PROCESSES FOR AGRICULTURAL DEVELOPMENT AND IMPROVING PRODUCTION

The role of agriculture in development process is indicated in the previous sections of the work. Unfortunately there are problems, which are displayed, in this process. In this chapter, the obstacles in the way of agricultural development will be examined and as a result the Integrated Pest Management Project will be studied for improvement in production of citrus fruit.

4.1 Overcoming Obstacles to Agricultural Development

There are several obstacles in the increase of agricultural performance. Increasing agricultural growth rates requires a multifaceted attack on a number of interrelated problems, ranging from technological change to government price policies.

4.1.1.Technological Change

The first obstacle to agricultural development is technological change. It is difficult to convince farmers to change, especially if they are illiterate and unacquainted with high yielding methods of production. The problem is not only unwillingness to change, but it is rather the risks of change that are not adequately covered.

To adopt new technology, farmers have to borrow money to purchase modern inputs or have to commit more of their own resources to their farm operations. Farmers have to have some assurance that success with the new technology will provide them significantly higher incomes than they would receive under traditional methods of farming. If the potential gains are perceived to be relatively small, it is unlikely that the new method will be adopted.

Inducing farmers to change requires, among other things, agricultural research and a skilled extension service to transmit research results directly to farmers. Farmers do not trust a technician who has little on farm experience and also who neglects to consider regional and location-specific differences in soils, rainfall, or pest problems, and shows

little respect for local traditions and values. In short the technological change requires a great deal of credit and managerial expertise.³⁰

4.1.2. Agricultural Research

The second item that will be examined is agricultural research. Numerous studies have shown that investment in agricultural research can have high internal rates of return. There is widespread agreement among agricultural economists and other specialists that developing countries can profit from increased investment in research.

"The results of agricultural research are to varying degrees public goods. One person's consumption of new knowledge is available, it is difficult to exclude others from consuming it."³¹ As people learn how to use fertilizers and pesticides, crop rotations, irrigation practices, optimum planting times and other useful techniques in farming, the other farmers will learn these knowledge in time.

The agricultural research needs a large budget and because of this most of the research continues in developed countries. With the aid of international research institutes, information about the new developments in farming is transferred to developing countries through national domestic organization. These international institutes have a very important role in the transfer of new technology and domestic research is necessary to adopt the new technics and seeds. The success of the new technology will depend on several points such as, the training level of domestic technician and the financial capacity of the farmers.

In North Cyprus farmers are in lack of organizations that make research for new technologies and this has a negative effect on the productivity of agricultural goods.³²

³⁰ For more detail please look: Zuvekas Clarence Jr., *Economic Development An Introduction* (New York: St. Martin's Press, 1979), p.210-211

³¹ 57 Zuvekas Clarence Jr., *Economic Development An Introduction* (New York: St. Martin's Press, 1979), p.212

³² For more information please look: TRNC State Planning Organization, *1999 Transition Year Program*, (October 1999), p.122

4.1.3. Extension Services

The third factor is the extension service, which plays an important role in the transfer of agricultural researches to farmers. Extension must be integrated with other development activities.

"The existence of an independent extension service is neither a necessary nor a sufficient condition for the profitable introduction of new technology, since the extension function can be performed by development banks, agrarian reforms agencies, commercial supply houses or other such institutions."³³

In Northern Cyprus, the necessary information about agricultural production and new researches are extended to farmers mainly by television and radio programs. Also the booklets published by The Ministry of Agriculture and Forestry is another way of reaching the farmers with necessary new information of production.

4.1.4. Agricultural Education

The fourth item is the agricultural education. In developing countries the agricultural education is almost neglected at all levels. At the primary schools agricultural education is seemed as a tool of punishment. Secondary schools are trying to prepare the students to higher education so the technical training to develop middle level skills in extension, agricultural engineering becomes insufficient. The graduates from universities often become ineffective because they are trained in classrooms and not at the agricultural field.

The major obstacle in the agricultural education may be the preferences. People in developing countries try to get jobs in industry and tourism, which are said to be more attractive.

The agricultural education in the Northern Cyprus is given in the bachelor's degree. The University of Lefke has a faculty of agriculture in its constitution and this shows that the planners of the Northern Cyprus begin to give the necessary attention to the agricultural sector.

³³ Zuvekas Clarence Jr., *Economic Development An Introduction* (New York: St. Martin's Press, 1979), p.214

4.1.5. Irrigation

The irrigation item is perhaps the most important one in our discussion, the reason of this is the scarce source of water supplies in developing countries and our country. "World Bank loans for irrigation totaled USD 564 million in fiscal year 1976 and additional facilities were to be constructed under other loans for comprehensive area development projects"³⁴

Irrigation is a vital contribution to the increase in agricultural production. The contributions of irrigation to agriculture can be explained under four headings:

- a. The soil that might be suitable for agricultural production but with the lack of enough rainwater cannot be used for cultivation,
- b. Secondly, the crop yield might be increased by the regulated irrigation, as some crops water needs are varying during the phases of crop cycle
- c. Third, production of more than one crops per year can be possible under irrigation,
- d. The last one is about the irrigation system that may control flooding and thus reducing crop damage.

Efficient irrigation systems have high construction and operating costs and also management problems in developing countries. Administrative and managerial problems can lead into unfavorable conditions as high costs. Also the incorrect use of water may cause salinity or sedimentation of canals.

Northern Cyprus also suffers from the scarcity of water. Beside the scarcity of water in the country, there is the salinity problem of water especially in the areas of citrus fruit production. The salinity problem in Güzelyurt and Lefke areas is a big obstacle in the production of agricultural goods, mainly the citrus fruit.

For efficient use of water the Ministry of Agriculture and Forestry will prepare a "Water Master Plan".³⁵ These projects mainly cover the irrigation of the citrus tree gardens with new technologies as using irrigation hose in the watering.

³⁴ Zuvekas Claience Jr., *Economic Development An Introduction* (New York: St. Martin's Press, 1979), p.216

4.1.6. Mechanization

The sixth item is mechanization in developing countries, which may be too costly and harmful to environment in some cases.

Mechanization can be too costly in developing countries because the farmers are not well trained in the use of machinery and also there is no provision made for the maintenance and repairs. If these problems are overcome then, mechanization in agriculture can make the cultivation time shorter and quicker. This will lead into higher yields and may also double cropping.

The agricultural machines and equipment used in the Northern Cyprus is increasing since the 1979. The machines and equipment used in the agricultural sector have several benefits for the development of this sector. The intensive use of machinery decreases the time spent of the work hours in the agricultural land and also increases the production quantity and quality of the agricultural goods. The Table 4.1 shows the existence of agricultural machinery and equipment since 1979 onward in the Northern Cyprus.

4.1.7. Land Tenure Reform

In most developing countries, especially in Latin American countries, the major obstacle of the agricultural development is land tenure structure. The distribution of the agricultural land and the land tenure arrangements, (which is the form of holding agricultural land), gains importance.

Farmers with a small land have to supplement their farm income with earnings from other economic activities. In Northern Cyprus most of the farmers are working in government institutions.

Farmers with large farms have more economical advantage than small sized landowners since large farmer holders have access to credit to support their services. In order to have more economical farming in the country, the large land holdings, in other words "economic size" lands are necessary. Here "economic size" land means simply the land that supplies enough income for survival of a farmer's life.

³⁵ TRNC State Planning Organization, 2000 Transition Year Program, Economic Developments, Macro Economic Strategies, Targets and Equilibriums, (October 1999), p.64-65

Table 4.1: Number of Agricultural Machinery and Equipment (1979 – 1999)

Year	Tractor (20+HP)	Manure Spreader	Harrows	Combine Harvester	Hand Sprayer	Track Sprayer
1979	2.643	NA	1.711	174	918	324
1980	2.643	NA	1.711	175	918	324
1981	3.037	NA	1.927	181	1.291	372
1982	3.063	1.143	2.049	177	1.201	403
1983	3.186	1.214	2.197	183	1.360	441
1984	3.317	1.260	2.193	183	1.453	462
1985	3.496	1.331	2.269	203	1.484	498
1986	3.522	1.398	2.130	206	1.659	559
1987	3.585	1.426	2.386	220	1.645	603
1988	3.684	1.443	2.438	223	1.696	662
1989	3.647	1.405	2.441	226	1.723	640
1990	3.738	1.475	2.438	223	1.495	657
1991	3.680	1.436	2.353	217	1.500	639
1992	3.653	1.300	2.387	223	1.428	630
1993	3.707	1.373	2.210	218	1.421	639
1984	3.687	1.458	2.396	224	1.412	699
1985	3.667	1.519	2.459	219	1.470	754
1996	3.644	1.586	2.978	220	1.480	779
1997	3.651	1.644	2.985	222	1.563	803
1998	4.057	-	-	231	-	-
1999	3.610	1.679	2.926	242	1.325	991

Source: i) TRNC The Ministry of Agriculture Natural Resources and Energy, The Summary of Agricultural Statistics 1975-1995, July 1996, Table No: 32, p.50

ii) TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1996, 1997, Table No 38, p. 79

iii) TRNC State Planning Organization, Statistical Yearbook 1998 (4.057 involves every type of tractor)

iv) TRNC The Ministry of Agriculture and Forestry, Agricultural Structure and Production 1999,

Table No: 38, p. 79

The inheritance system of North Cyprus cause the agricultural lands to be divided in small parts. This makes the agricultural lands to be under optimum size and so have negative effect on productivity and rationality in production.³⁶

4.1.8. Group Farming

Group farming or any other forms of cooperation among small farmers, is based on two major arguments:

- "1. Economies of scale are present under existing production technologies and marketing arrangements, and
2. A larger scale of operations permits more productive technologies to be employed."³⁷

It is clear that groups of small farmers have more power to bargain for lower input prices and higher prices for their output. Also groups of farmers can achieve economies of scale through common hiring of mechanized plowing services or share other traditional inputs. It is easier for group of small farmers to obtain credits for their purchase of tractors, irrigation pumps and other equipment and machinery and this will enable them to employ more productive technologies. All these new technologies will bring more labor need; the reason of this is the more intensive agriculture and the ability to grow more than one product a year.

In Northern Cyprus the farmers have some personal cooperation among themselves for achieving the economies of scale in the production. This cooperation is mainly happens in the cereal production. Two or more farmers get together, forming cooperation among them and use a bigger land for the production of the types of cereals in a specific period of time. This type of cooperation is beneficial for both the farmers and for the development in the agricultural sector.³⁸

³⁶ For more information please look: TRNC State Planning Organization, 1999 Transition Year Program, (October 1999), p.122

³⁷ Zuvekas Clarence Jr., Economic Development An Introduction (New York: St. Martin's Press, 1979), p.224

³⁸ The information about the group farming in the Northern Cyprus is supplied from the local farmers of the country.

4.1.9. Production Credit

Another important item is production credit in agricultural development. In many countries government focuses on modern industrial activities and neglects the agricultural sector, this situation is clear when the distribution of credit granted by financial institutions is examined.

The private banks typically concentrate on short or medium term commercial operations and the loans for agriculture go primarily to large landowners. The input suppliers, as fertilizer, can sell on credit but they prefer to sell to large or medium sized landowners.

The credit about the agricultural production is given mainly by the Cyprus Turkish Cooperative Central Bank in Northern Cyprus. With the cooperation between the Ministry of Agriculture and Forestry and the bank gives credits to the farmers. These credits are used to buy mainly the seeds for cultivation and also for purchasing the necessary fertilizers in the production of all types of agricultural products.

Unfortunately the limitations of the amount and term of agricultural credits makes them insufficient for improving the productivity in the sector.³⁹

4.1.10. Transportation

Transportation is very important for development, not only in agriculture, but in all sectors. Good transportation organizations within the country and with other countries encourage the development by several ways.

The lack of good transport facilities limits the scope for agricultural development. The high transportation costs also limits a country's exportation of agricultural products. The crops whose production costs are competitive cannot enter world markets due to the high transportation costs. The high transportation costs also makes the inputs of modern agricultural production expensive.

Investments in roads and other transport facilities can lower the costs of producing agricultural products and transporting the foods to domestic markets. With the lowering of transportation cost the agricultural products can enter to international

³⁹ For more information please look: TRNC State Planning Organization, 1999 Transition Year Program, (October 1999), p.122-129

markets and the developing countries can compete with the international producers in external markets.

4.1.11. Marketing and Storage

Another obstacle in agricultural development is problems in marketing and storing of agricultural products. Governments have to pay special attention to this object, since marketing is one of the main incentives in the production of goods.

"If marketing and storage problems are neglected in commodity production programs farmers (rationally) may not respond to market incentives for increasing production; and if output does increase, the pressure on the distribution network may result in higher spoilage rates."⁴⁰

In case of failure in the storage facilities, crop damages will eventually occur in the sector. The in seasonal price fluctuations will result in crop damages. This is because of the large quantity of food supply in the harvest time and shortage of food supply at the other times. Also the lack of storage facilities of crops that can be stored for long periods may cause annual price fluctuations. The uncertainties in price can discourage production of agricultural goods.

The packaging and handling methods are often poor in developing countries. The insufficiency in the packaging and handling can cause damage in foods during shipment and other type of transportation. Also the standard and uniform grades for the agricultural foods are not sufficient and this characteristic situation in such countries can discourage the efforts to improve product quality and cause product waste.

In many developing countries the government plays a dominant role in marketing and storage facilities. In Northern Cyprus, like other former British colonies, the main marketing and storage facilities are also under the control of state owned enterprises. Examples for these institutions are Cypfruvex, TÜK (Toprak Ürünleri Kurumu) etc.

Cypfruvex buys the citrus products from the domestic producers and sells them mainly to Turkey and European Countries. Also TÜK buys the cereal product from producers and then exports the product to other countries. Sometimes in the case of need, TÜK may import some types of cereals.

⁴⁰ Zuvekas Clarence Jr., *Economic Development An Introduction* (New York: St. Martin's Press, 1979), p.231

As everybody knows, marketing is necessary for exportation and importation the products. Also, marketing is an important source of employment and income for a high percentage of both rural and urban families. The marketing and storage firms supply employment facilities in urban areas and also the increase in the quantity of imported agricultural goods will encourage more farmers to work in their gardens.

4.1.12. Price Policy

As the last obstacle in agricultural development the price policy on agricultural product will be discussed. In developing countries governments can influence the prices of farm outputs and inputs in several ways.

The price policy of the government is important, because the lower prices, which are not sufficient for the agricultural production, will affect the quantity of the goods produced in a negative way. In other words low prices will lead into low quantity of agricultural goods.

Both in developing and developed countries consumers have pressure on government for lower food prices, but governments have to consider the producers demands for higher prices. Governments sometimes establish price support schemes for selected foods to have a solution for this problem. These price support schemes are effective in stimulating agricultural production.

Another way of affecting the agricultural production is the influence of government to the agricultural input price. Also the policies of government for agricultural credit and exchange rates have effects on the agricultural production.

The government in the Northern Cyprus determines the prices of some agricultural products, such as cereals and citrus fruit. In specific years, the prices may be more satisfactory but in some years the determined prices may be unsatisfactory for the producers. This is caused by several reasons such as the inflation rate in the country, the foreign exchange rates etc. The government of Northern Cyprus has to take some precautions about this subject, as the agricultural sector is the leading sector of the economic development.

These obstacles have to be overcome by the developing countries in order to be able to start agricultural development and consequently the overall development of the country. The Ministry of Agriculture and Forestry of the Northern Cyprus has some

projects for the development in agricultural sector. The work for the development in the production of the citrus product in the Northern Cyprus is examined below.

4.2 Processes for Improving Citrus Production

As introduced before, improvement in producing citrus fruit is one of the main goals of the governments in Northern Cyprus; this is because of the importance of citrus production in country's economy. Table 3.1 shows the exportation of agricultural products, especially the citrus product that form the main part of the amount of exportation quantity.

The Integrated Pest Management project of the Ministry of Agriculture and Forestry of the Northern Cyprus is oriented to increase the quantity and quality of the citrus production. The project in citrus gardens is carried out by the Office of Agriculture of the Ministry.

This Integrated Pest Management Project has importance for the development of the Northern Cyprus agricultural sector development and so the project has several targets to be reached. These targets are listed as the following five headings;

- a) The first target is the constitution of an integrated pest management project in citrus gardens to manage with diseases, harmful insects of the citrus trees and wild plants and then to select pilot gardens to practice this project.
- b) The second target is to organize technical cooperation and coordination networks with the help of a computerized system among the Ministry, publication organizations, Agricultural Research Institute, farmer unions and farmers.
- c) The third target is to educate the researchers, publishers and producers in the subject of the Integrated Pest Management project.
- d) The fourth target is to make managers, politicians, public opinion, producers and consumers conscious of the benefits of the Integrated Pest Management and the harm of chemical insecticides and pesticides.
- e) And, as the last target to prepare the Integrated Pest Management Technical Instructions and apply the project according to this instruction.

These are the main targets set by the Integrated Pest Management project and these targets have to be attained for the improvement in the development of the citrus

production.

The citrus production is one of the main sources of income especially in Güzelyurt and Lefke and it is also important in Girne and Gazimağusa areas. With the Integrated Pest Management project, the citrus gardens in these four cities, Güzelyurt, Lefke, Girne and Gazimağusa, will be under control. Between the years 1998 and 2000 the selected pilot citrus gardens will be under control of experts and the management with diseases, harmful insects and wild plants will be carried out by these experts too.

As mentioned before the Integrated Pest Management project will be carried out in cooperation with the institutes of the Ministry of Agriculture and Village Affairs of the Turkish Republic and also they will give technical support to Northern Cyprus. At the end of this Integrated Pest Management project the experts expect to achieve the possible minimum consumption of pesticides and so the minimum cost of pest management. This will end up with the minimum usage of chemical pesticides and this means that the human beings can live in better conditions with natural products. The statistics shows that the year 1996 there is 47,770-acre citrus garden in the Northern Cyprus, also there is 144,770 tones of production at the same year and the 80% of the product is exported to foreign countries.⁴¹ This is a very important source of foreign income for the Northern Cyprus.

However, there are several problems facing this important sector. These problems in production may be listed as the salinity of irrigation water, the high costs of inputs because of the high rate of inflation and also the diseases and pests in the citrus gardens. Beside the problems in production during the last years there is also another problem; that is the embargo of the European Countries that the products of Northern Cyprus cannot be exported to the European Community (EC) countries as expressed earlier.

With the help Integrated Pest Management project the government tries to find some solutions to the problems mentioned above.

An important problem of citrus production is the salinity of the irrigation water in the Güzelyurt area. In order to get rid of the problems of the scarce source of

⁴¹ TRNC The Ministry of Agriculture Natural Resources and Energy, The Integrated Pest Management Project in Citrus Gardens 1998-2000, p.3

irrigation water and its salinity, the farmers have to substitute the old-fashioned irrigation systems with modern irrigation system, which increases the present production capacity. At Güzelyurt area there is a project, which includes a 10,000 hectares land to apply the modern irrigation system. Also the project of Gemikonağı Pond, 4-million m³ water capacity, was completed at the year 1998 and the gardens in Güzelyurt area will benefit from this project.

In the citrus gardens there are also the problem of diseases, harmful insects and wild plants. Some of the main problems can be listed, as *Phyllocnistis Citrella*, *Plonococcus Citri*, *Aonidella Auranti*⁴² etc. and viruses. Also there are plenty of wild and harmful plants in the citrus gardens.

In the citrus gardens the farmers use biologic struggle factors and mineral oils to solve the problem of harmful pest and insects. Unfortunately the farmers sometime use the unnecessary chemicals even in high dosages.

This is because of the unconsciousness of farmers and the wrong orientation given by the suppliers of chemicals.

The unconscious use of chemical pesticides brings with it the pollution of the environment and also the chemicals kill the insects, which are beneficial and therefore the balance of the environment is destroyed. The chemical remainings on products, soil and drinking water also affect the human beings health. The farmers are becoming aware of the harms of chemicals and they begin to use alternative, especially biological ways of struggling with the problems of citrus gardens. The Integrated Pest Management project is an environmental friendly method.

It is expected that the project will bring high quality products with the minimum use of chemicals. The farmers and the other institutions involved in this project will become conscious about the harm of chemicals and the benefit of the project. With this education, the use of chemicals will be minimized and the cost of the production will also decrease as the quality and eventually the quantity of the product is increased.

⁴² TRNC The Ministry of Agriculture Natural Resources and Energy, *Turunçgil Zararlı ve Hastalıkları*, (1985), p.1-8

The Integrated Pest Management project has works to do in order to be able to achieve the expected results. At the end of the year 2000 the works and the results will be analyzed and evaluated by the experts.

In this section, the works that must be done and the expected results of the project will be explained. First of all, the selection of the pilot citrus gardens is essential in Güzelyurt, Lefke, Girne and Gazimağusa. These gardens will be under control by the experts and the Integrated Pest Management project will be applied against the diseases, harmful insects and

wild plants. These applications will become widespread step by step to other citrus gardens in the country.

Secondly, the Northern Cyprus government will determine 15 publishers and 60 citrus producing farmers and they will be informed and educated about the basic concepts and principles of project. This education will be continued both at Turkey and Northern Cyprus. At the end of the training period, the producers will be able to control their own garden. Another thing is to supply technical cooperation and coordination network between the Ministry of Agriculture and Forestry, Agricultural Research Institute, Agricultural County Office, Citrus Producer Association and producers. This network will be supported by the computer information system in Agriculture Offices.

These three workshops, which are going to be organized at special times, are another thing to do in this project. With these workshops in Northern Cyprus the plan of the project will be established and then the publishers and the farmers will get the essential education about the Integrated Pest Management project. The inventory of the diseases, harmful insects and wild plants will be established and according to the gathered information the direction and target of the project is going to be determined. Also information that gathered are going to be published and so the farmers and consumers will become aware of the harmful things in their citrus gardens.

At the end, all of the information is going to be used to establish a base data system for the Integrated Pest Management project. Also, with the information gathered a brochure would be prepared for the publisher and farmers to be used as a guidebook at the project.

The project is prepared according to a working plan that determines the time intervals of works to be done. The working plan of the project is given in detail and

shows each work separately. The plan will be given below in order to show the works that will be done according to the Integrated Pest Management project.

As can be seen in the working plan the Integrated Pest Management project will be completed at the end of year 2000. According to the project the experts will gather the information from the selected pilot citrus gardens and from other citrus gardens, which is going to be used as the controller. The experts report the results of the project for the period 1.1.1998-31.12.1998. The gathered information from the pilot citrus garden is displayed in this report and gathering of new information by experts is carrying on according to the plan of the project.

The expected data to be collected at the end of the project is listed by the experts and we are going to see these data in this part of the thesis. The expected data from pilot and other controller citrus gardens are,

- a) The species, kind and the age of the citrus trees.
- b) The species of the wild harmful plant and the degree of their harm.
- c) The determination diseases, harmful insects (pest) and wild plant, which are the subject of the management.
- d) The way of the management, if used the name of the chemicals, the time that the chemical used and the dosage. Also the kind of the machine used in the application of the chemicals.
- e) The species, density and the effectiveness of the parasite and predator.
- f) The cost of the management per tree.
- g) The accomplishment of the management.
- h) The name, the time of application, the amount of the fertilizers that are used in the citrus gardens.
- i) The yield per citrus tree.

These data will be the base of the Integrated Pest Management project. The gathered data from pilot citrus gardens will be compared by other citrus gardens in order to be able to see the difference between the applications of the new techniques of the Integrated Pest Management project. Also the experts are going to compare the information about the time before the Integrated Pest Management project with the time

5. CONCLUSION

Economic development is the main goal of the poor countries in the world. The growth in the gross national product of their economy is one of the essential factors in development process, but it is not sufficient. For sustainable economic development, structural changes in the economy and the output distribution have to be accomplished. Technologically developed and a well-organized agricultural sector is essential for the achievement of a higher economic level.

Developing countries apply several strategies in order to reach economic development. The attractiveness of economic well being and need of better life, acts as an incentive in this process.

However, with this study it is determined that there exist limitations and obstacles in the way of economic development for a poor country. Especially, the high growth rates of population, the lack of essential factors of production such as natural resources, and the lack of skilled labor etc. Also for some developing countries the culture and the religious beliefs of people may act as a barrier to development. Besides all these, the existing infrastructure, such as transportation and communication services, is usually insufficient in most of the developing countries.

Thus, under such circumstances, developing countries have to create and apply certain strategies for development. In this thesis agricultural development is considered as the main strategy of poorer countries for the achievement of development. The development in agricultural sector is necessary in order to;

- a) Obtain capital accumulation to increase production with advanced technology,
- b) Provide necessary raw materials for industries and food for the people and
- c) Provide necessary amount of savings for higher investment.

As the arguments on the case in the literature has shown that agricultural development plays multi roles in the processes of growth and development. It is summarized above that, the main roles of the agricultural sector are providing food and raw materials, serving as a market for products of industrial sector, supplying savings and providing productive employment to other sectors of the economy.⁴³ This is vitally

⁴³ For more detail please look: Zuvekas Clarence Jr., *Economic Development An Introduction*, first ed. St. Martin's Press Inc., New York, 1979), p.204-207

important for such countries, because development itself requires a cheap but steady type of investment that gradually helps improving the quality and quantity of production. By using the development in the agricultural sector, some of the Asian countries have achieved higher income levels for their people.⁴⁴

Also in this study it is shown that agricultural development itself is not sufficient, it must be supported by other sectors developments as well. So because of this reason, after the achievement of development in the agricultural sector the planners of the economy have to adopt other strategies, in order to increase their GNP. The development in the industrial sector is essential for the survival of the country in the long run.

In general, it is obvious that the agricultural sector plays a very significant role in the economic development, though same situation is valid for the achievement of Northern Cyprus economy.

The statistical data shows that the 60 per cent of the population live in rural areas of Northern Cyprus; and also the data indicate another important factor such that 18 per cent of the working population is engaged in agricultural sector.⁴⁵ Besides these, it is obvious from the statistical data that the 8 per cent of GNP is formed from the incomes of agricultural sector, the shares of other sectors are given in Table 2.1 in chapter 2 of this study.

As mentioned above, the citrus fruit production is the main and most important agricultural product in the country's economy because it is the main exportable product of the Northern Cyprus, as can be seen in Tables 3.3, 3.5 and 3.6.

The growth trend of the citrus fruit product for the period between 1975-1999 is analyzed in chapter 3. In this investigation of the study the growth trends shows that the citrus fruit lacks a smooth increasing trend. Moreover, in some specific years, the trends show a negative growth rate. However, the citrus production continues to be the main exportable product of Northern Cyprus.

⁴⁴ For more detail please look Richard G. Lipsey, Peter O. Steiner, Douglas D. Purvis, Economics. eight ed. (United States of America: Harper & Row, Publisher Inc., 1987), p. 859-862

⁴⁵ For more information please look to the TRNC The Ministry of Agriculture Natural Resources and Energy, The Summary of Agricultural Statistics 1975-1995, (July 1996) p.3, Table No: 2

Unfortunately, it is determined that the citrus fruit have problems both in production and exportation as farmers and therefore the country face problems in the production and marketing of the products. The main production problems faced by the farmers, originate from the quality and quantity of the irrigation water. Due to the scarcity and the salinity of the irrigation water, the production is carried out under difficult conditions. Also the problem of diseases of trees, harmful insects and wild plants are other factors that limit the production. These problems in the production affect the quantity and specially the quality of the product in a negative manner. The governments of North Cyprus are taking some precautions for this problem by preparing "Water Master Plan". The North Cyprus authorities have some projects for the solution of water scarcity by the help of the Turkish governments. The project of transportation water by balloons from Turkey to North Cyprus is one of the projects for the solution of water necessity, but unfortunately this project is failed. Because of the failure of the expected results, the project is canceled and new projects of water transportation are being prepared as, transporting water by tankers and pipes.⁴⁶

In addition to the existing problems in production, it is determined that there also exist obstacles in the marketing network of the product. The main citrus fruit trading company of Northern Cyprus is Cypfruvex Ltd. and since its establishment, the company exports the citrus fruit to the world market. However the high inflation rate, high operational costs, inefficient organization and the resulting debts of the company leads to problems in trade of the product.

Also, the EC Court of Justice decision about the exports of Northern Cyprus makes the export of citrus fruit to the European Countries difficult and expensive. Such judgements, which are based upon political reasons, have been limiting the trade of Northern Cyprus with outer world, considerably.

As a result, the citrus fruit production faces many problems both in the production stage at home and in the marketing and trading stage abroad.

⁴⁶ For more information please look; Hürriyet Kıbrıs, 23 December, 1999

6.RECOMMENDATION

It is understood that, in order to achieve agricultural development, the planners of the economy have to overcome some limitations related with the sector. Overcoming these obstacles requires detailed research and planning which will lead to the solutions for the problems in the development of agricultural sector.

In recent years, special attention has been given to citrus fruit production with an effort to improve the sector. The "yellow gold" now seems to be under the control of the experts.

In the study it is found out that there are projects for improving the agricultural productivity and quality in order to be able to reach the expected development level. The integrated pest management project is a serious project resulting from such efforts about the citrus production of the country. This project is carried out by the Ministry of Agriculture and Forestry with the help of the experts from the Turkish Republic.

The problems of diseases, harmful insects and wild plants of the citrus gardens are planned to be eliminated by the integrated pest management project and also under the project educational training will be provided to the farmers.

The main target of the project is to manage the problems that are summarized above. In creating the outline of the management process, the pilot citrus gardens are the main source of information for the experts of the project. According to the results that are gained from the pilot gardens, the farmers and the researchers in the country will be informed and educated in order to manage the diseases, harmful insects and wild plants in the gardens.

The project will be completed by the end of the year 2000. The project is in application since January 1998. The results of the project will have a very significant effect in the planning of the development strategy in the citrus production. Also the results will be used as an overall plan for the agricultural development.

The economy of the Northern Cyprus is in need of such projects in order to achieve some beneficial results for development. This project also leads to the realization of the importance of the agricultural sector by the planners of the economy, in the development of Northern Cyprus.

The findings of the study indicates that there are many problems in the agricultural sector of North Cyprus and also it shows that the authorities have to take some precautions for both agricultural and economic development of the country.

In the third Five Year Development Plan (1993-1997) it is obvious that, for development agricultural and other sectors some strategies have to be taken by the governments. In this plan the authorities state some projects and strategies.⁴⁷ There are many policy implications for the improvement directly in agricultural and indirectly for economic development of the country, since agricultural sector is determined as one of the important sectors for North Cyprus economy.

In 1999 Transition Year Program, the measurements for obtaining economic development by reaching agricultural improvements in the country are explained. Some of these measurements are listed below in order to show the required works for development.⁴⁸

1. The water capacity of North Cyprus has to be determined by hydrologic and hydro geologic methods.
2. Efficient use of existing water resources have to be ensured by modern irrigation system.
3. The works for using drain water in the irrigation of agricultural land have to be survived.
4. Producing plants that are suitable for using salinated water.
5. Using new technologies for managing with pests and illnesses and also producing plants that are suitable for drought conditions.
6. Using water resources under control where there is a danger of being water salination.
7. Have strategies to produce plants that are productive and exportable.

⁴⁷ For more information please look: TRNC The Prime Ministry State Planning Organization Undersecretary, Five Year Development Plan (1993-1997) Strategy, Aims, Macro Targets and Equilibriums, (October 1992) p.16-32

⁴⁸ For more information please look: TRNC State Planning Organization, 1999 Transition Year Program, (October 1998) p.127-132

8. Producing new citrus varieties beside the existing ones which have demands in the world market.
9. Applying modern methods of storage, transportation and marketing.⁴⁹

In preparing this study, it was faced with some difficulties as collecting data. The data are limited since Turkish Republic of Northern Cyprus is a young country, so finding of some data for comparing the developments in some sectors becomes difficult. Also the existence of publications about the agricultural development for North Cyprus is not sufficient. This prevents to expand the study and so form the limitations of the thesis.

⁴⁹ Gürtan Hayati, Productivity and its Importance, Reorganizing TRNC Economy Seminary, (iktisadi Araştırmalar Vakfı, İstanbul 1993), p.85-95

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