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## Opportunities of Income Diversification and Alleviating Poverty in the Rural Area of Turkey

Türkiye’de kırsal alanda yoksulluğu azaltma ve gelir çeşitliliği yaratma olanakları

Alınış (Received):17.09.2012

Kabul tarihi (Accepted):24.09.2012

### Key Words:

Rural poverty, rural poverty alleviation,  
rural income, rural income diversification

### Anahtar Sözcükler:

Kırsal yoksulluk, kırsal yoksulluğu azaltma,  
kırsal gelir, kırsal gelir çeşitliliği

### ABSTRACT

**P**overty is a multi-dimensional and serious problem in rural area of Turkey. This paper investigates income diversification opportunities in the Aegean Region of rural Turkey, its contribution to poverty alleviation. The assessments in the study are based on data gathered through a survey carried out in the Aegean Region of Turkey. A total of 386 farmers were interviewed in 48 villages situated in 12 districts. Before analyzing the data obtained in the field work, the farms were grouped according to income. Grouping was made in line with the definitions of hunger and poverty used by TurkStat, the Statistics Institute of Turkey, in its annual poverty report. Thus, four income groups were defined for the farms interviewed in the study: \$0-192 (1.group), \$193-385 (2.group), \$386-577 (3.group), and over \$577 (4. group). The researched villages had present and potential physical, human, natural, ground and underground, agricultural and non-agricultural resources, but the findings also showed that; those resources are being used inefficiently.

### ÖZET

**Y**oksulluk Türkiye’nin kırsal bölgesinde çok boyutlu ve ciddi sorunlarından birisidir. Bu makalede Türkiye’nin Ege Bölgesi kırsalına yönelik gelir çeşitliliği oluşturma olanakları ve bunun yoksulluğu azaltmaya olan katkısı incelenmektedir. Bu çalışmadaki değerlendirmeler Ege Bölgesinde gerçekleştirilen bir anket çalışmasında elde edilen verilere dayanmaktadır. Anket çalışmasında 12 ilçede yer alan 48 köydeki 386 çiftçi ile görüşülmüştür. Alan çalışması sırasında elde edilen verilerin analizi yapılmadan önce görüşülen işletmeler gelir büyüklüklerine göre gruplandırılmıştır. Bu kapsamda, TÜİK’in her yıl yaptığı yoksulluk çalışmalarında kullandığı açık ve yoksulluk sınırları dikkate alınarak gelir grupları belirlenmiştir. Buna göre, bu araştırma kapsamında görüşülen işletmeler için 0-192 \$ (1.grup), 193-385 \$ (2.grup), 386-577 \$ (3.grup) ve 577 \$’dan büyük (4. grup) olmak üzere 4 gelir grubu belirlenmiştir. İncelenen köylerde mevcut ve potansiyel fiziksel, beşeri, doğal, yer altı ve yer üstü gibi tarım ve tarım dışı kaynaklar var olmasına rağmen, bu kaynaklardan etkin olarak yararlanılamadığı saptanmıştır.

### INTRODUCTION

Both in the world and in Turkey, poverty and alleviation of poverty have recently been among the most important current issues of the development process. There is no commonly agreed definition of poverty. This is natural since both poverty and wealth are basically subjective concepts. The concept of poverty starts out from basic human needs. Hence,

basic indicators include nutrition, clothing, housing, education, health, etc. In general, definitions of poverty refer to the following: economic insufficiency, physical incapability, low level of participation, environmental pollution, imbalanced income and property distribution, political instability, inefficiency of public services and lack of social security (Gulcubuk and Aluftekin, 2006).

Poverty can be defined as a pronounced deprivation of well-being related to lack of material income or consumption, low levels of education and health, vulnerability and exposure to risk, no opportunity to be heard and powerlessness (World Bank, 2001). Poverty alleviation can therefore be defined as a lessening of the deprivation of well-being (Minot et al., 2006). In low-income countries, the vast majority of poor reside in rural areas, where the incidence and intensity of poverty is usually higher than in the towns (Bartova, 2003). Poverty involves much more than the restrictions imposed by a lack of income. It includes other elements of deprivation such as a lack of access to basic resources like food, housing, clothing, education, health care, access to drinking water and sanitation facilities, social and cultural life (World Bank, 2004).

Some analysts believe that poverty--wherever it is found is more a function of history and economic structure than of individual or group characteristics. Studies of rural economies tend to support this view. The rural economy is, in general, characterized by a number of features. They include dependence on natural resources, a narrow industrial base in a given locale, and emphasis on low-skill labor (Huang and Howley, 1991). Rural poverty results from lack of assets, limited economic opportunities and poor education and capabilities, as well as disadvantages rooted in social and political inequalities.

Globally, extreme poverty continues to be a rural phenomenon despite increasing urbanization. Of the world's 1.2 billion extremely poor people, 75 percent live in rural areas and for the most part they depend on agriculture, forestry, fisheries and related activities for survival (Anríquez and Stamoulis, 2007). The livelihoods of poor rural households are diverse across regions and countries, and within countries. Livelihoods are derived, to varying degrees, from smallholder farming – including livestock production and artisanal fisheries – agricultural wage labour, wage or self-employment in the rural non-farm economy and migration. While some households rely primarily on one type of activity, most seek to diversify their livelihood base as a way to reduce risk. Agriculture plays a vital role in most countries – over 80 per cent of rural households farm to some extent, and typically it is the poorest households that rely most on farming and agricultural labour. However, non-farm income sources are increasingly important

across regions, and income gains at the household level are generally associated with a shift towards more non-agricultural wages and self-employment income (IFAD, 2011a).

This state also applies to Turkey to a certain extent. Findings of major research and statistics on rural poverty in Turkey show that there are more rural people (approximately 67 percent of the overall poor population as to 2009 poverty statistics of TurkStat represents) living in poverty than urban people. For instance, in accordance with a rural poverty research on Turkey conducted by IFAD (The International Fund for Agricultural Development) (IFAD, 2011a), rural poverty has declined in Turkey over the past ten years but extreme disparities of income, and poverty levels still persist across the country (Atac, 2011).

Since 1980, Turkey has lost the characteristics of an agricultural country. The agricultural sector has gradually diminished its' importance in terms of Gross Domestic Product (GDP) and employment possibilities in Turkey and younger people have migrated from rural areas and preferred to live in urban areas. Unemployment, seasonal work, and low wages have caused poverty to shift from rural to urban areas and inadequate industrialization caused poverty to intensify in urban areas. However, poverty is still very severe in rural areas (Saatci and Akpınar, 2007).

It is also significant that the agricultural sector in Turkey is largely comprised of small peasant holdings where unpaid family labor prevails in a way to limit the commodification of labor. This does not only describe a situation where urban unemployment and poverty could be controlled by keeping people employed in agriculture; continuing significance of peasantry also implies that rural urban migration does not necessarily lead to a total rupture of the immigrant population from the countryside. Hence, for a long time, new immigrants in urban centers could continue to rely on in kind, if not pecuniary, income supplements received from their relatives who had remained in the village (Buğra and Keyder, 2005).

Poverty Reduction Strategies (PRS) were introduced by the Bretton Woods institutions in 1999 as a new form of conditionality for accessing debt relief and concessional loans. Since then, PRSs have evolved into wider policy tools, adopted and transformed by the governments of developing countries worldwide (Cromwell et al., 2005). Despite

massive progress in reducing poverty in some parts of the world over the past couple of decades – notably in East Asia – there are still about 1.4 billion people living on less than US\$1.25 a day, and close to 1 billion people suffering from hunger. At least 70 per cent of the world's very poor people are rural, and a large proportion of the poor and hungry are children and young people. Neither of these facts is likely to change in the immediate future, despite widespread urbanization and demographic changes in all regions (IFAD, 2011a).

Some of the most important means for generating or raising income among the rural poor are: developing high value crop; providing greater access to land; projects based on available natural resources; promotion of micro-farms, and both private and public investment in infrastructure. For generally, these options can be grouped into three categories: those that are based on growth in the agriculture sector, those targeting the sustainable use and conservation of natural resources and alternatives for the rural non-farm economy.

There is more agreement now about what should be done to reduce poverty than ever before. Analysts now agree that, (a) a market-oriented, growth-inducing approach that expand opportunities for production and remunerative employment among the poor; (b) widespread access to social services such as health, education and fertility control; and, (c) targeted transfer schemes such as food stamps, subsidised food distribution and nutrition programmes, are key in any comprehensive strategy to reduce poverty (World Bank, 1990; UNDP, 1997; Bardhan, 1995; Fishlow, 1995; Killick, 1995).

Most approaches to poverty alleviation focus on income and subsidy measures; however, there is a growing realization that these measures alone are not sufficient. The growing amount of literature on the important role that “social capital” and institutions play in the development process indicates that there is a social-institutional dimension as well. Analysing some of the main weaknesses of past poverty alleviation strategies, it highlights the potential role and function that rural institutions and grassroots organizations can play in poverty alleviation efforts (Baas and Rouse, 1997).

There is little disagreement that rural infrastructure is necessary to reduce poverty. But this review of the

Sri Lankan experience showed that designing policies based on the accepted wisdom to maximise those benefits, is a difficult task. The impact and sustainability of such programmes are determined not only by factors such as quality, reliability and quantity, but also by variables such as who decides where they are sited, who actually benefits from them, and the efficiency of institutional structures through which not only they, but other interventions too, are implemented and sustained (Gunatilaka, 1999).

Tackling the root causes of poverty will require major land redistribution and rural investments which raise employment opportunities and improve agricultural productivity. Policies that promote rural non-farm activities may also help to reduce rural poverty, but this should not be done at the expense of policies promoting agricultural development. Farm and non-farm activities should reinforce each other and with appropriate policies governments can encourage the development of these linkages. Only by an assault on various fronts will it be possible to alleviate rural poverty significantly (Kay, 2006).

To reduce poverty, the Government of the Republic of Turkey promotes diversification in the rural economy with the aim of creating employment and counterbalancing the continuing trend of westward and rural-urban migration. Through its Long-Term Strategy 2001-2023, in line with the European Union's Instrument for Pre-Accession Assistance, the government pursues: high and sustained growth, development of human resources and employment in high-technology industries, advances in infrastructure, and regional development (IFAD, 2011b).

In this paper we analyze the opportunities of income diversification and alleviating poverty in the rural area of Turkey. We explore four questions : (a) What are the socio-economics characteristics of farm households? (b) What are the current income level and income sources of surveyed farm households in the region? (c) What are the problems encountered by the farm households due to their poverty (d) How can the income sources of households be diversified alleviating poverty in the region?

The origin of the olive is not known but is speculated to be Syria or possibly sub-Saharan Africa. For more than 6000 years, the cultivated olive has developed alongside Mediterranean civilizations and

is now commercially produced on more than 23 million acres (9.4 million ha) in the Mediterranean basin (Vossen, 2007).

In Turkey organic farming grew rapidly parallel to consumers' choice and demand growth in importer countries. In 1986 only 8 products were being produced organically, but in 2006 production of organic agricultural products gained new dimension and the number of products rose to 210 farmers to 8.854 and total production area to 162.131 ha (EPC, 2007). In last decade olive and olive oil are the products that organic production grew rapidly. Especially, parallel to rise in awareness of healthy diet in developed countries, this product gained more importance. Most of organic olive cultivation is carried out in 80.016 ha area in Tunisia, Syria follows this country with 5000 ha and Turkey with 3.776 ha (Santucci, 2007; TURKSTAT, 2007).

During the period 2003-2006, the number of organic olive producer raised from 469 to 1183, production area from 1534 to 5716 ha and organic olive production from 6456 to 13116 tones in Turkey (MARA, 2007).

Few studies that were carried out to date have analysed costs and returns with regard to organic olive-growing farms. Tzouvelekas et al. (2001) found that family farm income (computed as gross revenues, plus land rent, plus family labor, plus interest on variable costs minus total cost) for organic olive growers was 4.6% lower than that for conventional olive-growers. They also state that lower profit margins and restrictions on the types of inputs permitted may have forced organic producers to be more cautious regarding the use of their inputs. Cisilino and Madau (2007) carried out a "distance analysis", in order to identify some of the main differences between organic and conventional farms. Their study aims to highlight some of the main characteristics of those two groups of farms to better address differences (if any) in production technology, costs and revenues. Cisilino and Madau found that looking at the average values on Invested Areas, conventional olive growing farms' Gross Production was significantly higher than the organic ones, as the Net Margin, as the Net Product and Costs. They state that the two groups are quite similar and that, even if organic farms still produce a lower "economic value",

they better compensate productive factors, especially in terms of Labour Force.

With this paper, economic analysis of conventional and organic olive production is examined in case of Turkey.

Majority (29.5%) of Turkish population live predominantly and significantly in rural areas, while only 70.5% predominantly in urban areas. According to Turkish Statistical Institute (TurkStat), the ratio of individuals who live in rural areas and below the complete poverty line which was 34.62% in 2008 increased to 38.69% in 2009; on the other hand, the ratio of individuals who live in urban areas and below the complete poverty line which was 9.38% in 2008 decreased to 8.86% in 2009 (Table 1). Agriculture has the highest poverty rate among all sectors. While the

Table 1. The poverty rates according to poverty line methods in Turkey

Methods	Percentage of poor individuals (%)							
	2002	2003	2004	2005	2006	2007*	2008	2009
<b>TUKEY</b>								
Food poverty	1.35	1.29	1.29	0.87>	0.74	0.48	0.54	0.48
Complete poverty (food+nonfood)	26.96	28.12	25.60	20.50	17.81	17.79	17.11	18.08
Below 1 \$ per capita per day <sup>(1)</sup>	0.20	0.01	0.02	0.01	-	-	-	-
Below 2,15 \$ per capita per day <sup>(1)</sup>	3.04	2.39	2.49	1.55	1.41	0.52	0.47	0.22
Below 4,3 \$ per capita per day <sup>(1)</sup>	30.30	23.75	20.89	16.36	13.33	8.41	6.83	4.35
Relative poverty based on expenditure <sup>(2)</sup>	14.74	15.51	14.18	16.16	14.50	14.70	15.06	15.12
<b>URBAN</b>								
Food poverty	0.92	0.74	0.62	0.64	0.04	0.07	0.25	0.06
Complete poverty (food+nonfood)	21.95	22.30	16.57	12.83	9.31	10.36	9.38	8.86
Below 1 \$ per capita per day <sup>(1)</sup>	0.03	0.01	0.01	-	-	-	-	-
Below 2,15 \$ per capita per day <sup>(1)</sup>	2.37	1.54	1.23	0.97	0.24	0.09	0.19	0.04
Below 4,3 \$ per capita per day <sup>(1)</sup>	24.62	18.31	13.51	10.05	6.13	4.40	3.07	0.96
Relative poverty based on expenditure <sup>(2)</sup>	11.33	11.26	8.34	9.89	6.97	8.38	8.01	6.59
<b>RURAL</b>								
Food poverty	2.01	2.15	2.36	1.24	1.91	1.41	1.18	1.42
Complete poverty (food+nonfood)	34.48	37.13	39.97	32.95	31.98	34.80	34.62	38.69
Below 1 \$ per capita per day <sup>(1)</sup>	0.46	0.01	0.02	0.04	-	-	-	-
Below 2,15 \$ per capita per day <sup>(1)</sup>	4.06	3.71	4.51	2.49	3.36	1.49	1.11	0.63
Below 4,3 \$ per capita per day <sup>(1)</sup>	38.82	32.18	32.62	26.59	25.35	17.59	15.33	11.92
Relative poverty based on expenditure <sup>(2)</sup>	19.86	22.08	23.48	26.35	27.06	29.16	31.00	34.20

(1) Computations are done according to purchasing power parity (PPP). Here, 0.618 TL, 0.732 TL, 0.780 TL, 0.830 TL, 0.921 TL, 0.926 TL, 0.983 TL and 0.917 TL which are the equivalents of 1 \$ purchasing power parity (PPP), are used for 2002, 2003, 2004, 2005, 2006, 2007, 2008 and 2009 respectively. (2) It's based on the 50% of equalised median consumption expenditure.

(\*) Figures were revised according to new population projections. Source: TurkStat, 2011.

poverty rate among the people who work in agricultural sector is 33.01% in 2009, it was realized as 37.97% in 2008 (TurkStat, 2011). For neighboring countries, rural population below the poverty line were 35.9% for Pakistan, 29.6% for Albania, 22.3% for Macedonia, 27.4% for Romania, 52.7% for Georgia (IFAD, 2008). Poverty in Turkey is most widespread in the rural areas and in larger households with more young member unemployed or with low education. Poverty in Rural Turkey today is the result of three factors:

- i. Drastic decrease in real price of agricultural products, drastic increase in cost of input,
- ii. Fall in real income,
- iii. Implementation of agricultural policy, privatization and other structural reforms.

## MATERIALS and METHODS

The basic material of this study was formed from primary data obtained from a survey of agricultural production workers (Gumus et al., 2008). In addition, the study drew on other relevant work (articles, research, statistics, etc.).

The survey work carried out by the researchers for this study was carried out in the Aegean Region which has a crucial significance in Turkey in terms of its geographical location, natural resources and ecology as well as agricultural and nonagricultural production. Further, the three provinces with the highest, average and the lowest socio-economic development index (Izmir, Manisa and Kutahya) were chosen to represent the Aegean region as a whole. In selecting the districts for study, their development index was also taken into account. Four districts were chosen from each province – the three with the lowest development index, and the one with a high development index. These districts are Kinik, Beydag, Kiraz and Torbali in Izmir; Koprubasi, Gordes, Selendi and Turgutlu in Manisa; Altintas, Cavdarhisar, Aslanapa and Tavsanlı in Kutahya. In selecting the villages in each district, the judgment sampling method was used. Villages in each district were placed into one of three groups according to their level of development: advanced, average, or less developed. Then two villages were chosen from the less developed group, and one each from the average and advanced groups. In this way a total of 386 farmers were interviewed in 48 villages situated in 12 districts.

Before analyzing the data obtained in the field work, the farms were grouped according to income. Grouping was made in line with the definitions of hunger and poverty used by TurkStat, the Statistics Institute of Turkey, in its annual poverty report. In its study on poverty in 2006, TurkStat calculated monthly food poverty line of a house of 4 households as; \$158 and the monthly complete poverty line as; \$422. Thus, four income groups were defined for the farms interviewed in the study: \$0-192, \$193-385, \$386-577, and over \$577. Among these income groups, the farms with an income of \$0-192 have been below the food poverty line whereas the farms with an income of \$193-385 have been at the complete poverty line. The \$386-577 income group and the over-\$577 income group were taken into account as the average and highest income groups respectively (Table 2).

In the analysis of the data in the survey, some nonparametric statistical methods such as Kruskal-Wallis has been utilized. Besides, Likert Scale and percentage method have been used to evaluate the poverty problems encountered by surveyed farms. In Likert Scale, the responses are lineal, for their order of importance: 1 to 7.

Table 2. Number of Surveyed Farms

Income Groups	Income Size (\$/Monthly)	Number of Surveyed Farms
1 –Poorest	0-192	150
2	193-385	102
3	386-577	65
4-Richest	577 +	69
Total		386

## RESULTS

### Socio-Economic Characteristics of the Sample Farm Households

The average age of the interviewed farmers is; 45 and their average year of education is; 5.52, the average household has 4.28 people. 43% are the members of agricultural cooperatives. When the construction type of the houses, where households live, is examined, largely stone and wooden house types are encountered. As a matter of this fact, it has been determined that generally the houses of 24.48% of the farms are stone and 23.01% are wooden. It is observed that stone-constructed buildings are particularly large in number among the farms that are at the food poverty line and complete poverty line in

the 1<sup>st</sup> and 2<sup>nd</sup> groups. On the other hand, it has been determined that generally the houses, where 17.11% of the farm households live, are made of bricks, the houses of 12.98% are made of reinforced concrete and the houses of 11.50% are made of mud bricks. The term of use of the houses, where households reside, is 32 years and the toilette is located inside the house only in 41.45% of the houses. Almost 85.23 percent have water, 99% have electricity. Somewhat more than half the households in the sample (65.50%) owned a washing machine, while 94%'s owned a television and 87.30% refrigerator. The percentage owning a tractor was 46.90%. The average farm size was 36.34 decar, of which 16 percent was irrigated. 79.10% of the farms have own farm land while 77% have irrigated farm, which creates a serious disadvantage for the farms which lack any opportunities for irrigation. When the production pattern of the surveyed farms is examined, the farms have 33 products in their lands. The vast grown crop at farms is wheat and it is followed by barley, tobacco, chickpea, olive, cotton and others, respectively. Among the total production value at the surveyed farms, crop value have a share of 82.16% whereas animal products value have a share of 17.84%.

### Current Income Level and Income Sources of Surveyed Households in the Region

When the complete poverty line determined byTurkStat are taken into consideration, the daily amount of income per capita is \$0.90 in the 1st income group, \$2.13 in the 2nd income group, \$3.65 in the 3rd income group and \$5.69 in the 4th income group at the farms surveyed. When the daily expenditures household are calculated, the people in the 1st income group are unable to meet their expenditures. Interviewed farm managers were asked how much income they wanted to have in order to lead a life under very good conditions, they stated that a monthly average income of \$24.44 could be sufficient for them (Table 3). When these income levels expected by the farm managers are compared with their current incomes, a difference amounting to \$21.79 occurs. The farm managers concerned stressed that they could be nourished better, make use of health and education services better and meet their needs like clothing more easily in the event that they reached the income level they expected.

Table 3. Income and Expenditure Levels of the Surveyed Farms

Income Groups	Number of Households	Daily income per capita	Daily Expenditure per capita	Income-Expenditure Difference	Expected Level of Income
1-Poreest	4.04	0.90	1.56	-0.65	17.41
2	4.25	2.13	2.01	0.12	20.75
3	4.31	3.65	2.32	1.33	24.72
4-Richest	4.80	5.69	3.38	2.30	45.10
Average	4.28	2.65	2.17	0.48	24.44

Whether the monthly average incomes and expenditures of the surveyed farms varied or were not according to income groups has been observed by Kruskal-Wallis Test, it has been observed that; there is a significant difference between their incomes and expenditures (Table 4).

Table 4. Kruskal-Wallis Test for Whether Monthly Average Income and Expenditure at the Surveyed Farms Varied or not.

	Chi-Square	Df	Asymp. Sig.
Monthly Average Income	213.97	3	.000*
Monthly Average Expenditure	58.95	3	.000*
	Chi-Square	Df	Asymp. Sig.
Monthly Average Income	278.16	3	.000*
Monthly Average Expenditure	76.63	3	.000*

a Kruskal Wallis Test

b Grouping Variable: income12

\*Significant by kruskal-wallis test for  $p < 0,05$

The survey has asked households to rank their three most important sources of income and list any others. The responses have been determined as; crop production (40.7%), and animal production (22.1%) as well as agricultural and non agricultural wage incomes (17.10%) (Table 5). Cash transfer incomes (6.6%) are among the other important sources of income.

Table 5. Income Sources of Household (%)

Income Groups	Income of Crop Production	Income of Animal Production	Income of Support And Subsidy	Agricultural Wage Income	Non-Agricultural Income
1-Poreest	36.0	18.3	7.2	19.2	1.9
2	45.5	23.7	5.9	5.5	3.2
3	40.3	18.5	6.1	1.0	4.4
4-Richest	44.6	31.2	5.6	0.8	5.8
Average	40.7	22.1	6.4	9.2	3.4

Table 5. (continue)

Income Groups	Non-Agricultural Wage Income	Real Estate Income	Rent -Interest Income	Cash Transfer Income	Other*
1-Poreest	9.4	-	0.4	3.5	4.2
2	6.0	0.1	-	8.7	1.4
3	10.0	0.1	-	11.7	8.0
4-Richest	5.3	0.1	0.5	5.4	0.8
Average	7.9	0.1	0.2	6.6	3.5

\* Other Incomes: Social aids, relative aids and etc.

When the distribution of total expenditures of the interviewed households is considered, it is observed that food expenditures (42.29%) rank the first. Among the total expenditures, the second important share belongs to health expenditures with 11.36%. The share of health expenditures among the total expenditures increases as the income level of farm shrinks since the households do not have any social security (Gumus et al., 2008). The shares of expenditures except from food and health expenditures among the total expenditures are as follows respectively: transportation (9.61%), clothing (9.34%), communication (6.72%), education (5.55%), heating (3.69%) and accommodation (1.07%). On the other hand, the expenditures for holiday and social activities have scarcely no shares among total expenditures. This is regarded as normal for the residents of rural areas in Turkey (Table 6).

Table 6. Shares of Expenditures of Households at the Surveyed Farms (%)

Expenditures	%
Food	42.29
Health	11.36
Transportation	9.61
Clothing	9.34
Communication	6.72
Education	5.55
Heating	3.69
Accommodation	1.07
Holiday	0.11
Social Activity	0.08
Other*	10.18

\*Other: Electricity, Insurance, Credit and etc.

### Problems Encountered by the Surveyed Households Due to their Poverty

The farm managers were asked "In your opinion, what can be the problems caused by living in the low-income group or at poverty line in rural areas?, it was intended to obtain the opinions of households. Likert Scale and Percentage Method have been used to evaluate the poverty problems encountered by surveyed farms. In Likert Scale, the responses are lineal, as stated below (Table 7), for their order of importance: 1 to 7. Accordingly, it has been determined that the first problem encountered is; the inability to be nourished sufficiently and healthily and this problem is followed by the inability to utilize health services better, the inability to be treated and becoming open for diseases. In rural areas, particularly the continuation of the post-elementary school children to their education or the provision of a better educational opportunity for them to continue is

directly related to level of income. Within this scope, the inability of children to continue their education or the inability to provide children with the opportunities for continuing their education constitutes the third most important problem.

Table 7. Problems Encountered by the Surveyed Farms Due to their Poverty

	1 -Poorest		2		3		4-Richest		Average	
	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n
1.Inability to be nourished sufficiently and healthily	1.94	141	1.96	89	1.89	55	1.93	57	1.94	342
2.Inability to utilize health services better, inability to be treated and being open for diseases	2.45	131	2.28	89	2.21	58	2.38	53	2.35	331
3.Inability to provide children with an opportunity for education	3.17	119	2.79	70	2.69	49	3.25	52	3.01	290
4.Psychological imbalance	4.29	96	4.14	57	4.14	35	3.45	47	4.06	235
5.Inability to be well-clothed	3.87	119	3.93	73	4.50	42	4.75	48	4.13	282
6.Inability to make use of social and cultural activities	6.04	77	5.13	40	5.34	29	5.67	46	5.66	192
7.Inability to make use of good accommodation opportunities	4.23	95	4.86	49	4.48	33	4.85	41	4.53	218

Moreover, 32% of the farm managers at food poverty and complete poverty line expressed that; they could not be respected by others whereas 28% expressed that; they felt ashamed in the village and 24% expressed that; they felt ashamed of leading a life with debts in the village. In addition, some other problems such as social exclusion and feeling lonely, being ashamed of not being well-clothed and feeling ashamed of not being able to host the guests at home were the problems as well.

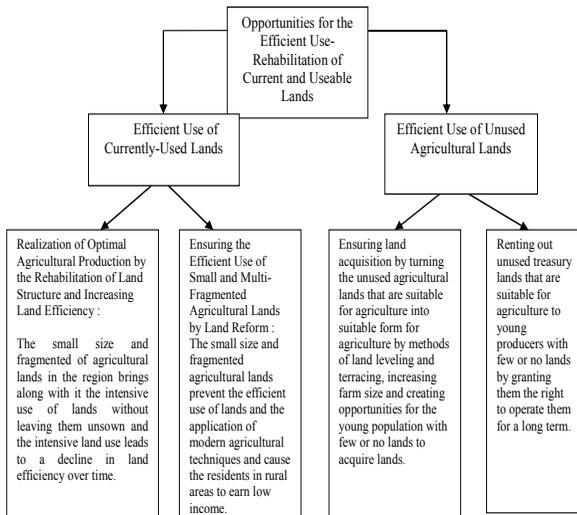
### How can the Income Sources of Households be Diversified Alleviating Poverty in the Region?

Diversification has been defined in various ways. One definition of income diversification, perhaps closest to the original meaning of the word, refers to an increase in the number of sources of income or the balance among the different sources. Thus, a household with two sources of income would be more diversified than a household with just one source (Minot et al., 2006). Increasing the income levels and life standards of small-sized producers, who live in rural areas and have a low income level, owning few or landless is possible through the efficient use of present agricultural and nonagricultural sources of income and through the revealment of potential sources of income.

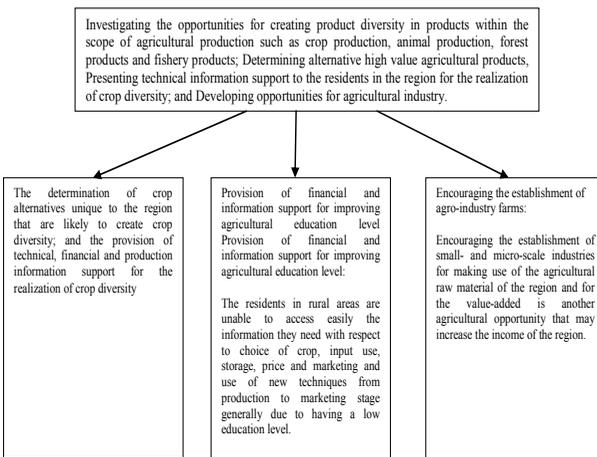
The diagrams below show how the income sources of farm households can be diversified for poverty alleviation in the Region.

### I. Opportunities for Creating Agriculture-Based Income and Employment

A)



B)



C)

Development of new organization models for marketing agricultural products

D)

Determination of precedence of agricultural investments and particularly irrigation investments and the provision of technology transfers :

Increasing agricultural yield and efficiency in the region depends on the use of microirrigation methods by the efficient use of current water resources, attaching special importance to the revealment of potential water resources and bringing them to agricultural lands and the development of irrigation technologies in rural areas.

### II. Opportunities for Creating Income for Developing Underground and Ground Natural Resources

A)

The creation of potential resources with current inactive resources such as underground mine, mineral, energy and hot water and their efficient utilization.

B)

The conservation of historical works, ecosystem and biodiversity and natural landscapes; the efficient utilization of natural resources such as forests, lakes, rivers and plateaus; and the creation of opportunities for fishing, plateau tourism and ecotourism.

### III. Opportunities for Creating Income and Employment For Developing Non-Agricultural Activities

A)

The encouragement of public and private sector infrastructure and social activite investments in rural areas; and the creation of employment in construction industry together with the encouraged investments.

B)

The establishment of small-scale farms by encouraging private sector investments. In the region, it has been observed that the number of small farms pertaining to nonagricultural activities is rather limited at district level particularly with a low development level and that no farms exist at community or village level. Within this scope :

The establishment of small-scale farms for regional development

The establishment of micro farms for making use of the rural women.

C)

Organizing training and vocational programs for improving the knowledge and skills of the residents with few or landless in the region; and ensuring the efficient participation of residents in the locality in workforce markets.

The opportunities for creating income and employment, expressed so far, are all factors that play an important role in improving the income level of the region and its development. In order to clarify the

potential of the region for increasing income, evaluation has been made at specially poor district level.

The present and potential sources of income in the villages chosen in Kiraz, Kinik and Beydag districts of Izmir are demonstrated in the Table 8.

In Kiraz, crop and animal productions have the primary sources of income in the chosen villages. It has been determined that; products can be diversified with products such as cherry, walnut, almond, pistachio and apricot, the product prices of which have recently been relatively higher than other products, in the villages chosen. In addition, considering the production potential of chestnut, the primary source of income in the crop production of the district, the establishment of a chestnut processing facility in Umurlu village or in one of the central villages is one of the agricultural activities likely to make an economic contribution to the locality. When attention is paid to the milk production potential of the locality, the construction of a system of milk cooling tank will be effective on the settlement of marketing problems. Only Dokuzlar village in Kiraz has a nonagricultural income potential. Slate stone and the plateau called Karayılan Plateau by the villagers are nonagricultural potential sources. That is to say, the construction of sample houses using slate stone on Karayılan Plateau and the orientation of the village to plateau tourism by developing the paragliding activity are regarded as the nonagricultural economic activities that will both increase the income of the locality and provide dynamism to the village.

In Kinik, tobacco, olive and animal husbandry constitute the present agricultural sources of income in the villages chosen. In villages other than Ibrahimaga village, there exist no nonagricultural sources of income. Olive, fig, cherry and apricot are among the products that are likely to create product diversity in the villages chosen. The establishment of olive processing and squeezing facility is considered as an agricultural activity to create added value for olive production. The fact that Musacali village has natural spring water of bottleable quality makes the establishment of a drinking water filling facility a potential source of income.

In Beydag, the production of chestnut, fig and olive is the basic agricultural source of income in the villages chosen. The production of cherry and apple is

among the crop products, with which products may be diversified, whereas the establishment of chestnut and fig processing and packaging facility is regarded as an activity to create a potential income and employment. Apart from this, the measures for the rehabilitation of the structure of agricultural lands and the land acquisition of producers with few or landless by the method of long-term renting of empty treasury lands are considered among the other opportunities for increasing agricultural income. The establishment of a touristic resting facility in Gavurdere located on the connection road of Nazilli-Aydin-Denizli on the borders of Comaklar Village and the historical castle located on the borders of Egridere and Yesiltepe villages is regarded as a nonagricultural source of income.

Moreover, the present and potential sources of income in the villages chosen in the districts of Selendi, Koprubasi and Gordes in Manisa are shown in Table 8.

In Selendi, tobacco and animal production are among the present agricultural sources of income in the villages chosen whereas carpeting in Tavak Village and quartz stone in Rahmanlar Village are nonagricultural sources of income. Cherry, pistachio, pomegranate, walnut, wine grape growing, fruit juice processing and milk processing facilities are among the alternative agricultural sources of income. Moreover, the actuation of the limestone quarry and quartz farm is among the sources of income, with which income may be diversified in the district.

In Koprubasi, tobacco and animal productions are the common sources of income in the villages chosen. Considering the geographical and ecological conditions of the villages, strawberry, oak valonia and fresh water fishing are among other agricultural sources of income. In Kıransayh Village, carpet weaving is the present nonagricultural source of income. Although varying from village to village in the district, apple, strawberry, pine nut, almond, olive and fig are regarded as the products, with which products may be diversified. The establishment of a milk cooling tank and a milk processing facility is among the common agricultural sources of income that may increase the income level of the locality. Carpeting and weaving are considered among the nonagricultural sources of income in Cickli village and the development of eco-tourism in Golbasi Village is considered among the non-agricultural sources of

income since it is both close to the district and near a dam.

In Gordes, vineyard, olive, pine nut and greenhouse cultivation constitute the sources of income likely to be obtained by product diversification in the villages chosen while, among the agricultural processing facilities likely to create added value by processing the present agricultural products produced, the establishment of a pine nut processing facility in Balikli Village and a collective modern barn facility for providing animal care and welfare in Yenikoy is among the sources that increase income. Among the non-agricultural sources of income, the establishment of a stone quarry farm in Kusluk Village and an farm for polishing stone mine in Dođanpýnar Village is considered to be important in terms of the efficient use of the village sources.

The present and potential sources of income in the villages chosen in Cavdarhisar, Aslanapa and Altintas districts of Kütahya are demonstrated in the Table 8.

In Cavdarhisar, it is observed that the agricultural sources of income are generally based on wheat, barley, chickpea and sugar beet in the villages chosen and that the villages other than Ilcikören Village do not have any non-agricultural sources of income. Climate conditions are among the factors that restrict crop product diversification in the district. It has been found out that the agricultural sources, with which income may be diversified, are rather likely to be sources that support animal production such as milk cooling tank system, collective modern barn and integrated meat facility. The actuation of boron and borax mines and marble quarry farms in the district are sources that may create nonagricultural incomes. It is also considered that the potential geographical and climate conditions of Ilcikoren village may be effective in creating an opportunity for winter tourism.

In Aslanapa, it has been found out that the agricultural incomes of the villages chosen are rather based on wheat, barley, and chickpea production and that the alternative crop product sources are limited due to the climate and ecological conditions. Nevertheless, together with the creation of opportunities for the efficient use of water resources and the increase in irrigation opportunities, the alternative crop products such as beans and sugar beet are the production activities likely to increase the village income level particularly in Bayat village. In addition, the establishments of milk processing facility, macaroni and biscuit factories and fishing

facility are some of the activities that may increase the number of agricultural sources of income in the district. The establishments of cement factory, lumber factory, briquette and pumice stone facility and brick and tile factories are among the activities that may make use of the nonagricultural sources of the district and create income. Furthermore, the development of opportunities for rural tourism by turning Bayat Plateau, used by Bayat villagers as a plateau in summer, into an attraction center will increase the number of nonagricultural income creation sources.

In Altintas, it has been found out that there exist no crop products for product diversification other than the currently-produced crop products due to the climate and ecological conditions in the villages chosen and that the establishment of a wheat silo, cooling tank, animal feed production facility and milk processing facility constitutes the agricultural activities that may increase income in the district. The establishment of cement factory, tile factory and marble processing facilities, however, is among the non-agricultural potentials of income in the district.

Table 8. Current and Potential Sources of Income in the Surveyed Region

Districts	CURRENT SOURCE OF INCOME			POTENTIAL SOURCE OF INCOME			
	Diversity in Agricultural Production	Agricultural Industry	Non-agricultural Facilities	Diversity in Agricultural Production	Agricultural Industry	Non-agricultural Facilities	
IZMIR	Kiraz	Chestnut, Potato, Beans, Apple, Fig, Walnut, tobacco, olive, Cherry, Animal husbandry	No	No	Almond, Pistachio, Apricot, Chestnut	Chestnut Processing Facility -Milk Processing Facility -Milk Cooling Tank	-Slate stone Farm -Plateau Tourism and Paragliding
	Kinik	Tobacco, Olive, Animal husbandry	No	Handicrafts	Fig, Cherry, Apricot, Pomegranate, Walnut, Almond and Pine nut	Olive Squeezing Facility	-Drinking Water Filling Facility
	Beydag	Chestnut, Fig, Olive, Walnut	No	No	Cherry, Apple, Pine nut, Animal husbandry	-Chestnut and Fig Processing Facility	No
MANISA	Selendi	Tobacco, Wheat, Animal husbandry	No	Carpeting Quartz stone	Cherry, plum, walnut, Pistachio, pomegranate, wine grapes	-Limestone quarry quartz stone farm	
	Koprubasi	Strawberry, tobacco, wheat, barley, oak valonia, animal husbandry	No	Carpeting	Apple, pine nut, fig, olive, almond	Milk processing facility Animal feed facility	Weaving Ecotourism
	Gordes	Wheat, Tobacco, Vine cultivation, Olive, opium poppy, pine nut, almond, animal husbandry	No	No	Greenhouse cultivation	-Vegetable and Fruit Processing Facility	Stone quarry farm
KÜTAHYA	Aslanapa	Wheat, Barley, Chickpea, Sugar beet, Animal husbandry	No	Plateau tourism	Lentil, anise, potato, beans,	Milk processing facility, macaroni and biscuit factories, fishing facility,	Briquette, pumice stone farm, Cement factory, Brick-tile factory
	Cavdarhisar	S. beet, corn, wheat, barley, Chickpea, oat, animal husbandry	No	Boron mine	Canola	-Milk collection center -Integrated meat facility -Macaroni or biscuit factory	Borax mine and marble quarry*
	Altintas	Wheat, barley	No	No	Potato, Onion, Animal husbandry	Milk processing facility -Macaroni or biscuit factory	-Cement Factory -Tile Factory -Marble processing facility

## CONCLUSION

There are considerably various and different alternative sources of income that may increase the income level of the village in the region. However, it is

quite difficult to state that the current and potential sources of the rural areas in the region are utilized fully.

According to the results of the SWOT analysis at provincial level in the surveyed region, Izmir and Manisa have specialized more in crop production and there exist a number of alternative products, with which income may be diversified. On the other hand, the climate and geographical conditions restrict crop product diversification and largely make activities for animal husbandry much more important in Kütahya. Nevertheless, the presence of potential agricultural and nonagricultural sources suitable for the geographical and ecological conditions of every locality constitutes the strengths of the region. The lack of sufficient-income farm size, the limited opportunities of lands for irrigation, the small and multi-fragmented agricultural lands, high input costs, limited agricultural product marketing, weak producer organization and insufficiency of infrastructural services such as education, health and transportation constitute some of the common weaknesses of the region.

When the recommendations, by the surveyed farms, that are likely to increase the income levels are examined, they are gathered into 5 groups.

- Increasing the amount of support or enlarging its' scope in inputs such as fuel oil, fertilizer, pesticide and feed used in agricultural production; supporting dairy or beef cattle or sheep and goat husbandry that provide continuous and short-term cash income flow into the farm;
- Efficient use of current and potential water resources to provide product diversity and to increase efficiency level in agricultural production; -As a matter of fact, 12 out of 48 villages within the scope

of the survey are completely arid and no irrigation is performed.-

- The recommendation, by state institutions, of high-value alternative crops to them;
- Beginning minimum price application since there is no well-specified price and market policy in agricultural products;
- The establishment of agro-industrial facilities so as to create added value in agricultural products.

At the farms interviewed, it has been recommended to make use of the current underground and ground natural resources in the village they live in so as to increase nonagricultural sources of income. As a matter of fact, it has been detected that there exist inactive and unexploited important mine and hot water sources in some villages examined within the scope of the survey. Moreover, it has been intended to attract attention to the perspectives of farm managers on vocational training since it is considered that improving the knowledge and skills of the rural residents is also related to the improvement of the income level of farms.

The issue of increasing income level in rural areas in Turkey is becoming more and more important. Within this scope, making searches for alternative incomes and employment intended to be determined also in the region chosen in the study seems to be inevitable for the future of rural residents. That is to say, it is considered that economic and social problems can be solved and any problems and particularly the migration problem in relation to poverty can be reduced.

### Acknowledgements

This research was supported by The Scientific and Technical Research Council of Turkey, (Project No.SOBAG-105 K 071).

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