



# Czech University of Life Sciences Prague



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## Rural development with focus on women in Antalya Province, Turkey.

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## **Declaration**

I declare, that this Diploma Thesis on the “Rural development with focus on women in Antalya Province, Turkey.” I worked on it individually, using the cited literature cited in the references.

In Prague, 21.8.2014

.....

Vitner



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## Abstract

Vitner V. 2014. Rural development with focus on women in Antalya Province, Turkey [MSc.]. Prague: Czech University of Life Sciences Prague. 48p.

The purpose of the study is to identify the social status of rural women in Antalya Province in South western Turkey. In Turkey gender based inequalities still remain. Particularly in province with such intensive agricultural production an equal attitude to gender is essential. Research was carried out in 24 villages at 70 family farms. The research uses qualitative methodology, specifically ethnography. The respondents were selected non-randomly. For data sampling, snowball and convenience methods were used. The sampling techniques applied were questionnaires, further no standardized observation. Men were included in the questioning and asked about economic and technological matters. The data was analysed using descriptive statistics and  $\chi^2$  Test for independence of qualitative variables. Identification variables for  $\chi^2$  Test were the level of education, the age of the women and the altitude of the area farmed. The variables monitored were the place where the women worked, decision making in the family and availability of advisory centres. The results revealed that education of women was low, n=58 (82.9%) respondents had basic education or lower. The lack of work experiences was evident, n=64 (91.4%) women stayed at home as housewife. Participation of women in family decision making was low as they were only involved in n=14 (20%) cases. The coefficient of Association (V) between the level of education and the place where the women worked was 0.54; which is middle dependency. Women with a higher than basic education are able to find paid job off the farm and contribute to the household income, not to mention obtaining personal development. Common extension services in the area do not reach women. Continuation of research on this topic is necessary in order to spread awareness about the unenviable situation of Turkish women. The greater involvement of international organizations and NGOs is desirable, due to the current policy in Turkey, which is biased against women. Respondents were selected non-randomly; hence it is difficult to generalize the result to the entire province.

**Key words:** education, rural development, turkish women, gender, extension services



## Souhrn

Vitner V. 2014. Rozvoj venkova se zaměřením na ženy v Antalyjské Provincii, Turecko [MSc.]. Praha: Česká Zemědělská Univerzita v Praze. 48p.

Cílem této práce je poznat společenské postavení venkovských žen v Antalyjské Provincii v jihozápadním Turecku. V Turecku stále existují nerovnosti mezi rody. Zejména v provincii s tak intenzivní zemědělskou produkcí je rovný postoj k rodu zásadní. Výzkum byl proveden ve 24 vesnicích na 70 rodinných farmách. Výzkum používá kvalitativní metodiku, konkrétně etnografii. Respondenti byli vybráni nenáhodně. Pro sběr dat byly použity metody sněhové koule a pohodlný výběr. Aplikované techniky sběru dat jsou dotazníky, které fungovaly jako polo-strukturované rozhovory; dále nestandardizované pozorování. Muži byli zahrnuti do výzkumu a tázáni o technologických a ekonomických záležitostech. Data byla analyzována za pomoci deskriptivní statistiky a  $\chi^2$  Testu o nezávislosti kvalitativních znaků. Identifikační proměnné pro  $\chi^2$  Test jsou stupeň vzdělání, věk žen a nadmořská výška obhospodařované oblasti. Sledované proměnné jsou místo kde ženy pracují, tvorba rozhodování v rodině a dostupnost poradenských center. Výsledky odhalily, že vzdělání žen je nízké,  $n=58$  (82.9%) respondentek má základní nebo nižší vzdělání. Zřejmý je nedostatek pracovních zkušeností,  $n=64$  (91.4%) žen zůstává doma jako hospodyně. Zapojení žen do rozhodování v rodině je nízké, jsou zahrnuty pouze ve  $n=14$  (20%) případech. Koeficient asociace (V) mezi stupněm vzdělání a místem kde ženy pracují je 0.54; což je středně silná závislost. Ženy s vyšším než základním vzděláním jsou schopné najít placené zaměstnání mimo farmu a tím přispět do rodinného rozpočtu, nemluvě o osobním rozvoji. Běžné poradenské služby v oblasti nezasahují ženy. Pokračování výzkumu na toto téma je nezbytné za účelem šíření povědomí o nezáviděníhodné situaci Tureckých žen. Vyšší zapojení mezinárodních a nevládních organizací je žádoucí, vzhledem k současné politice v Turecku, která je zaujatá proti ženám. Citlivá pomoc ze zahraničí může být přínosná. Respondenti byli vybráni nenáhodně, proto je obtížné zobecnit výsledky na celou provincii.

**Klíčová slova:** vzdělání, rozvoj venkova, turecké ženy, rod, poradenské služby



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## List of abbreviations

AEARP	Agricultural Extension and Applied Research Project
AREC	Agricultural Research and Extension Centres
ARIP	Agricultural Reform and Implementation Programme
CAP	Common Agricultural Policy
CU	Custom Union
EEC	European Economic Community
ES	Extension Services
EU	European Union
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
ICARDA	International Centre for Agricultural Research in the Dry Areas
JDP	Justice and Development Party
LDC	Less Developed Countries
MARA	Ministry of Agriculture and Rural Affairs
NATO	North Atlantic Treaty Organization
NGO	Non – Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
PEA	Participatory Extension Approach
SEAP – ESC	South Eastern Anatolia Project – Entrepreneur Support Centres
TL	Turkish Lira
T&V	Training and Visit
TV	Television
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations International Children’s Emergency Fund
USA	United States of America
WES	Women Entrepreneurs Support
WB	World Bank





# 1. Introduction

The author revealed while writing the bachelor thesis on “Trends in extension services in LDC”; that rural women are disadvantaged social group in less developed countries (Jiggins et al., 1997). Even though Turkey is not LDC, gender based inequalities still remain.

This work was written to increase the awareness about the serious situation of women in Turkey (Gül, 2013). Particularly in province with such intensive agricultural production (Özkan et al., 2003) an equal attitude to gender is essential. The author did not find any studies from Antalya Province about the social status of rural women. Antalya Province is known as one of most liberal parts of Turkey, especially thanks to tourism. But there is lack of information about gender issues in Antalya Province.

The author of this study spent one academic year at Akdeniz University in Antalya which is why this Province was chosen. With the language barrier, unfamiliarity of the environment or the lack of contacts between local people it would be impossible to compile such work.

The third of the eight United Nations Millennium Development Goals is to support Gender Equality and empower the position of women in society (UN, 2014). It is alarming, that in a country, which is negotiating about joining the European Union women’s rights and equal access to education, inheritance or social system are not kept (Gökovalı, 2013). The author focused on importance of women for rural development in its social, political, economical and spiritual dimension (FAO, 2008).

The theoretical part of this thesis discusses the background of the country, its history, institutional development and the evolution of agricultural policies regarding the role of rural women and women generally. It further looks at the relationship between The European Union and Turkey. The first part continues with a summary and the development of extension service approaches and extension services focused on rural women. The last chapter deals with the social position of women in Turkey.

The second part of the study uses descriptive statistics and  $\chi^2$  (Chi – square) Test of independence of signs for analysis of data from the field survey and discusses them whilst considering the aims of the study. The personal characteristics of rural women from the data sample, working conditions of rural women, knowledge transfer to the farmers is



analysed, along with agricultural production in Antalya Province, the economic situation of farmers and the distribution chain of their products. In the end a SWOT Analysis was carried out.

This study is unique due to the rarely obtained data. Some of the researched areas are not well known yet. The topic in connection with selected area makes this work remarkable.

## **2. Objectives of the study**

The main purpose of this study was to assess the importance of women for rural development in Antalya Province in Turkey.

The first specific objective was to encompass the attitude of women to extension services available in Antalya Province.

## **3. Background**

We can call Turkey a bridge between Europe and Asia. It is situated mainly on the Anatolian Peninsula and surrounded by four seas: The Black Sea to the North, the Marmara and the Aegean Seas to the west and the Mediterranean Sea to the south (see Figure 1). Turkey's geographical area is 814,578 km<sup>2</sup> of which 24,378 km<sup>2</sup> is in Europe. Turkey is located between temperate and sub – tropical zone at latitude 36 – 42 °N, 26 - 45°E. The European portion is called “Thrace” and the Asian area is called “Anatolia” (Ulukan, 2009). The population was 76.7 million in 2013 (Turk Stat, 2014). The predominant religion is Islam, 85% of population profess to be Sunni Islam, and 10 – 15% of the population are Alevis (Kreiser and Neumann 2010).

About 60% of the total country's land has a slope over 12 % and only 24% of land is suitable for cultivation. Moreover, three quarters of the land is prone to erosion. The Mediterranean climate is characterized by hot and dry summers and wet and mild winters. Because of this and other specific hydrological and topographical conditions, Turkey is quite susceptible to desertification (Ulukan, 2009). Agricultural activities in Turkey are various. They range from the highly competitive and capital intensive cultivation of export



crops in Southern and Western Turkey to trade protected and subsidized cereals and livestock production in North-eastern and Northern Turkey (Aerni, 2007). We can say that agricultural production in Turkey grew from 1950s thanks to the use of machinery and skilled labour, fertilizers, irrigation and better plant varieties (Basasir et al., 2006).

The diversity of the climate in Turkey allows many species of crops, such as citrus fruits, cotton, tobacco, apples, water melons, olives, nuts, various species of vegetable and fruits, tea, egg plants, potatoes, sunflowers, oilseeds, bananas, kiwi, pomegranates, figs, cereals and legumes to be grown (Basasir et al., 2006; Ulukan, 2009). Farm size is usually small and family-owned (Eruygur, 2006) and Turkish agriculture is historically characterized by small peasantry (Basasir et al., 2006). “The number of farms is increasing in Turkey as opposed to the trend in other developing countries. The number of farms was 3.1 million in 1963 and reached 4.1 million in 1991” (Özkan et al., 2004). More than 92% of farms are family owned. The average farm size decreased from 7.73 ha in 1950 to 5.69 in 1991 (Özkan et al., 2004). Seeing small holdings next to big pro export oriented companies is typical (Cakmak, 2007).

Currently, Turkey is classified as a Middle income country (Gökovali, 2013). Gross domestic product is \$786 billion; Turkey is the 18<sup>th</sup> largest economy in the world. GDP per capita in the entire country was \$10, 666 in 2012 (World Bank, 2014). The contribution of agriculture in GDP has steadily declined from 10.9% in 2004 to 9.1% in 2012 (World Bank, 2014). The agricultural sector is helping to overcome chronic unemployment in Turkey. In 2012, 24% of the population worked in agriculture (World Bank, 2014). About 40% of area of Turkey is arable land and the OECD estimates that Turkey is the world’s seventh biggest agricultural producer (Ocak et al., 2013).

The main fertilizers applied are Ammonium nitrate, Ammonium sulphate, Urea, Potassium sulphate and Diammonium phosphate (Ulukan, 2009). The number of agricultural vehicles, mainly tractors, harvesters and water pumps, has been steadily increasing (Utlu and Hepbasli, 2006). Due to the lack of Education (Ince, 2010), women are mostly classified as cheaper, less organized and a more controllable labour force (Göksel, 2013).

Politically, since 2003 (Kreiser and Neumann, 2010) Turkey has faced the rule of one party, Party of Justice and Development, conservative neo – liberal party with a strong

leader R. T. Erdoğan. This party has Islamic roots and is a potential menace, especially for women’s rights (Göksel, 2013).



Figure 1: Turkey with the study area marked; Antalya Province.

## 4. Literature review

Literature review discusses modern history of the Republic of Turkey, agricultural policies and reforms applied, relationships between EU and Turkey, extension services and the social role of women in Turkey.

### 4.1 History of the Republic of Turkey

When the Ottoman Empire lost World War I, Turkey was occupied by foreign forces, Greek, British, French and Italian. The establishment of Kurdistan was also



planned. The fight for Turkish independence started in Sivas in 1919 and succeeded in 1922 with support from Lenin's revolutionary army. The Republic of Turkey was declared in 1923 and adopted parliament democracy (Temel, 2005). During the rule of the first president, Mustafa Kemal, later called Ataturk, Turkey became the first secular Muslim country in the world. He carried out many important reforms, known as the Kemalistic reforms (see Table 1). Despite the mutual distrust between Turkey and Europe which continued for four decades after the war (Teitelbaum and Martin, 2003), Ataturk westernized Turkey. Kemalistic principles, written into the Constitution of the Republic of Turkey in 1937 are republicanism, nationalism, populism, reformism, etatism and secularism. Islamic schools were closed and education was secularized. Thanks to etatism, the position of the state was strong and the Republic was protected from foreign interests.

**Table 1: Most important reforms during 1923 – 1935 (Temel, 2005).**

<p><b>1923</b> Republic of Turkey proclaimed with its capital in Ankara (October 29).</p> <p><b>1924</b> Caliphate abolished. Traditional religious schools closed, Shari 'a (the legal system founded on the Islamic religion) abolished. Constitution adopted.</p> <p><b>1925</b> Fez outlawed by the Hat Law. Veiling of women discouraged; western clothing for men and women encouraged. Western calendar adopted.</p> <p><b>1926</b> New civil, commercial and penal codes based on European models adopted. New civil code ended Islamic polygamy and divorce by renunciation and introduced civil marriage. Millet system ended.</p> <p><b>1928</b> New Turkish alphabet (based on Latin) adopted. State declared secular; Constitutional provision establishing Islam as official religion deleted.</p> <p><b>1933</b> Islamic call to worship and public reading of the Koran required to be in Turkish.</p> <p><b>1934</b> Women were given the vote and the right to hold office.</p> <p><b>1935</b> State role in managing the economy written into the constitution.</p>
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The single party reign effectively ended in 1946, eight years after Ataturk's death. In 1950, Ataturk's Republican Peoples party was replaced by the Democratic Party. A period of instability started and ten years later, the leader of this party Adnan Menderes was executed (Teitelbaum and Martin, 2003). Civilian rule was quickly restored, but the leader Süleyman Demirel was similarly deposed in 1971 (Temel, 2005). Instability led to



another putsch in 1980, when hundreds of left – wing activists were tortured and killed. The latest coup was in 1997, when the Islamists Welfare Party was forced out of office by the military after just one year. We can see the Turkish army as the protector of political plurality in Turkey (Teitelbaum and Martin, 2003). For the last twelve years, the strongest party in Turkey has been Erdogan’s Justice and Development Party (JDP). Formed from previously banned Islamic parties it is trying to delete Kemalistic ideas (Teitelbaum and Martin, 2003). Kemalistic Reforms guarantee equality between men and women (Ozcatalbas and Akcaoz 2010).

## **4.2 Agricultural policies and institutional development**

Turkey is a rapidly industrializing country. The service sector is a major contributor to Turkey’s national income (Ediger and Huvaz, 2006). Turkish agricultural policy has a long history and goes back to the early thirties, when the Government tried to alleviate the impact of the Great Depression and then the Second World War (see Table 2). The objectives of Turkish agricultural policy are set by annual programmes and the development plans of the State Planning Organization and include: raising production levels and yields, ensuring adequate levels of nutrition, raising the level of self – sufficiency, reducing the vulnerability of production to adverse weather conditions, increasing agricultural incomes and supporting the stability of incomes, increasing exports and supporting the development of rural areas (Bayaner, 2007). The Turkish government has implemented several measures to achieve these objectives, globally and also at the regional level (see Table 3). Domestic price support, quantitative import controls, tariffs, credit, extension services and advising are the methods used. (Bayaner, 2007).





**Table 2: A chronology of policy and institutional development in Turkey: 1923 – present (Temel, 2005), part 1.**

**1923 – 1945 CATCHING UP WITH THE WEST**

- \* closed economy
- \* import – substitution policy
- \* agriculture for food self – sufficiency

Kemalistic principles, single party politics, military, women rights subvention and gender equality, limited social dialogue, strong property rights, support for research, extension and innovations. Moderate aid to encourage the private sector. Law enforcement.

**Table 3: A chronology of policy and institutional development in Turkey: 1923 – present (Temel, 2005), part 2.**

**1946 – 1960s COLLABORATING WITH THE WEST, ADOPTING WESTERN INSTITUTIONS (PARTICIPATION AND DEMOCRATISATION)**

- \* partially open economy
- \* import – substitution policy
- \* agriculture support industry

Weakening of Kemalistic principles, multi – party system, strong military control, law enforcement, strong social dialogue, enhanced institutions for agricultural and industrial development, improved research and education, weak land institutions.

**1970 – 1980 ESTABLISHING SOCIAL STABILITY BY MODIFYING INSTITUTIONS ADOPTED EARLIER**

- \* partially open economy
- \* import – substitution policy

Weak nationalism and etatism, moderate secularism. Strong military control, political plurality. Strong property rights, moderate state aid for the private sector. Poor institutions for agricultural and industrial development, weak land institutions. Preparation for a competitive framework started.



**1980 – present** INTEGRATING WITH AND COMPETING IN INTERNATIONAL MARKETS

\* open economy except agriculture

\* export promotion policy

\* Customs Union completed, process of EU application speeded up

Privatisation, secularism and competition. Strong military control multi – party politics, rights and law enforcement, improved institutions for industry, subsidized agriculture with old institutions. Establishment of Scientific and Technical Research Council. More religious content in primary education.

The real revolution in women’s rights started in 1923, women were granted the right to vote and to be elected, acquired the right to get divorced and multiple marriages were banned (Gökovali, 2013). Due to the weakening of Kemalistic principles (Temel, 2005), women are the most vulnerable social group in Turkey. Women have been greatly affected by the neo – liberal reforms in 1980s which continue until now, especially in term of care during pregnancy, social security and work types and wages (Gökovali, 2013). These reforms also devalued women’s work and informalized women’s jobs (Oneş et al., 2013). Unfortunately, the situation of Turkish women is still alarming and their rights were never fulfilled in reality (Gül, 2013).

### **4.3 EU and Turkey**

In September 1<sup>st</sup> 1963, Turkey signed the Association Agreement; known as The Ankara Agreement (Eruygur, 2006); with the European Economic Community. This agreement led Turkey into a Custom Union (CU) and possible future full membership.

#### **4.3.1 EU – Turkey integration process**

The Ankara agreement was supplemented by an additional protocol, signed in November 1970, which set out the timetable for cancelling the tariffs and quotas on goods passing between Turkey and the European Economic Community (EEC). The CU between





EU and Turkey (excluding agricultural products) was established in 1995. At the Helsinki European council in December 1999, Turkey was officially recognized as a candidate country (Eruygur, 2006). After forty two years, on 3<sup>rd</sup> October 2005, Turkey started its accession negotiation with the EU (Ucak, 2006). The accession, if at all, is unlikely to happen before 2015. It will lead to the full liberalization of the agricultural market with EU (Eruygur, 2005). For now, Turkey is a candidate country which has a CU with the EU (Eruygur, 2006).

For accession, Turkey has to fulfil the Copenhagen criteria on human rights and democracy. If they do so, it will definitely ameliorate the position of rural women, but we should ask whether this is possible or just a dream (Martin and Teitelbaum, 2003). The question is, whether Turkey should ever join the EU? Turkey should reduce the role of the military in government affairs, should not press Cyprus so hard, have sustainable economic growth and minimize the possible Turkish migration after admission, which scares the EU (Martin and Teitelbaum, 2003). Some European leaders have darker concerns about Turkey. For example the former French president Valéry Giscard d'Estaing declared that Turkey simply is not a European country, the capital is not in Europe, more than 95% of population is not European, and the people have a different culture and way of life. His opinion is that Turkey's membership will be the end of the EU (Martin and Teitelbaum, 2003). He is not alone in his opinion as former West German chancellor Helmut Schmidt said that Turkey's membership may open the doors to the EU for other Muslim nations from Northern Africa or the Middle East, which may change the political union into just a free trade area. Turks are still seen as cruel warriors and barbarians, who attacked Europe for centuries and this view has not changed up to now (Martin and Teitelbaum, 2003). There is one strong argument for Turkish admission. Turkey is a loyal NATO ally in a dangerous part of the world. Admission may send a signal from the EU to rest of the world, that the Union is open to Muslim communities as well as Christian ones. Before admission, Turkey should make an order at home and transform itself into a European country in spirit and form, which is going to be very problematic process. With EU cooperation this might be easier. Turkey has to decide whether to be the poorest country in the EU instead of leading the Islamic world. If Turkey joins the EU, then the EU should decide whether they prefer an Islamic regime in their largest state or military control (Martin and Teitelbaum, 2003).



### **4.3.2 EU and Turkish agriculture**

Agriculture in Turkey is in transition from “the labour sink for the rural population” to a dynamic sector responding to market signals (Cakmak, 2007). Structural change has to make the agricultural sector more innovative and competitive. The current effort is to make Turkish agriculture more compatible with the EU’s Common Agricultural Policy (Grethe, 2007), which has been implemented in EU in 1992 (Yomralioglu et al., 2009). But the CAP is still more focused on preservation and safety than on entrepreneurship and innovation (Aerni, 2007). The current policy with heavy government involvement and subsidies benefits large farmers (Cakmak, 2004). Reforms were implemented during 2001; subsidies are being replaced by direct income transfer over a limited time frame. Remove the subsidises from inputs, especially from fertilizers and credit, together with the privatization (Yomralioglu, 2009).

The Agro – environmental measures of CAP such are following: direct income support, growing alternative crops, land improvement and consolidation, combating erosion, drainage and stone collection. The CAP includes two pillars, a market and a rural development pillar. Two governmental organizations are thus concerned with this programme, the Ministry of Agriculture and that of Rural Affairs and General Directorate of Registry and Cadastre. An important sub – element for reform implementation is the National Registry of Farmers, which has an overview of the farmer’s personal data and his activities (Yomralioglu, 2009). Turkish agricultural reformation is in process. They have to count with EU scenarios and non- EU scenarios (Eruegur, 2006). Turkey’s admission may change the EU into a global player thanks to its religious tolerance; on the other hand, there is a big risk because of radical Islamists (Aerni, 2007).

### **4.3.3 Agricultural reform process**

Turkey’s government embarked on a stabilization programme. The Agricultural Reform and Implementation Programme (ARIP) were launched in 2001. ARIP is focused on several elements. Firstly, the government wants to cut unsustainable subsidies for fertilizers, which benefits just large farmers. The second point of this programme is the privatization of state enterprises, which will lead to a lower involvement of the government



into agricultural processing and marketing. Thirdly, the government will introduce a unified national programme of direct income support. These reforms will assist the government in EU accession through increasing the efficiency of the agricultural sector and meeting the pre – conditions set down by EU. The strategic objectives, priorities and principles of the agricultural policies to be implemented after ARIP are set forth in the agricultural policy paper 2006 – 2010 (Olhan, 2006).

The tools of agricultural support used until 2010 were direct income support payments (Olhan, 2006), deficiency payments, compensatory payments, livestock support, crop insurance support, rural development support and environmental set – aside. Funds will be allocated to selected credit support and research and development aids within a competitive grant scheme (Bayaner, 2007).

Agricultural reforms do not meet the needs of rural women. They are mainly oriented on agricultural production, payments or marketing. Responsible persons should consider that women are the main labour-force in Turkish agriculture and are mostly non – paid (Oneş et al., 2013). Turkey has to meet the EU Lisbon criteria of employment rates for women at 60 % and men at 70% (Göksel, 2013). Candidate countries have to fulfil the Copenhagen Criteria from 1993, which include providing equal opportunities for men and women (Landig, 2011).

## **4.4 Extension Services in Turkey**

Extension services have been implemented mainly by the Ministry of Agriculture since 1940s and are currently implemented by the Provincial Agricultural Directorates. They are derived from ES in different countries and projects implemented by the World Bank and FAO. The dominant approach until 1990s was a General Agricultural Extension Approach (see Appendix III).

### **4.4.1 Organization of Extension Services in Turkey**

Since 1984, a Training and Visit Approach had been implemented. The weakness of this approach has been the low participation of farmers. The implementation of Participatory Approach was very limited but effective. Farmers have to think about their



own problems together with the appropriate organizations, such as NGO's, private firms, Farmers Unions, Universities and other extension organizations in Turkey (Ozcatalbas et al., 2011).

Currently, the Ministry of Agriculture and Rural Affairs (MARA), Farmers Education Division provides ES free of charge with the aim of improving living standards (Budak et al., 2010). Unfortunately, communication between the research centres and extension agencies is very low, also the feedback from the farmers to the extension agencies and then to the research centres is also poor (Temel, 2005). Thus, the participatory Approach, as a combination between top – down and bottom – up approaches is the solution. The Participatory Extension Approach (PEA) was developed in Zimbabwe during the 1990s. In this approach, farmers are the decision makers in defining goals, planning, implementing and evaluating development activities (Ozcatalbas et al., 2011). It is obvious, that the Extension System in Turkey has to be reformed. In order to further activate the ES, 1000 voluntary Agriculture experts were appointed to 1000 villages by MARA in 2004, within the program called “ Project to Support for Village Focused Agricultural Production “. The purpose of this project is to transfer knowledge to farmers and solve existing problems in collaboration with the farmers themselves, not to wait for orders from somewhere far away (Kizilaslan and Kizilaslan, 2007).

#### **4.4.2 Extension services targeted on women farmers**

In many countries, as well as in Turkey, women are key persons for food production. Unfortunately, agricultural extension does not sufficiently reach women farmers. It is necessary to improve and increase agricultural extension and education for women farmers in Turkey (Ozcatalbas and Akcaoz, 2010). For example during training programme in the Taurus Mountains in Adana Province, where the keeping of small ruminants is the main agricultural activity, only 3% of women had the chance to participate in this project. And 85.7% of women were interested in this programme (Budak et al., 2005). In Taourirt – Taforalt in Morocco, a partial success was reached by having male participation in the project, as they could listen to the needs of women. Separation was not successful (Ozcatalbas and Akcaoz, 2010). Women farmers also prefer to work with



female extension agents and similarly positive results were obtained in Tanzania, for example (Budak et al., 2005).

Women have a major role in animal husbandry and other agricultural activities; excluding the use of mechanization and other works involving manual labour. But the ES usually did not meet their needs (Budak et al., 2005). Women also have an irreplaceable knowledge of plant domestication and the conservation of biodiversity (Ozcatalbas and Akcaoz, 2010). The education level of women farmers is very low and they are usually classified as non – paid family labour (Gökovalı, 2013).

Although extension services targeted on women farmers have been conducted for many years in Turkey, focused especially on home economics and hand crafts, there is not any systematic agricultural extension project targeted on women farmers (Ozcatalbas and Akcaoz, 2010).

MARA started to implement non – agricultural extension targeted on rural women, focused on home economics in 1954. MARA is the most important provider of extension services targeted on rural women, followed by the Ministry of Education and other public institutions. As the success of these public organizations has been very low they need to be re – organized and new strategies should be developed. An Important project, which was implemented by MARA in the period 1984 – 1990 and named AEARP (Agricultural Extension and Applied Research Project), was supported by the agricultural chamber, NGO's and International Organizations such as the WB, the EU, UNICEF and the FAO. Foreign donors play an important role in extension services provided for rural women in Turkey (Ozcatalbas and Akcaoz, 2010).

The EU funded two training programmes focused on training women as entrepreneurs, raising their self – confidence and educating men together with women about gender equality. In South – Eastern Anatolia, 500 women and 4000 men attended the SEAP - ESC Project in the period 2003 – 2007, coordinated by the United Nations and the EU (Landig, 2011). Within another project called WES (Women Entrepreneurs Support), which run between 2007 and 2008, 6291 women were trained and 2755 went through the consultancy process (Landig, 2011).

Between 1982 and 2008, 22 different projects for rural women were implemented, usually provided by MARA, sometimes with support from International Organizations (Ozcatalbas and Akcaoz, 2010). Why did they usually not succeed? If we look deeply into



history, in Ottoman society, girls did not have the right to attend school, just a kind of primary school with basic Islamic education. The Women liberalization movement appeared during the Balkan War and the First World War. Women enfranchisement occurred during the rule of Mustafa Kemal Atatürk. Unfortunately, most women were enfranchised but not liberated. They were still taught to be docile and dependent on men. The patriarchal characteristics of the society still negatively influence the daily life of the women. The decision makers were still men and each woman's step out of home was strictly followed. Only 10% of women were able to go out of the city without her husband's permission. Nor does Republican leadership offer gender equality to the women. There is a lot of legislation about this topic, but in practice the situation is very poor. And the situation of rural women is really dismal. The feminist struggle in Turkey achieved one big victory on November 29, 1990, when the Constitutional Court abolished article 159 of the Civil Code, which made it mandatory for women to have their husband's permission to work outside the home. The reality is that women just contribute to the family budget with or without her husband's permission and despite many reforms in 1920s Turkish women are still far away from emancipation (Sari, 2012).

*“Discrimination in education and training, hiring and remuneration, promotion and horizontal mobility practices, as well as inflexible working conditions, lack of access to productive resources and inadequate sharing of family responsibilities, combined with the lack, or insufficient provision, of services such as child care, continue to restrict employment, economic, professional and other opportunities and mobility for women and make their involvement stressful (Ozcatalbas and Akcaoz, 2010).”*

#### **4.4.3 Advisory centres in Antalya Province; Suzanne's Project**

In the period 2011-2013, in Antalya Province, 125 rural women were trained within Suzanne's Project provided by Akdeniz University in cooperation with Rutgers University in New Jersey in USA. Women were trained in technical and managerial skills. Private companies operate in Antalya Province. Advisers just need periodical examination from MARA every 2 years (Özkan, 2013).



### **List of advisory centres by municipalities:**

- Aksu, Doşemaltı, Kepez, Konaaltı, Muratpaşa, Akseki, Alanya
- Elmalı, Finike, Gazipaşa, Gündoğmuş, Ibradı, Demre, Kaş, Kemer
- Korkuteli, Kumluca, Manavgat, Serik (Antalya Tarım, 2014).

## **4.5 Social role of women in Turkey**

This chapter gives general information about education and job opportunities for Turkish women. Later discusses difference in the status of women in rural and urban areas. In the end mentions threats that Turkish women struggle everyday and offer possible solutions for these unfortunate events.

### **4.5.1 Turkish women in statistics**

In 2011, labour force participation was just 25.9% among women and 69.2% among men. The proportion of employer or self – employer were 9.9 % for females and 24% for males. In 2012, the illiteracy ratio of a woman was 7%, while for men this was 1.4%. The proportion of unpaid family workers in 2013 was 31.8% for women and 3.8% for men. The proportion of women in the Grand National Assembly was 14.4% in 2013 and 1 of 25 ministers was a woman. The share of computer usage in 2013 was 39.8% for males, while it was 60.2% for females (Turk Stat, 2014).

The indicators above illustrate that males in Turkey are mostly responsible for making money and business. The role of women is mainly housework or administrative work in office. As a result it cause dependency of females on males and other unfortunate events ( see chapter 4.6.3).

### **4.5.2 Difference in the status of women in rural and urban areas**

The main difference is that in rural areas women traditionally work, even if the husband is conservative. In urban areas, conservatism plays a negative role in women's employment (Göksel, 2013).





Owing to the fluctuating price of agricultural products (Göksel, 2013), or conflicts in the east of country (Gökovalı, 2013), people migrate from rural to urban areas. Immigrants have weak connections to urban life, which makes them more vulnerable to fall into poverty. Women with a lack of skills and low education are the most vulnerable group in metropolitan areas (Gökovalı, 2013).

As a result, urbanization plays an important role in decreasing female labour force participation (Göksel, 2013). Therefore it is possible to take micro credits (Gökovalı, 2013) or establish cooperatives for women (Ozdemir, 2013) mainly in urban areas.

Women are estimated to own less than 10% of agricultural land and about 9% of urban real estate in Turkey (Gökovalı, 2013).

Furthermore, according to Turk Stat data from 2013, the difference in poverty rates between genders is more pronounced in rural areas (Gökovalı, 2013). According to UNDP, unpaid family workers, among them rural women, has constituted the poorest group in Turkey since 2004 (Gökovalı, 2013).

### **4.5.3 Threats for women in Turkey**

Conservatism, religion and social norms make women a disadvantaged and vulnerable group. The largest inequalities are in Eastern and South-eastern Anatolia. (Gökovalı, 2013). Due to conflict, Kurdish women are losing their husbands or they are joining the guerrilla forces. Hence, they are the most vulnerable social group (Gökalp, 2010).

The bias against girls in the education system is evident (Göksel, 2013). Inequalities in education are large (Ince, 2010). The education of women is important for societies, leads to the better education of children (Gökovalı, 2013), reduces fertility and mortality which causes better employment possibilities and higher literacy of women, open minds and economic growth, (Ince, 2010).

All these aspects lead to the dependency of women on her husband and exclusion of women from society (Gül, 2013). Dependency causes domestic violence. According to the General directorate on the status of women in Turkey, based on data from 2009, one third of women face domestic violence every day, 85% at least once in their lives (Gül, 2013). Girls have not the same inheritance rights as boys (Gökovalı, 2013). According to OECD's





“Education at a Glance 2012” report based on data from 2010, 52% of Turkish girls between the ages of 15 – 29 neither work nor attend school (Oneş et al., 2013). The biggest problems are that there is not a nationwide program against women’s poverty (Gökovali, 2013). The bureaucratic system is patriarchal and justice persecutes women (Gül, 2013).

State social assistance for poor women is understood as compensation for child care and domestic work (Gül, 2013). The current policy is to support the idea that a woman’s role was as an obedient housewife (Göksel, 2013). Because of prejudices, women have a lack of leisure time and are mostly classified as non – paid labour work (Oneş et al., 2013). Lack of skills and education leads women into the informal economic sector. The results are income vulnerability and job insecurity (Elveren, 2013). Life without a man is very difficult in Turkey, women are often dependent on their friends, neighbours and relatives (Özar and Cakar , 2013).

Boys take on the role of fathers and the cycle of gender poverty continues (Gül, 2013). Some women think that violence is normal and that they do not have rights (Gül, 2013). There are many kinds of domestic violence, starting with psychic terror, taking a woman’s salary, slapping, beating, kidnapping of children, wounding with guns or chemicals, breaking bones, rape (Gül, 2013) or honour killing of women (Gökovali, 2013).

Women face violence all around the world mostly from their relatives. A study which analysed the murders of women in Eskişehir, Province in western Anatolia in the period 2002 – 2011, found 141 murders of women. They were mostly killed by their husbands (n=48). The most frequent reason was the woman’s request for divorce or break up (Karbeyaz et al., 2013).

#### **4.5.4 Challenges and possible solutions for Turkish women**

Policies to alleviate the poverty of women require their needs and interests to be considered (Gökovali, 2013). The most important is to increase the education of women (Ince, 2010). Not only the education of children, but of adults as well (Göksel, 2013). Ongoing job opportunities would increase the prestige of women (Gökovali, 2013).

There are various tools that could be used to achieve a reduction of gender poverty. Scholarships for female students, training programmes for women or programmes targeted on supporting women’s employment supported by the EU (Gökovali, 2013) are examples.



The higher involvement of NGOs is necessary; gaps in this area are evident. One of most important NGOs in Turkey is the Purple Roof Women's Shelter Foundation (Gökovali, 2013), which provides shelters for victims of domestic violence (Gül, 2013).

Other possible instruments are micro credits, provided mainly in rural areas (Gökovali, 2013). Women's cooperatives with bottom – up management, located mainly in Istanbul, Izmit and Kocaeli, often established by women have been very successful. They support solidarity among women and improve self – confidence. Members of these cooperatives are mainly married housewives. They could be an important source of income. These incomes are exempt from taxes. Bottlenecks of such organization are the low education of women, marketing, legislation and loan availability. It is most important to keep the bottom – up management in the hands of women; otherwise these cooperatives may change into ordinary companies due to manual work orientation (Ozdemir, 2013).

## **5. Methodology**

First part of this chapter provides information about materials used for literature review and methods of data analysis. Second part explains how the Chi-square Test of independence of variables works. Last part informs how the data collection had been made.

### **5.1 Materials and methods of data analysis**

For secondary data collection, a literature review was conducted. Data from the web pages of international organisations and Turkish organisations were used. Scientific articles from several journals, available at electronic databases were used. Books related to Islamic culture and the Anatolian region were studied. Sociological textbooks and books were studied for determination of methodology.

The first data collection technique was anonymous questionnaire with closed, open, filter and semi-closed questions. In the first part of questionnaire, men were asked about cultivated crops, area farmed, fertilizers and irrigation systems used. Further, we discussed economical situation of a family, heating system of a household and information source about farming (see Appendix 2). In the second part of questionnaire, women were asked



about general statistical characteristics (age, religion etc.), level of education, occupation and her role in family decision making (see Appendix 1). The second data collection technique was non standardized observation (Majerova et al., 2008). The sample size was not determined statistically, due to the qualitative methodology of research (Majerova et al, 2008) and financial restrictions (Svatosova and Kaba, 2009).

Data were analysed in software Microsoft Excel. Firstly, each question was separately analysed using descriptive statistics. To examine the dependence of qualitative variables, the  $\chi^2$  (chi – square) Test of independence of qualitative variables was used (Svatosova and Kaba, 2009). For assessment of the position of rural women in the data sample, a SWOT Analysis was conducted.

Based on secondary data collection and obtained data, the discussion and the conclusion were written.

## 5.2 Chi – square Test of independence of variables

Because of the qualitative methodology of the research, Association tables were chosen for analysing the data. The  $\chi^2$  (Chi – square) Test of the independence of qualitative variables for Contingency tables could not be used as the proportion of theoretical frequencies lower than 5 was greater than 20%. This is against conditions of use. Weak groups have been amalgamated into the Association table in the form of 2x2. Infield arrays of tables containing associated frequencies, which meet the classification according to both variables. Marginal frequencies represent the result of classification according to one variable (Svatosova and Kaba, 2009).

**Table 4: The default Association Table.**

Variable A	Variable B		Total
	W	Z	
X	a	b	a+b
Y	c	d	c+d
Total	a+c	b+d	N



For testing the hypothesis  $H_0$ : between observed variables, there was no dependence, two testing procedures can be used:  $\chi^2$  Test of Independence or Fisher's Factorial Test.

For sample size greater than 40, we use  $\chi^2$  Test of independence. (Svatosova and Kaba, 2009).

Null hypothesis of independence is tested according to the test criteria:

$$\chi^2 = \frac{n(ad - bc)^2}{(a + b)(a + c)(b + d)(c + d)}$$

Then we find in tables of  $\chi^2$  distribution critical value  $\chi^2_{\alpha(1)}$  and compare this with the calculated value. The standard approach is to compare the obtained  $\chi^2$  value at  $\alpha = 0.1$  level of significance. This means that with 90% probability, variables are or are not dependent.

We have to find value for one degree of freedom,

because  $(\text{number of rows} - 1)(\text{number of columns} - 1) = 1$  in Association table;  $(2 - 1)(2 - 1) = 1$  respectively.

If  $\chi^2 > \chi^2_{0.1(1)}$ , null hypothesis of independence is rejected.

Strength of dependence is determined by the coefficient of association  $V$ :

$$V = \frac{ad - bc}{\sqrt{(a + b)(c + d)(a + c)(b + d)}}$$

Coefficient of association can have values from interval  $\langle -1 ; 1 \rangle$

It is possible to calculate coefficient of association from the calculated value of test criteria  $\chi^2$ . In this case, we must express the coefficient of association as an absolute value (Svatosova and Kaba, 2009).

$$|V| = \sqrt{\frac{\chi^2}{n}}$$

As identification variables, level of education, age of women and the altitude of the area farmed were selected. Instead of ethnicity or religion, which is the same in the whole of the data sample, those variables are heterogeneous and related to many others. Therefore it is important to study them. The investigated variables are place where the women work, decision making in a family and availability of advisory centres.

### 5.3 Data collection

Antalya Province is one of touristic and agricultural centres in Turkey. In lowlands dominate citrus fruit production and production of vegetable under plastic or glass protection. Society is influenced by tourism and social rules are not so strict, especially in summer time. Agriculture in mountainous areas is focused on cereal production and culture is more traditional. During summer is possible to meet shepherds in high mountains. In winter time, those mountains are unattainable for local people.

Before primary data collection, testing of questionnaires was made during April 2013. Several deficits were discovered and unnecessary questions were removed.

The field survey was carried out between July and September 2013. A qualitative methodology was applied (Majerova and Majer, 2006). It is the ethnographic research (Hendl, 2008). Respondents were selected non-randomly. For data sampling, snowball and convenience methods were used. (Jerabek, 1992). Judgement sampling was based on experience of the author. Typical small farmers were selected. Trustfulness of farmers played a crucial role within judgement sampling. First data collection technique was anonymous Questionnaire with closed, open, filter and semi-closed questions. Questioning worked as a semi – standardized interview. The second data collection technique was non standardized observation (Majerova et al., 2008). Insights from the observation were recorded and used as ancillary source of information.

Questioning was performed at 70 family farms in the following 24 villages in Antalya Province (see Figure 3):

- Aksu, Bahtılı (Antalya district)
- Kumluca, Mavikent, Adrasan (Kumluca district)
- Beymelek (Finike district)
- Sarıbelen, Ova, Gömbe (Kaş district)
- Akçay, Çukurelma, Çobanisa, Özdemir, Çalpınar, Tekke, Düdenköy (Elmalı district)
- Deniz Tepesi, Üründü (Serik district)
- Karaöz, Cevizler (Manavgat district)
- Mahmutlar, Demirtaş (Alanya district)
- Korubaşı (Gazipaşa district)
- Murtiçi (Akseki district)



**Figure 2: Marked areas, where questioning was carried out.**

As a result of the Rural Development Project in Taourirt – Taforalt in Morocco (Ozcatalbas & Akcaoz, 2010) it was decided to include men in the questioning. 70 males and 70 females were asked separately at farm.



Much knowledge was gained through observation (see Figure 4). The observed phenomena were women’s participation in public life and the interrelationships between males and females. Less significant phenomenon observed was about agricultural production in the area.



**Figure 3: Marked areas, where the observations were made.**

The first limitation during the field survey was the hesitation of the farmers to cooperate because of cultural differences between them and the author. The second limitation was the indifference of farmers to the role of rural women in Antalya Province.



## 6. Results

This section discusses the main findings in order to solve the objectives of this study. Chapter 6.1 discusses the general characteristics of rural women and consists of a description of personal characteristics, level of education and deals with decision making in families and the working conditions of rural women. Chapter 6.2 deals with knowledge transfer about farming to the farmers. Chapter 6.3 discusses agricultural production generally, and then differences in agricultural production in coastal and mountainous areas. This chapter also includes a description of heating mechanisms of households. Chapter 6.4 discusses the economic situation of the households and the distribution method used to sell the product. Chapter 6.5 includes the  $\chi^2$  (Chi – square) Tests of the independence of variables. Selected variables are described in chapter 5.2.

### 6.1 Sociological characteristics of rural women

According to the sample used in the study, all of interviewed women belonged to the Turkish ethnic group. The dominant religion in the sample was Sunni Islam which 98.6% of interviewed women professed to be. The rest, 1.4% belonged to the Alevis Muslim faith. The average age of the interviewed women was 43.4 years; the youngest being 20 years old and oldest 80 years old. The average number of children per woman was 2.2. Overall there were 154 children; 78 boys and 76 girls. Thanks to the Kemalistic reforms the monogamous family model is still prevalent in Antalya Province.

#### 6.1.1 Marital status

In the data sample, 65 women were married, 3 women were single, 1 woman was divorced and 1 women widowed; 92.9%, 4.3%, 1.4% and 1.4% respectively. These numbers are quite positive for the cohesion of the families. On the other hand, almost all land and real estate in rural areas belongs to men which could cause serious problems to those women who wished to get divorced, not only from a social perspective (divorced





women are vulnerable) but also from a livelihood perspective, as they become homeless or worse if their family did not accept them back (refer to chapter 4.6).

### **6.1.2 Education of rural women**

In the data sample, 3 women were illiterate, 2 were literate, 53 had finished basic school, 8 had finished high school and 4 had graduated from university; 4.3%, 2.9%, 75.7%, 11.4% and 5.7% respectively.

Only 17.1% of interviewed women (12 of 70) obtained higher than a basic education, which lasts 8 years in Turkey. This hampers the development of personality and does not give many opportunities for life, beyond child care and household care; rural women can only get unskilled work. This causes the biggest gap in women's personal development with connection to rural development and low education makes women vulnerable to poverty.

### **6.1.3 Decision maker in the family**

In 80.0% of cases (n=56), the decision maker in the family is a man; husband or father. In 20.0% (n=14) of cases, women are involved in the decision making. This phenomenon is caused by the patriarchal culture in the country (Gül, 2013).

### **6.1.4 Working conditions of rural women**

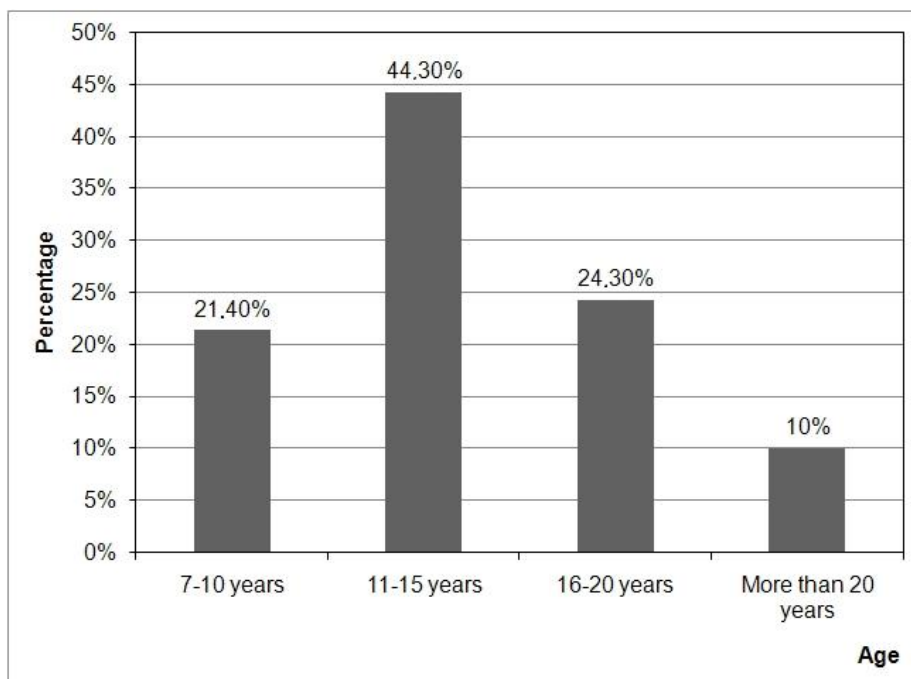
In the data sample, 15 women started working at an age between 7 and 10 years, 31 women between 11 and 15 years of age, 17 women between 16 and 20 years of age and 7 after this age; 21.4%, 44.3%, 24.3% and 10.0% respectively (see Figure 4). The author never saw small children working on the field and so cannot comment about the exploitation of children. The high percentage of the early start of work on the farm is misleading as it could be looked at as helping on the farm after school classes, which is quite normal in villages and helps to develop the personality and diligence of young people. On the other hand, most of the women stay in the village after the completion of

their basic school classes, which does not give them other opportunities than to live in the village as a housewife and undertake mostly unpaid work.

The majority of women, 64, worked on the farm, with just 6 working in another place in the city; 91.4% and 8.6% respectively. There is no risk of migration of the women to the city, as they look after the family and house. It is difficult to get permission from their husbands to commute to work. It also causes a dependency of a woman on her husband's will. Doing unpaid work puts the women out of the social system (refer to chapter 4.6). Those women, who work on the farm do unpaid work and stay at home as housewives after completion of their schooling.

Women from the data sample worked on average 9.2 hours per day. They usually work as the housewife, which is unpaid work. Here it has to be said that if it is the desire of the woman, there is no problem. But if they are too scared to complain about this or have not developed enough mental potential due to their lack of education, this seriously hampers the rural development of the area.

Division of labour is social; a woman looks after the children and house, while the man does the more skilled work and makes decisions about future operations on the farm.



**Figure 4: Age when women began work on the farm.**



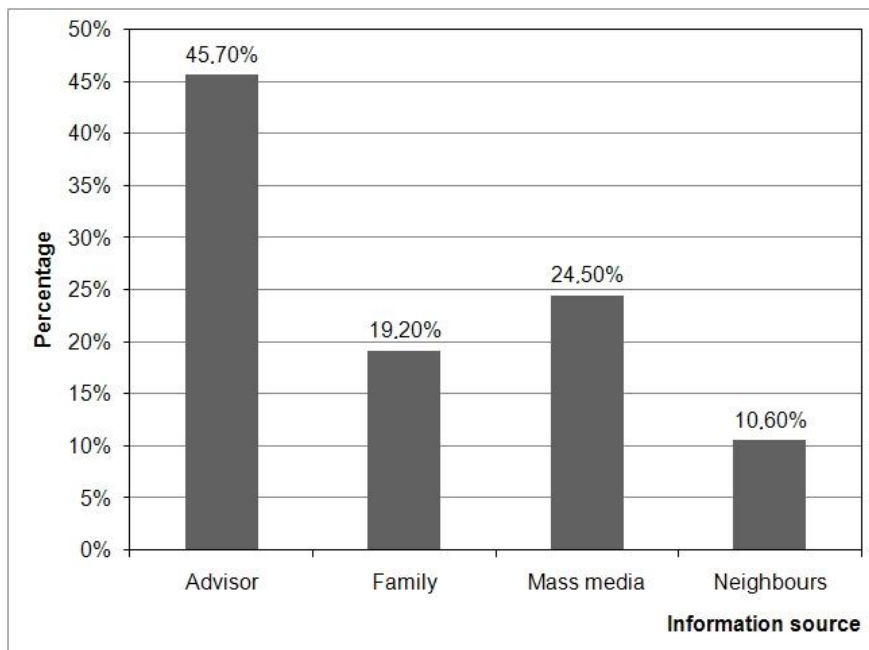
## 6.2 Knowledge transfer to farmers

As stated in chapter 4.5.3; privatized companies operate in Antalya Province. Farmers are generally satisfied with these services, but for smaller farmers these services are costly. 45.7 % of the farmers use services of an advisor (see figure 5). Two approaches have been employed. The Training and visit (T&V) approach is most widely used. An adviser comes every second week. The Participatory extension approach is less often used and is marginal in the data sample. 48 farmers answered, that in their neighbourhood there was this kind of advisory centre, and 22 farmers answered negatively; 68.6% and 31.4% respectively. The services provided were related to agricultural production, the use of fertilizers, technologies, irrigation, pest control or anything related to agricultural production and did not include women.

Another approach to disseminate information is through the mass media. Farmers stated radio, TV or internet as source of information in 24.5% cases. TV Programme about farming “Tarla TV” (Field TV) is the most popular source. Farmers are very satisfied with this TV Programme, and it is an easy way to spread information. This programme is focused on the use of technologies, animal and crop production, and does not meet the needs of women. Other important sources of knowledge are family members and neighbours.

There is evidently a gap in the use of the internet between farmers. According to the data sample, only 25 (35.7%) farmers had access to the internet at home and 45 (64.3%) did not have this possibility.

The training of women in the use of the internet can be an easily accessible and effective way of education for them. Good IT literacy leads to better job opportunities for women and a higher income, there is not the problem of commuting to work either as it is possible to work from home.



**Figure 5: Information source about farming.**

### **6.3 Agricultural production in Antalya Province**

In the data sample, the average farm size was 1.25 ha, with the minimum being 0.02 ha, and the maximum being 10 ha. Farms in Antalya Province consist of greenhouses, field and orchards.

The average size for greenhouses was 0.4 ha, 1.3 ha for fields and 1 ha for orchards. Farms are family-owned. Breeding of small ruminants, goats and sheep, which are kept mostly extensively, was very common. Due to the hot climate breeding cows was rarer. Milk breeds really suffer during the hot summer found in the Mediterranean region.

This study was focused mainly on the use of irrigation and crop production, not on animal husbandry. Animal husbandry can be source of a small but important income for women in rural areas of Turkey. On the other hand, pastoralism is not sustainable and leads to deforestation which is connected with soil erosion and land degradation, especially in areas with steep slopes, like Turkey.

As previously stated, farms may consist of a greenhouse, a field or an orchard. 41 farms have a greenhouse, 33 farms have an orchard, and 29 farms a field; 58.6%, 47.1%, 41.4% respectively.



The best earning potential for women were orchards and fields; as they do not require so much farming machinery. For sure, there is always a need for irrigation, so women should be educated in this area. When using a greenhouse there is more need for more knowledge, than be got from eight years of compulsory school attendance. With the appropriate education or extension services it is possible to support the entrepreneurship of women. The financial bottleneck is possible to solve with the provision of micro financing or the establishment of cooperatives.

### **6.3.1 Fertilizer use**

The answers to the question about the use of fertilizers were the most complicated and unclear in the whole field survey. Farmers did not have records about how many kilograms they applied during the year or season or possibly they simply did not want to answer this question. Only a few of them had any idea, but as the number was very low it was not possible to come to any conclusions from their responses. They did, however, have some idea about the amount of money spent on fertilizers. The average amount of money spent during one year for purchasing fertilizers was 5214.5 Turkish Lira (1 TL was worth approximately 0.5 USD during the field survey). The price of one kilogram of the commonly used chemical fertilizer was 1 – 10 TL, which give us a large amount of fertilizer used on a hectare. As stated, the average farm size was 1.3 ha, the average fertilizer consumption was somewhere between 500 – 5000 kg. This would imply that between 400 – 4000 kg were used on a hectare per year (!). Fertilizers were mostly applied in a water solution via drip irrigation.

There is no doubt about the excess use of fertilization in certain areas, especially areas where greenhouses are concentrated as well as some orchards in mountainous areas. There are problems with the pollution of underground water in some areas, because drainage is not employed and the quick income orientation of greenhouse industry. As we can see, the majority of farmers spent between 1 – 6000 TL per year, so we can assume that the over use of fertilizers is the case in a minority of the farms. The most widely used fertilizers are several N-P-K mixtures or N-P mixtures, ammonium nitrate, ammonium sulphate, potassium sulphate as well as fertilizers which include calcium and dung.



The use of fertilizer provides great possibilities for women as their use needs care and concern for health care. It might be women who make notes about fertilizer use and with appropriate education the right person to say that as it is not healthy, organic fertilizer should be used. With wider awareness in society, this could work. In the case of products for export this is an obligation set by the controlling bodies. For the domestic market, it is very difficult to control the amount of chemicals in products, especially if they are sold in market halls. We can assume that women would care more about healthy nutrition.

It is obvious, that agricultural production in Antalya Province is heavily industrialized and 90% of interviewees used some chemical fertilizers. According to the expenditure on the purchase of fertilizers, we can assume that the amount of fertilizers applied is not low.

Educating women about this issue and letting them express themselves could be advantageous for the whole of Turkish society. Extension services focused on organic farming might be a solution.

### **6.3.2 The Equipment used on the farms**

Turkey is a semi – arid country and there is almost no rain during the summer. Thus, each of the farmers owns some type of irrigation system. The most widely used irrigation system is drip irrigation, which is employed by 82.9% of the farmers, which is followed by use of gravitation systems by 31.4% and sprinklers by 21.4%. Water is distributed by aboveground or surface channels with 70% of the farmers owns water pump. There is competition between the agricultural and tourism sectors in water consumption.

50% of the farmers owned a tractor. Turkish people are very cohesive, so they often share their tractors.

In the data sample households were dependent on wood heating. It is easily available and a cheap solid fuel. Less frequently heating is provided by coal. Heating by electricity is marginal in rural areas of Turkey unlike in the towns. The future risk of deforestation and air pollution are probable.

Improvements in this sphere are crucial for rural women. They are the ones who often collect wood for heating and then do not have time for other activities. Furthermore,



this work is physically demanding, especially in mountainous areas. Education of women in renewable energy sources use is required.

### **6.3.3 Agricultural production in coastal areas**

Forty – eight of seventy researched farms are located in coastal areas. The altitude in the researched areas is less than 200 meters above sea level. The average size of a farm was 0.8 ha. Farms may consist of greenhouse, field, orchard or a combination of these. The average size of greenhouse in the coastal areas was 0.4 ha, the average size of field was 0.8 ha and the average size of orchard 0.7 ha.

It is evident, that farms in coastal areas were a smaller size than the average total farm size. On 34 of 48 farms, they had greenhouses, on 16 of 48 farms field and on 19 of 48 farms orchard; 70.8%, 33.3% and 39.6% respectively. We can say that farms in the coastal areas were mainly focused on production in greenhouses and their size was small.

Agricultural production in coastal areas provides good possibilities for women for many reasons; the composition of farms is various and provides many opportunities for entrepreneurship, especially the greenhouse industry. The social rules are also less strict than those in mountainous areas.

The climate in coastal areas of Antalya Province is Mediterranean – subtropical. Rainy cold winters without freezing and hot dry summers allows the cultivation of various crops. The season starts in March and finishes in December and it is possible to get two harvests during the season. Fruit and vegetable production in greenhouses and citrus fruit production in the orchards is the most important. Due to the small farm size and carelessness of the farmers it was impossible to get the exact information about, how much land is used for the cultivation of particular crops.

The annual average expenditure on fertilizers was 4829 TL (1TL = approximately 0.5 USD during field survey). As stated before, questions about fertilizers were the most complicated. Tables bellow illustrates the expenditure on fertilizers and the composition of fertilizer used.

The fertilizers used were mainly chemical in character; with just a minority of the farmers not using fertilizers or only using organic fertilizers. As stated before, the deeper education of women on this issue could be advantageous.



In the data sample, 50% of the farmers owned a tractor. Due to high evaporation the most widely used type of irrigation system was drip irrigation with 89.6% followed by sprinklers with 29.2%, gravitation systems with 20.8%. 83.3% of the farmers owned a water pump.

### **6.3.4 Agricultural production in mountainous area**

Twenty two of the seventy researched farms were located in mountainous areas. Researched areas are located at an altitude between 700 and 1200 meters above sea level. Farms may consist of greenhouses, fields, orchards or a combination of these. The average farm size in mountainous areas was 2.2 ha, the average size of greenhouse was 0.3 ha, the average size of field was 1.9 ha and average size of orchard 1.5 ha.

It is evident that farm size in mountainous areas was higher than that in coastal areas. 7 of the 22 farms had a greenhouse, 13 of 22 farms had a field and 14 of 22 an orchard; 31.8%, 59.1% and 63.6% respectively. Unlike the farms in coastal areas, talk of a greenhouse industry is not appropriate as mainly production of cereals and fruit was undertaken in fields or orchards.

Due to the lower population density and stricter social rules, there were fewer possibilities for women's expression. As well as in term of production, conditions are much harder. With long winters, hand crafts and sessions for women could improve the lives of women.

The climate in the mountainous areas allows just one harvest per year. Winters are harsh and frosty with lots of snow and summers are hot and dry. The growing season starts in April and finishes in October. The most important products are cereals and fruit, especially the production of apples. Due to the laxity of farmers it was difficult to get exact information about how much land was used for the cultivation of particular crops.

As mentioned before, the issue of fertilizers was the most problematic. The annual average expenditure on fertilizers was 6374 TL (1TL = approximately 0.5 USD during the field survey). Due to the small number of researched farms and the significant number of farmers that did not respond, the results obtained in this part of survey cannot be considered as typical.





As stated before, the education of women in fertilizer use could be very beneficial, due to the care they take and their interest in healthy nutrition. The fertilizers used mostly consisted of chemical fertilizers, mainly several N- P- K or N –P fertilizers, ammonium nitrates, ammonium sulphates or compounds of phosphate and potassium. Due to the small number of respondents, it is difficult to talk about whether there is over fertilization.

According to the data sample, 50% of the farmers own a tractor. The most common type of irrigation is drip irrigation with a 68.2% response. Gravitation systems using fresh water from the mountains are also common with 54.6%. The use of sprinklers is marginal with 4.6 %. Nine of the twenty two farmers owned water pump, which was much less than in the coastal area. This could be because of the better access to surface water and gravitation irrigation systems.

## **6.4 Economic characteristics of households**

Finances, business and decision making in the families is mainly in hands of males. They are planning financial operations and dealing about business.

### **6.4.1 Income and expenditures of household**

In the data sample, the average monthly income of the household from agriculture was between 0 – 400 TL for 16 farmers, between 401 – 800 TL for 24 farmers, between 801 – 1200 TL for 14 farmers, between 1201 – 1600 TL for 5 farmers, between 1601 – 2000 TL for 1 farmer, more than 2000 TL for 3 farmers; 22.9%, 34.3%, 20%, 7.1%, 1.4% and 14.3% respectively. (1TL was equal to approximately 0.5 USD during the field survey). Income from agriculture was less than 1200 TL for 77.1% of farmers.

Similarly, average monthly expenditures of the household was between 0 – 400 TL for 21 farmers, 401 – 800 TL for 28 farmers, 801 – 1200 TL for 11 farmers, 1201 – 1600 TL for 6 farmers, 1601 – 2000 TL for 1 farmer and more than 2000 TL for 3 farmers; 30%, 40%, 15.7%, 8.6%, 1.4% and 4.3% respectively. The average monthly expenditure of 85.7% of the sample population was less than 1200 TL.



Just 18 households had some off-farm income, 52 have not. There is a large difference. Almost 75% of respondents are solely dependent on agricultural production. This could be a critical element when natural disasters such as floods, droughts or an earthquake occur. We have to state again that the better involvement of women in labour force can ameliorate the situation, but we have to respect social rules in the study area.

#### **6.4.2 The distribution chain**

The majority of the farmers, 61 (87.1%) sold their products, just 9 (12.9%) did not. The most appointed way of sale was through wholesale halls, which further distributes the products to retailers in big Turkish cities or abroad. The prices for farmers are not very good in this system.

Another popular approach is direct sale in the market halls which each small town has along with a pre-determined market day. In bigger cities individuals can go to the market every day and buy fresh fruits and vegetable and these are very famous in the west of Turkey. These markets are also social event, when neighbours meet each other and spend a great time together. Women are abundantly involved in this process. The absence of middleman brings higher income to the farmers using this approach.

People also sell their products by the road which is another kind of direct sale. Other approaches are marginal. The question about methods used was open, thus attribute n=67.



## 6.5 Dependence of qualitative variables

As identification variables, level of education, age of women and the altitude of the area farmed were selected. Instead of ethnicity or religion, which is the same in the whole of the data sample, those variables are heterogeneous and related to many others. Therefore it is important to study them. The investigated variables are place where the women work, decision making in a family and availability of advisory centres.

The research revealed just one dependency between level of education and place, where the women work (see table 5). Thus it is important to support secular education for rural women, which will provide better job opportunities for them.

**Table 5: Chi – square Test of qualitative variables.**

<b>Variables</b>	$\chi^2$	$\chi^2_{0.1 (2.71)}$	<b>V</b>
Job place	20.24	+	0.54
Level of education			
Decision making in the family	0.23	-	-
Level of education			
Job place	0.58	-	-
Age of women			
Decision making in the family	0.39	-	-
Age of women			
Availability of advisory centres	1.34	-	-
Region			
Level of education	0.28	-	-
Region			
Decision making in the family	0.15	-	-
Region			



## 7. Discussion

The findings confirm that women in Turkey are a disadvantaged social group. The low level of education was alarming, 58 of 70 (82.9%) respondents had basic education or lower. Similar findings revealed research in Bangladesh provided among 653 Muslim women. Only 10.3% of women studied more than 10 years (Sayem and Nury, 2013). The lack of work experiences among Turkish women was evident, 64 of 70 (91.4%) women stayed at home as an unpaid labour force. Findings from Bangladesh revealed similar results, 89.9% of women were housewives (Sayem and Nury, 2013). The involvement of women in family decision making was low; they were involved in only 14 of 70 cases (20%). After the completion of basic school, women usually got married and stayed in the village taking care of their children and house. On the other hand, this phenomenon was beneficial for family cohesion.

In the data sample, there were not noticeable dependencies between the level of education and the age of women; the region and decision making or the place where the women worked. But it was evident, that obtaining an education above basic level gave women better job opportunities. The Coefficient of Association (V) between the level of education and place where women worked was 0.54; which shows a medium level of dependency. Better educated women were able to find a paid job and contribute to household income. Social benefits are conspicuous, well educated women are able to give more knowledge and experience to her children (Gökovalı, 2013), they are more experienced and open minded. All these aspects contribute to sustainable rural development, which is not based just on pure technology or economic growth. The development of personality is very important as well, otherwise, the entire growth may go the wrong way.

This is not only a family problem, but mainly political, the neo – liberal policy of the governing JDP (Gökovalı, 2013) is leading Turkey back from the modernization which was promoted by Republicans. The weakening of the Kemalistic Principles (Temel, 2005) within the last 11 years is making women vulnerable in many aspects, including the equal access to education, social system and human rights generally (Gökovalı, 2013). Terror



and the victimization of the political opposition in June 2013 proves that the current Turkish government is not keeping basic democratic principles, which creates a deep divide in society and huge barrier in the amelioration of women's status in Turkey.

The tools which could possibly be used to develop women's skills are mainly in the hands of powerful local authorities and educational institutions. The adviser is most important for knowledge transfer to farmers, appointed in 45.7% cases. The common extension services are male and production oriented. Extension services should not be oriented just on improving yield. It is necessary, especially for women, to work on personal independence and self-confidence and to show them that world provides more opportunities than to be an obedient housewife. Thus courses in computer literacy, technological training, support of entrepreneurship and marketing training are also required. There is an evident difference in the use of the internet between farmers. According to the data sample, only 25 (35.7%) farmers had access to the internet at home, while 45 (64.3%) did not have this possibility.

On the other hand, it is mistake to judge culture which has worked successfully for centuries and still works with a different model. Solidarity and the cohesion of Turkish society give many opportunities for rural women. Emancipation of women in Islamic countries is possible. The situation of women in the past in Europe was complicated as well but they officially reached equality with men after the First World War. In Turkey, equality between genders was promoted at the same time. The current unenviable situation of women is mainly the result of the governing JDP. The Kemalistic tradition in Antalya Province is still strong. Hence, it is one of appropriate places to start to implement new approaches.

## **Conclusion**

The continuation of research on this topic is necessary in order to spread awareness about the unenviable situation of Turkish women. The greater involvement of international organizations and NGOs is desirable, due to the current policy in Turkey which is biased against women. Sensitive help from abroad could be beneficial. This help must respect the local culture. Cooperation with local authorities is necessary.



It is necessary to support an extension service focused on women farmers, the foundation of cooperatives by women and any other activities which will unite women, including sport activities, clubs or social networks.

To obtain the greater independence of rural women in Antalya Province, extension services targeted on women should be focused on the computer literacy, entrepreneurship, use of renewable energy sources, organic farming and marketing skills of women farmers in Antalya Province.

Good skills in computer literacy give women the opportunity to work from home. It is an uncomplicated way to increase the income of the family. Computer literacy empowers new life possibilities, connection with other people and access to information. Therefore an expansion of the internet in rural areas is crucial.

Initial financial support for women's entrepreneurship is desirable. Micro-financing might be appropriate solution.

The education of women in issues connected with fertilizer use might be beneficial for the whole Turkish society. Over fertilization is a potential environmental risk in Antalya Province. The solicitude of women might solve this problem. Rural women in Antalya Province like healthy nutrition, therefore they should be educated in organic farming.

Other environmental and health risk is wood heating. Wood heating and pastoralism may lead to deforestation and soil erosion in some areas. Appropriate renewable energy sources should be introduced. Solar panels are most suitable in coastal areas due to sufficient sunlight. Small hydropower plants are suitable for mountainous areas. Small biogas plants are ideal solution for the whole Antalya Province.

Education of women new farming approaches and new technological systems might shift them out of the margin of the society.



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## 8. Appendices

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# Appendices

## Appendix I: Questionnaire for farmers in Antalya Province – part for women.

Village.....  
Date .....

### The role of rural women in Antalya Province

1.) Age .....

2.) Religion

- a) Sunni
- b) Alevi
- d) Other

3.) Ethnicity

- a) Turk
- b) Kurt
- c) Laz
- d) Other

4.) Education

- a) Illiterate
- b) Literate
- c) Primary school
- d) High school
- e) University

5.) Marital status

- a) Married
- b) Single
- c) Divorced
- d) Widowed

6.) How many children do you have? How old are they?

	Boy	Girl	0-6	7-12	13-17	18 -
1						
2						
3						
4						

7.) At which age did you start to work?

- a) 7 – 10
- b) 11 – 15
- c) 16 – 20
- d) >20





2.) Do you have any farm mechanization? Which fertilizers do you use? How much per year do you spend for fertilizers?

Fertilizer	Annual TL	Mechanization	Yes	No
ammonium nitrate		Tractor		
ammonium sulphate		Drip irrigation		
Urea		Gravitation systems		
potassium sulphate		Sprinklers		
diammonium phosphate		Water pump		

3.) Do you sell your products?

a) No      b) Yes → Where.....

4.) What is an average monthly income for your household?

- a) 0 – 400 TL
- b) 401 - 800 TL
- c) 801 – 1200 TL
- d) 1201 – 1600 TL
- e) 1601 – 2000 TL
- f) 2001 TL +

5.) How much money does your household spend on average per month?

- a) 0 – 400 TL
- b) 401 - 800 TL
- c) 801 – 1200 TL
- d) 1201 – 1600 TL
- e) 1601 – 2000 TL
- f) 2001 TL +



**6.) Do you have some income out of your farm?**

- 1) No
- 2) Yes →

Wherefrom? .....

**7.) Which fuel do you use for heating of your house?**

- a) Wood
- b) Coal
- c) Electricity

**8.) Do you have an internet in your home?**

- a) No
- b) Yes

**9.) Is in your neighbourhood some Agricultural advisory centre?**

- a) Yes
- b) No

**10.) Where do you take from information about farming?**

- a) TV / Radio
- b) Progenitors
- c) Neighbours
- d) Internet
- e) Book
- f) Adviser
- g) Other .....



### Appendix IIIII: Applied Extension Approaches (Ozcatalbas et al., 2011).

<b>Period</b>	<b>Approach</b>	<b>Level and place</b>	<b>Implementers</b>
<b>1950s-1980s</b>	The general agricultural extension approach	National	MARA
<b>1963-</b>	The project approach	Regional	MARA and int. finance institutions
<b>1963-1978</b>	The training and visit approach	Regional	MARA and int. finance institutions
<b>1982-</b>	The commodity specialized approach	Regional, second crop research and extension project	MARA
<b>1984-1997</b>	The training and visit approach	National – Regional	MARA and int. finance institutions
<b>1987-</b>	Participatory cost – sharing approach	Regional-Tekirdag Province, Leader farmer Project	The Union of Turkish Chambers of Agriculture and German Agricultural Society
<b>1990-1998</b>	The farming system development approach	Regional – Taurus Mountains (Adana and Mersin Provinces)	Faculty of Agriculture – Cukurova University, The Ministry and ICARDA
<b>1991-1994</b>	The participatory rural appraisal	Regional (Sivas, Kayseri Provinces)	Central Research Institute for Field Crops of the Ministry, ICARDA
<b>1998-2000</b>	Participatory learning and action approach	Regional Odemis district in Izmir Province (Bademli village)	The Agricultural Research and Extension Center of University of Ege, Izmir
<b>1999-2001</b>	The participatory rural appraisal	Izmir Province	AREC of University of Ege, Izmir
<b>2004-2005</b>	Participatory group-based learning approach, Farmer field schools	Regional – Burdur Province	EU, Chamber of Agriculture of Burdur Province, The Turkish Employment Organization
<b>2005-2007</b>	Participatory group-based learning approach, Farmer field schools	National, organic agriculture for Turkey	MARA, FAO
<b>1998</b>	Participatory rural appraisal	Regional, Kemalpaşa district of Izmir Province	AREC of University of Ege, Izmir