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FAKULTA REGIONÁLNÍHO ROZVOJE A MEZINÁRODNÍCH STUDIÍ

# Support of small-scale farmers from Mbekweni township trough establishment of agricultural extension program

BACHELOR THESIS

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**Brno 2016**

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## Acknowledgement

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## Abstract

Šulc, L. *Support of small-scale farmers in Mbekweni township trough establishment of agricultural extension program.* Bachelor thesis. Brno, 2016.

The aim of this thesis is to examine the possible role of agricultural extension program in Mbekweni township in Republic of South Africa. The first theoretical section discusses basic aspects of current environment of agricultural holdings, role and position of small-scale agricultural holdings in current agribusiness. Special emphasis is put on concept of agricultural extension as a tool for provision of information connected to farming practices. In the second practical section the model project using this method for particular target group. In accordance with findings of this thesis is this project recognized as relevant for current situation.

**Keywords**: Republic of South Africa, small-scale farms, agribusiness, agricultural extension, information provision

## Abstrakt

Šulc, L. *Podpora malých rodinných farem v okrajové městské části Mbekweni prostřednictvím zřízení poradenského programu v otázkách zemědělství.* Bakalářská práce. Brno, 2016.

Cílem této bakalářské práce je přezkoumat možné využití poradenského programu *v okrajové městské části Mbekweni* v Jihoafrické republice. První teoretická část projednává základní aspekty nynějšího prostředí zemědělských statků, roli a pozici malých rodinných farem v současném agrobyznysu. Speciální pozornost je věnována poradenským aktivitám v rámci zemědělství jako nástroje pro provizi informací spojených se zemědělskou činností. Na základě toho je v druhé praktické časti navržen modelový projekt využívající tuto metodu pro konkrétní cílovou skupinu. V souladu se zjištěními této práce je tento projekt posouzen jako relevantní dané situaci.

**Klíčová slova**: Jihoafrická republika, malé farmy, agrobyznys, poradenské služby v zemědělství, poskytování informací

# Content

# 1 INTRODUCTION

Despite the efforts of various non-governmental organizations and development agencies, but also government initiatives, there are still prevailing serious issues in developing countries. These are mostly connected to poverty, hunger, non-accessible education, gender inequalities, child mortality, diseases such as HIV/AIDS, malaria and others.

In case of developing countries, special emphasis is put on agriculture and its significant opportunities for eradication of most of the issues mentioned above.

Although the trends in world economy are based on shifting from primary sectors to secondary and more precisely to tertiary represented by services, agriculture still remains key aspect of development in developing countries.

As it is mentioned in this thesis, most of the farm land worldwide is owned by small-scale farmers. Their significance is even more important in case of developing countries, where they present crucial aspect of household food security. The current situation of agribusiness and globalization of markets creates rather problematic environment for small-scale farmers, especially in developing countries. Therefore systematic aid has to be provided. This could be achieved trough various government programs, private agencies etc. There are many methods, how to support small-scale farmers, but they should all have in common the effort to develop their agricultural skills in order to increase productivity, which results into better food security and income generated from agricultural activities.

This bachelor thesis aims to examine current position of small-scale farmers in context of agribusiness and promote their support trough agricultural information provision.

# 2 AIM AND METHODOLOGY

## 2.1 Aim of the thesis

The aim of this thesis was to investigate possible function of agricultural extension program as a support instrument for development of small-scale farmers agricultural skills connected with the improvement of their farming productivity in terms of higher yields and that have potential to enhancing food security and higher income of the households. Concrete development project is proposed, with main objective to deliver agricultural information to particular target group of small-scale farmers.

In order to achieve fulfilling of the thesis aim it was necessary to set specific objectives, so the process is more systematic. Specific objectives are following:

- To examine current state of agribusiness, its latest trends and situation of agriculture holdings within agribusiness as well as describe phenomenon of small-scale farmers and their conditions in current agribusiness.
- To investigate concept of agricultural extension programs and its potential contribution to support information needs of small-scale farmers
- To define current state of South African agriculture, together with more detailed characteristics of particular target group and propose the solution for the analyzed problems
- To create and evaluate model project designed based on problem identification of particular target group in Republic of South
- Summarize the findings of the thesis and interpret them in form of conclusions

## 2.2 Methodology

This bachelor thesis is based on various methods that guarantee higher relevance of presented findings.

Mainly in the first part, descriptive methods are used in order to depict agribusiness and its main characteristics. Within the scope of chronological continuance, it was firstly essential to define current trends shaping the agribusiness and conditions for various

agricultural holdings within this system. Attention was also dedicated to definition of small-scale farms and their opportunities and limitations within the agribusiness. This was based mostly on the internet sources of foreign authors and publications of various international agencies involved in the topic, but printed publications as well.

Second section also uses descriptive methods for characterization of concept of agricultural extension program with emphasis put on potential providers of this services and main principles.

Next part of the thesis is based on empirical research that took place in the very locality, where proposed project is intended to be implemented. This questionnaire survey took place in September 2014 in Mbekweni township situated in the south of the Wellington, Western Cape. The research consisted in questionnaire survey that was developed together with local agricultural experts represented by University professors and community workers experienced with the target group. The questionnaire was focused on determination of small-scale farmers profile from the Mbekweni township. Next parts of the survey consisted of farm characteristics together with typical crops cultivated. Furthermore, respondents were asked to mark out importance of agricultural activities for their household income. Questions also included food security aspect and last part was dedicated to information needs of small-scale farmers and their preference of information provision service. Number of respondents accounted for 20 small-scale farmers representing their households. Due to language barrier, it was essential to ensure interpreter. The questionnaires itself were written in English form, but had to be translated to Afrikaans, in some cases also to Xhosa language. Apart from language barrier, perception patterns of respondents also presented challenge that needed to be solved. Therefore, questions were simplified according to advice of local community worker.

Based on the survey and other collected data, problem was identified, embodied in poor agriculture information provision to small-scale farmers in Mbekweni township. Therefore model project was presented and characterized with its main activities and methods. Proposed model project is establishment of agricultural extension program.

In the last part, synthesis of developed results was carried out. As a part of discussion, individual contributions of the proposed project are identified. This section is also dedicated to evaluation tools used for verifying weather the objectives were achieved. In order to estimate feasibility of the model project, sustainability and risk management aspect is also examined.

# 3 THEORETICAL BACKGROUND

## 3.1 The current state of agricultural industry

In order to fully understand phenomenon of small-scale farmers, it is necessary to briefly introduce current state of agricultural industry in general along with definition and characteristic of connected phenomenon of agribusiness.

The consequences of globalization process shape significantly development of current agricultural industry. This results into modifications in food demand triggered by trading companies accompanied with natural resources exploitation. These represent serious challenges for positive productivity growth and efficient factor allocation.

Classical agricultural economics theories are no longer applicable to reality mentioned above. Complexity of factors influencing food production results in more theoretical approaches focusing on globalizing economy in wider context and methodological conception in agribusiness. (Bečvářová, Tamáš, & al, 2014)

### 3.1.1 Agribusiness – definition, characteristics

There are many available definitions from various respected authors, one of them defines Agribusiness following:

" *the total sum of all operations involved in the manufacture and distribution of farm supplies, production operations of the farm and the storage, processing and distribution of farm commodities and items made from them*." (Davis, Goldberg, 1957 in Bečvářová, Tamáš, & al, 2014)

According to this classic definitions agribusiness involves the following branches:

1. supplying sector of inputs for agriculture and food industry (specialized engineering industries, chemistry, energy, etc.),
2. agricultural primary production,
3. feed industry,

4. services for agriculture and food industry (supplies, purchasing, maintenance, improving and seed production, breeding services, applied research, education, consulting etc.),
5. food production and other processing industry,
6. food trade and public catering.

Another authors also presented similar definitions to the one mentioned above:

*"Agribusiness includes all those business and management activities performed by firms that provide inputs to the farm sector, produce farm products, and/ or process, transport, finance, handle or market farm products." (Downey, Erickson, 1987 in Lu Wang* & Jiaxun, 2014)

Classical agriculture has gradually evolved into agribusiness, that represents more complex and comprehensive system, which unifies various activities coming from farm production to distribution of products with added value to consumers. Apart from individuals responsible for farming the land, agribusiness also includes other parts of the agricultural chain, both input and output specialized. As for input, we can mention subjects, that are providing necessary input such as seeds, chemicals etc. Output part of the chain consists of processing, manufacturing of the products, transportation, trading and processing the products. (Lu Wang & Jiaxun, 2014)

The concept of Agribusiness represents determination and characterization of mutually linked operations that create interconnected system within agricultural production. This means, that Agribusiness encompasses various types of economic industries that are linked to any part of transformation process of agricultural commodities. (Bečvářová, Tamáš, & al, 2014)

Scheme of the basic structure of Agribusiness with all its parts is depicted below.

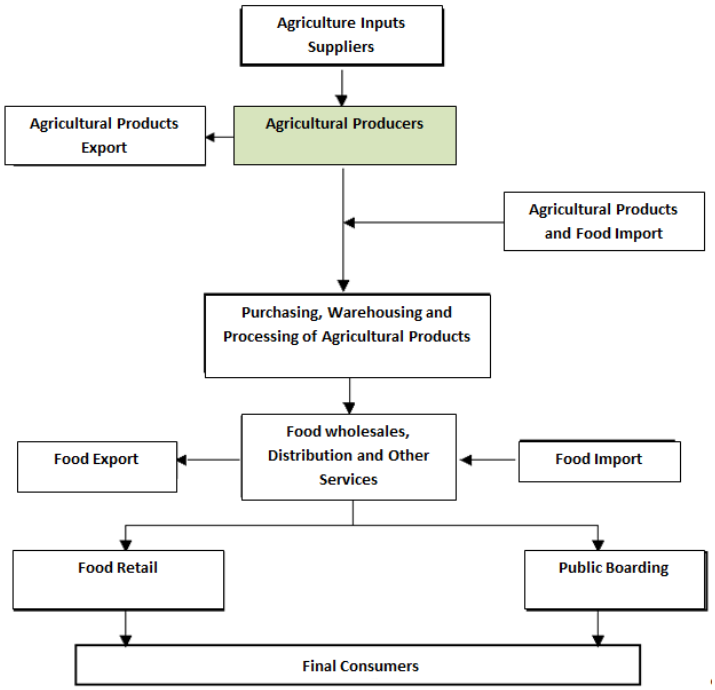


**Figure 1: Basic structure of agribusiness (source: Bečvářová, 2013)**

There are also available statistics that show high proportion of working population employed within agribusiness, particular 50%. Half of all the world assets as well as half of the world expenditures are involved in agribusiness. For better illustrations, there are available data presenting that agriculture proportion is decreasing with respect to GDP and absolute number of workforce, according to ERS USDA data, the agricultural output during break of millennium in USA accounted proximately 2% of the GDP and directly employed around 3% of the primary industry labor. On the other hand the whole agribusiness with all the involved subjects such as it is explained in previous paragraphs accounted for proximately 18% of the US gross domestic product and employed around 21 million people, which represents proximately 18,5 % of US national workforce. (Goldberg, 1998 in Bečvářová, Tamáš, & al, 2014)

## 3.2 Position of small-scale farmers in current agribusiness

In this chapter emphasis is put on more specific phenomenon- small-scale farming. Small scale farmers are the main topic of this bachelor thesis. Firstly, it is briefly described the concept of small-scale farmers, its dimensions and size structure. Attention to small-scale farmers and their conditions within agribusiness is also paid in this section.

### 3.2.1 Small-scale farm characteristics

#### 3.2.1.1 Size structure of agriculture holding

One of the crucial assumption for objective analysis of agricultural development is to understand context of forming size structure of agricultural enterprises together with knowledge of indicators that reflect their effective functioning within the sector and positive impact on economic growth in general. The question of defining size of the agriculture enterprise is rather sophisticated process due to specific challenges emerging from re- structure of the sector. These are mostly presented by various re-combinations and transfers of utilized resources such as soil or capital. Apart from this, for current agricultural environment is also typical modification of strategies, mostly connected to re-orientation of an entrepreneurship. All mentioned above introduces complex questions when it comes to relation of size structure and effectiveness of enterprise within modern agriculture. (Zdráhal & Bečvářová, 2013)

These data give us just general picture about the enterprise, based on these we are not able to determine more sophisticated and detailed processes and causalities that affect the final shape and size of enterprise. For food processing industry is typical dynamic and always changing environment, which complicates analysis of factors that influence size of the enterprise. Thus, we cannot rely just on classification based on above mentioned criteria, because they tend to present just static facts. For our purpose this general definition is sufficient, in next chapter more detailed characteristics of small scale-farms is presented.

#### 3.2.1.2 Small-scale farms dimensions

In the literature, we can observe other terms de noting small-scale farmers such as smallholder or family farmer.

Together with size structure of the farm, it is also crucial to pay attention to aspect of family farms, their characteristics and function, because they represent significant share of agricultural holdings mostly in rural areas. One of the biggest advantage of family farms is the motivation of the employees that is higher than at workers in regular farms. Contrary, regular employees have to be more controlled and motivated by financial progress or more attractive contract. As for the disadvantages, they emerge mostly in case of smaller poor family farms and they are represented mainly by problematic access to external financial resources connected with low initial budget. Smaller family farms also tend to have higher transaction costs on credit market. (Zdráhal & Bečvářová, 2013)

According to the International Fund for Agricultural Development there are estimated 450 million small-scale farmers worldwide according to their size, which is set by IFAD 2 hectares or less. These farms are estimated to support proximately 2.2 billion people and represent around 85 percent of all farms worldwide. (IFAD, 2013)

Based on data provided by FAO (Food and Agriculture organization of United Nations) there are more than 570 million farms in the world. Most of these farms, more than 90 percent, can be characterized as family farms due to type of labor supply. Thus concept of family farming is the most spread one with respect to agricultural holdings worldwide. As for their land occupation, family farms are covering around 70-80 percent of arable land and play crucial role in the food production context. Based on data, 80 percent of all food in value terms is produced on family farms. Context of food security and its relation to small scale and family farms will be analyzed in more detail in later chapters. Beside this fact, there is another important tendency proving, that in countries with lower-income farms tend to be even smaller than in those more developed. 72 percent of all farms worldwide are small farms that cover less than 1 hectare. On the other hand, these farms occupy only 8 percent of all agriculture land. (FAO, 2014)

As mentioned in previous chapter, just the size of the enterprise might be in this context misleading. It is necessary to encompass local or national context. Perception of the farms size differ based on location of each farm, dairy herd in Bavaria of 40 cows can be identified as small-scale same as soybean operations of 1,000 hectares in the U.S. Furthermore, many small-scale farms tend to be more productive and prosperous than their bigger competition within the same territory. For the land, where small-scale farming is performed is also symptomatic that they are not all owned by farmers cultivating these. (Murphy, 2012)

#### 3.2.1.3Small-scale farmers and their prospects in agribusiness

This chapter examines position of small-scale farming in current agribusiness environment. Special emphasis is put on the context of developing countries and latest trends in agricultural sector that is affected by industrialization and changes of world market. These modification of current state of agribusiness presents both opportunities, but mostly limitations for small-scale farmers.

The direction of agriculture sector in developing countries is not respecting structural changes that are undergoing in developed world economies. For agricultural industry in developed world is typical that small-scale or family farms are losing its importance and tend to be replaced by firms of larger size, that have crucial competition advantage in form of better interconnection with production and distribution chains. (Boehjle, 2000 in Kirsten & Sartorius, 2002).

Generally, main factor influencing the state of agricultural sector in developing countries is globalization of world markets, more precisely their integration that flew into higher dependence of agricultural holding on world market tendencies. This is direct consequence of market-oriented reforms and liberalization of multilateral trade. Special role on current state played mainly structural adjustment programs undergoing in developing countries represented by loans from International Monetary Fund (IMF) and the World Bank (WB). (Reardon & Barrett, 2000 in Kirsten & Sartorius, 2002)

These interventions have led to increased interconnection between farmers from developing world and corporations and consumers from developed world.

All above mentioned combined with sociological changes such as different perception of the family concept, that occurred recently, have shaped and modified dynamics in family farming. Main example is attractiveness of job opportunities provided by family farm. This is typical mainly for women in developing countries that prefer non-agricultural employment. This is usually accompanied by technological improvement leading to decrease of time spent by household activities. Motives for replacing development of house farm for other employment are in particular higher benefits and incomes. This brings about consequences for family farms such as phenomenon of part-time farming and decrease of the farm size. (Zdráhal & Bečvářová, 2013)

Rural employment in general as well as small-scale farmers were directly affected by emerging agribusiness tendencies and as a consequence, increase in off-farm labor activities, which presents income for household. This no longer applies just for off-season time, but during whole year. (Murphy, 2012)

Another crucial aspect affecting small-scale farmers is persistent change of consumer demand for food and agricultural products. This changes are also accompanied by consumers demand for so called differentiated commodities that are contrary to regular products unique from commodities produced by competition.

As various specialists agree, analysis of available sources demonstrates growing popularity of food with different attributes such as local or organic production.

In this case, it is rather problematic to state weather this factor is negative or positive. In case of small-scale farmers in developing countries it is more probably problematic development, because apparently consumers nowadays no longer have to purchase differentiated commodities and products in specialized stores but majority of these products are available in regular supermarkets. (Painter, 2008)

Therefore, small-scale farmers are obliged to link themselves to large distribution chains that are in many cases unavailable to them as it is mentioned below.

Apart from consumer demands, problem also arises with higher safety standards for fresh food products that account for half of the value of exports from developing countries in

food and agriculture production. These products consist of fruit, vegetable as well as fresh meat or seafood.

Production of such commodities requires specialization in terms of safety, packaging, refrigerated transport when it comes to goods with high perishability. Together with marketing requirements of fast developing sector, these input factors demand financial investments that again represent limitation for small-scale farmer, especially in developing countries. (Painter, 2008)

Mentioned standards pose significant problem for small-scale farmers. Farmers that are trying to access global value chains or supermarket distribution systems are threatened by need for meeting of standards the most. But this can present advantage and opportunity for making their products unique and distinguishable from goods coming from competitors by using various labels. This is usually capitalized on by environmental or fair trade organizations, however the general impact on improvement of small-scale farmers conditions within agribusiness are sufficient.

On the other hand there, besides all the mentioned disadvantages resulting from globalized and centralized system, there also opportunities for small-scale farmers. From business perspective, small-scale farmers are more reliable partners and tend to continue in already agreed contracts, even if more beneficial alternatives are offered. This is caused mainly due to relatively weak market power of small-scale farmers, which present valued advantage for contractors. (Murphy, 2012)

Rather problematic access to the market was presented as one of the main limitations that small-scale farmers are facing, but based on extensive statistics, majority of them adapted to this situation. Small-scale farmers are in many cases dependent on informal channels to distribute their production. Informal markets offer crucial outlet for both their production, but also as place where non-farm activities are practiced. It is typical that there is no formal organization of producers. Agricultural experts are suggesting to consider, weather it is not preferable to advantage informal practices and informal market itself, that presents crucial link between small-scale farmers and poor, rural or undeveloped urban areas. (Volrey, 2013)

Unpredictable seasonal influences plays also crucial role. If the situation, when natural effects are not controllable, occurs, than most favorable type of agriculture system is the small-scale and family farms. In some of the situations, natural influence can be controlled by for example systems of greenhouses, as it works in cases of vegetable or fruit farming. This is most typical for industrial type of agriculture. Since this requires investments into equipment of the farm, some of them are still not provided with this, mainly in developing counties, so adaptability of family farmers to unpredictable seasonal tendencies is their important advantage. (Zdráhal & Bečvářová, 2013)

Opportunity for small-scale farmers also consists in tackling the constraints that they face with help of various organizations that can ensure institutional innovations by applying various arrangements. These would most favorably create more appropriate environment for small-scale agricultural activities. Example of these innovations is depicted below.

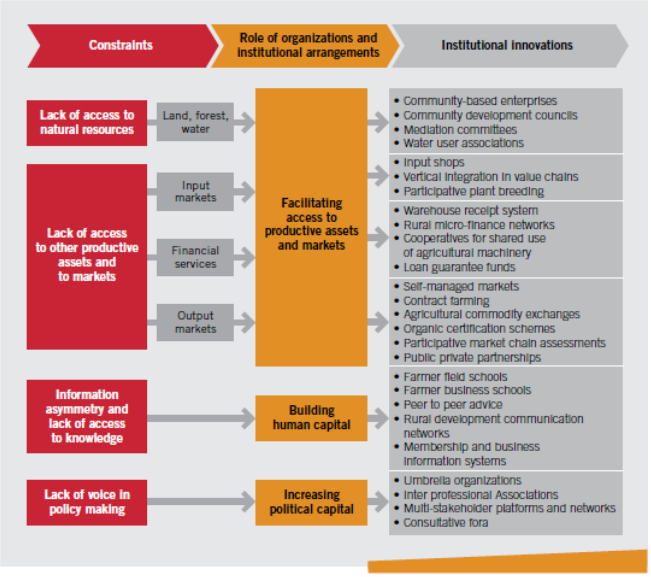


**Figure 2: Small producers' constraints and institutional innovations (source: IFAD, 2012)**

Next chapter will be dedicated to biggest opportunity and challenge for small-scale farmers, which is with no doubt ensuring food security.

### 3.2.2 Small-scale farmers and food security and poverty

Food security can be defined as: *"when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life"* according to specialists from World Health Organization. (WHO, 1996)

Same authors agree, that the access to food must be possible on both economic and physical level, so that the individual can be characterized as food secure. Aspect of individual dietary needs and food preferences are also taken into account. Food security includes three main predispositions, these are food availability, which means, that food is available on regular basis and with sufficient amount. Another aspect of food security is food accessability that refers to being able to own resources for obtaining nutritious food and diet. Third condition for being food secure is food use, that reflects individuals awareness of general nutrition as well as proper water quality and functioning sanitation. (WHO, 1996)

With more than 800 million people remaining food insecure, the future for global food supply is rather problematic. Global food security can be directly influenced by rising of food prices that is predicted in the future. This is caused beside other reasons by international demand for biofuels as a product of processing agricultural feedstocks. This factor is completed by others such as negative climate and environmental changes, higher resources prices, market competition and difficult market accessability, these all complicate future perspectives prediction. In order to satisfy the food demand it is estimated, the production of cereals will have to almost double and meat production will have increase for 85 percent from 2000 to 2030. Therefore it is crucial mission for agriculture to adapt to changing of food demand that will require introduction of government policies together with sustained subsidies and investment. This applies mainly for Sub-Saharan Africa, where it is estimated, that food imports will increase by proximately 50 percent. (Rosegrant et al, 2007 in World Bank, 2007)

It is predicted to be around 500 million family farms worldwide. Furthermore, small-scale agricultural holdings operate on majority of agricultural arable land and most importantly produce the majority of food worldwide. Thus, family farms are essential in terms of

ensuring food security, more precisely in tackling and eradicating undernourishment and malnutrition. This could be assured mainly with help of mostly economic policies that should tackle productivity and sustainability. Innovations that help family farms to adapt to the system are required.

It is estimated that smaller farms are typical to have higher yields than larger farms within the same territory. But at the same time, in case of comparison among different countries, results show, that small farms from poor countries record smaller yields, although they are more dominant type of agriculture, than in developed countries. This findings give us evidence, that the agriculture yields in poor countries are not reaching their potential, because of missing technologies and management practices that would increase effectiveness of farming if adopted. Adoption of innovative techniques and practices would present considerable impact on food and agricultural production, which would lead to increase of profits of small-scale farms and conditionally reduction of food prices. As a result, food will become more affordable and accessible, so the general and most desired impact on communities in poor countries would consist in poverty eradication and assuring food security. (*FAO, 2014)*

The impact of agriculture activities on people affected by poverty is estimated to be positive and very significant. It was determined, that the effect of agricultural growth on poverty reduction is greater, than when compared to growth in any other sector. Particular Bravo-Ortega and Lederman (2005) proved, that GDP increase influenced by agricultural labor productivity is on average almost 3 times more effective in income growth of the poorest people with respect to developing countries. (Bravo et al, 2005 in World Bank, 2008)

## 3.3 Agricultural extension as an instrument for development of small-scale farmers

This section is dedicated to another concrete phenomenon of this thesis- agricultural extension. Terminology of the agricultural extension is rather complicated, because it incorporates a vast spectrum of various activities. Even the translation to different

languages varies, sometimes it is translated as guidance or advising, some call it as training and capacity building. In the most general meaning, agricultural extension consists in provision of information and practical knowledge to farmers, mostly settled in rural areas.

### 3.3.1 Definition of agricultural extension

As for the extension services in general J.P. Leagans (1961) describes the term in following way: *Extension education is an applied science consisting of content derived from research, accumulated field experiences and relevant principles drawn from the behavioral science synthetised with useful technology into a body of philosophy, principles, content and methods focused on the problems of out of school education for adults and youth.* (Leagans, 1961 in Chahuan, 2007)

Findings published by Food and Agriculture Organization explain the meaning of the term as an informal education process targeted at rural population and poorly developed urban areas. Main aim of this activity is to provide advice and information needed for solving their issues. Another objective is to increase the efficiency and productivity of the farm, which will result into better rural population standard of living. Extension agents should target self-development of rural farmers as well, trough discussion and dialogue they should give farmers the insight to their difficulties and obstacles connected with farming processes. Part of the service is to guide farmers on their own future development. (FAO, 1993)

The word “extension” started to be broadly used with regard to emergence of different educational approaches, that occurred in the second half of nineteenth century in England. Extension practices presented response to population growth in newly industrialized urban areas. Apart from many other development aspects of these areas, information needs became urgent requirement. It was Oxford and Cambridge University, that first identified need for extension education within the communities, in their household proximity. At first topics of these lections were mostly connected to literary and social topics, but at the end of the century, agriculture topics were introduced and specialized lecturers were travelling among various rural areas. (Jones, 1994 in FAO, 1993).

This efforts were also reaction to low literacy rates mainly in rural communities, where education was not accessible to everybody. This aspect still remains crucial with respect to developing countries, where the importance of education is neglected.

*"Agricultural extension is about sharing scientific findings and know-how with farmers and helping them capture a greater share of the value chain."* (Pye-Smith, 2012)

The need for agricultural extension programs is underlined by differences in productivity of farms worldwide and their estimated linkage with poor information of small-scale farmers. For instance, comparison between Sub-Saharan Africa and East Asia reflects serious inequality in yields worldwide. Average cereal yields increased by nearly 3 times in East Asia in proximately 50 years. Cereal yields in sub-Saharan Africa remained almost the same. This is often attributed to poor extension policies and uneven provision of innovative knowledge that would ensure agriculture transformation. (Pye-Smith, 2012)

According to FAO all types of extension should be based on non-formal educational approaches undertaken within rural and urban poor developed population. Activities consist of dissemination of information regarding issues that they face. Intended impact on community should be mainly increase of efficiency of the small-scale farm in terms of higher yields and followed by poverty reduction and bettering of life standards in general.

Extension agents should be also able to discuss farmers issues not just regarding agriculture an economic development. They key role is to take into account development of involved people themselves as well, mostly trough discussion and real understanding of their problems with suggesting possible alternatives for improvement of their livelihoods. Another characteristics of agricultural extension is its time continuance. Proper extension is undertaken for long time period, it can never work as one-off action. (FAO, 1993)

### 3.3.3. Principles of Agricultural extension

Since agricultural extension is very complex type of service, there are many principles that need to be followed in order to deliver extension successfully. Some of below listed

principles are rather informal, but some of them are contained in states legal documents regulating public extension services.

First crucial principle is that agents are not working for people, but rather with them. Agent fulfills the role of guide that encourages farmers to make decisions themselves. Agent should never make these decisions instead of farmers. It is needed to provide recipients of extension with relevant information a potential alternatives for the way of their farming strategies, based on these they will be able to make decision themselves, which increases their self-confidence. It is natural, that people are more trusting to projects implemented with their assistance and based on their needs.

Another principle consist in the fact that extension agent has to take into account two actors of the service. First one are his superior colleagues and agricultural departments that are responsible for development policies and sets legal boundaries, within which agent has to get into. In addition, main aim is to help farmers with their development, which is the main purpose of these services. Therefore extension agents need to reflect demands and needs of particular communities as well. In other words, rural communities should be the ones, that asses the efficiency of designed policies and agriculture activities undertaken as part of it. Another possibility how to measure successfulness of the programs is to analyze causality between extension service and living standarts improvement, such as income rise or poverty eradication. One of the main aims of the agriculture service is to incorporate both needs of involved people together with national policies and economic reality.

Next important principle reflects the fact that farmers themselves can contribute to service agents as well. Therefore information provision should not be undertaken just one way procedure. With respect to farmers feedback and advice agents can improve the activities, their content, channels used for provision, presentation techniques and many others. This aspect is also very often connected with research practices of the organizations responsible for agricultural extension.

Providers of agricultural extension should also cooperate with other organization responsible for rural development within the community. Agents have to be aware, that there are many areas in which rural people need guidance and aid. There are many other activities attempting to improve living conditions in communities and extension should

be able to cooperate with these. Special attention should be taken, when extension policies are developed, so they are not in the conflict with efforts of other organizations. Agents should usually cooperate with legal institutions and politicians as well as development organizations that are trying to support farmers with various input provision. Health service should be also taken into account, local agent should be able to determine health conditions of the residents with special emphasis put on malnutrition and food security.

It is important for agent to realize, that each farmer dispose with different resources in terms of land or other agricultural inputs and their development is also usually incomparable. Therefore, extension program should reflect each farmers profile and should be designed and adapted individually.

Last principle is connected to the process of learning, particular to different stages. First stage consist in awareness creation, when farmer realizes, that there is some particular problem that needs to be addressed with relevant measures. At this time farmer knows just a basic information about the problem he is facing. Then farmer becomes interested in the problem and spontaneously explores regarded information, this can be done either with extension agent or other farmers from community. After these two steps, farmer should evaluate how does the problem affect him and what are the prospects and risks of alternative solutions to temporary state. Trial stage follows, where farmers usually decide to make small-scale trial of new method, if it proves to be positive change adoption process is the last stage, when farmers adopt new improvement and it becomes regular practice in their farming. (FAO, 1993)

### 3.3.2 Providers of agricultural extension and its aspects

Historically, it was firstly university, who provided farmers with extension activities. Nowadays it is more complicated and we can divide these providers into three main groups: the public sector, the private nonprofit sector and the private profit sector. Their division is important mainly with regard to differences, when it comes to their motivation of providing extension services, but also type of activities and programs, that they offer. Main difference between private profit and nonprofit sector is that profit generated by first mentioned works as a remuneration for agents, but on the other hand, nonprofit

private sector re-invests these profits and use them as a financial support for next programs. (Umali, Deininger, 1997 in ILRI, 2008)

| Public sector | Private sector (non-profit) | Private sector (profit) |
|---|---|---|
| • Ministries and Departments of Agriculture<br>• Agricultural Research Centres | • Local and international NGOs<br>• Bilateral and multilateral aid projects<br>• Universities<br>• Community boards, associations and foundations (including farmers' groups)<br>• Other noncommercial associations | • Commercial farmer, or farmer group operated enterprises (including cooperatives) where farmers are both users and providers of agricultural information<br>• Commercial production and marketing firms (such as input manufacturers and distributors)<br>• Agro-marketing and processing firms<br>• Trade associations<br>• Private consulting and media companies (publishing and telecommunication firms) |

**Figure 3: Providers of agricultural extension (source: ILRI, 2008)**

Not all the specialists agree on, who should be responsible of organizing of agricultural extension. Most of the classic theories would suggest local government, this practice used to be most typical over the history of extension. But according to many specialists, this concept is obsolete and suffers from many disadvantages. The bureaucratic system of organizing tends to be ineffective, biggest problem arises, when extension agents dictate their procedure and don't respect individual needs of rural people. Apart from this, conflict of roles also occurs quite often, because in many cases government extension agents act as both advisers and arbiters of subsidies at the same time. This usually results in no mutual trust between government officials and rural residents. Therefore, government should function just as creator of legal boundaries that regulate agricultural extension. Government should ensure, that farmers obtain best possible information, but extension activities itself should be forwarded to private enterprises and non-government organizations. This transformation process has to respect the fact, that it has to be undertaken gradually, because the concept of government as the organizer of agricultural extension is retentive and traditional, so all actors within the activity need to be able to adapt to potential changes. (Pye-Smith, 2012)

It is also crucial to acknowledge the informal aspect of agricultural extension. This makes it different from the formal education activities. One of the main difference is, that agriculture extension as an informal education approach works with no definite syllabus, contrary to formal education, there is no examination and beneficiaries don't receive any kind of certificate or degree. Also, education within official institutions is following given program and syllabus and doesn't adapt to individual needs of recipient as it is in extension activities. Furthermore, composition of the students in formal education is more homogenous, they are the same age and qualification, contrary to this informal extension education is working with group of people of various skills, competencies, age etc. (Chahuan, 2000)

One of the main elements of the agricultural extension is putting emphasis on both knowledge and skills provision to recipients of the activity. Content of the information developing their knowledge mostly reflects general issues such as environment and different systems of farming. But more particular and narrowed information is also provided, for example guidance in defining sources of damages to various crops, proper application of pesticides or different techniques of fertilizing and natural composting. This should be first part of extension agents effort, make sure, that recipient of his service obtains sufficient information. Next part consist in practical application of gained knowledge by trained farmers, which makes him more skilled. Famers also need to refresh their ability to organize bigger groups of laborers that create group projects. Skill of farm management is also developed as a part of extension practice. This transfer of knowledge has one crucial condition, which is identification of skills that should be developed. This is one of the main responsibilities of extension agent.

Extension agent should be able to analyze the environment of each community, because he should be able to advise farmers about the state of the market and prices, so recipients of extension are more supported and encouraged to take action. Production activities advisory are mostly regarded to technical aspects and is based on sophisticated agricultural research, so extension agent has to meet this professional requirement as well. (FAO, 1993)

Aspect of cooperation among farmers is crucial imperative when so called learning networks are discussed. Sharing of knowledge and experience can contribute to innovation efforts by emerging of organized people that are willing to cooperate together. There are many types of such networks, it can be group, where people practice together or projects that interconnect extension agents, farmers and other people involved in agricultural activities within the community. Again, sometimes failures occur, because extension services are designed based on agents conception and does not respect farmers individual demand for information and advisory. This so called top-down method is very negatively evaluated and should be eradicated from extension practices. Advantage of collective actions can be presented in case of crop diversification from farmers reacting to market opportunity. (Pye-Smith, 2012)

## 3.4 Partial Conclusion

Preceding sections were focusing on examination of current state of agribusiness and definition of small-scale farmers with its dimensions and characteristics. These two concepts were then merged together and investigation about conditions of agribusiness for small-scale farmers was carried out. As a result, it is possible to state that there are more limitations and obstacles for small-scale farmers within this system, rather than advantages that are just few. Most of the disadvantages are resulting from the trends in current agribusiness such as emerge of different patterns food processing and distribution. Globalization of world markets, more precisely their integration also affects small-scale farmers, particular dependence of agricultural holding on world market tendencies. Small-scale farmers are now obliged to link themselves to large distribution chains that are in many cases unavailable. Persistent higher standards for agricultural products also pose significant problem for small-scale farmers.

This was followed by examination of phenomenon of food security and poverty in context of small-scale farmers with emphasis put on developing countries. From the presented findings, it is visible that small-scale farmers can play crucial role in poverty eradication and enhancing food security. It is stated, that agriculture yields in poor countries are not

reaching their potential, therefore there is space for improvement that could be achieved in various ways. One of the suggested tools is investing in capacity building of small-scale farmers trough agriculture extension programs. Firstly the concept of this development practices were characterized with its potentials for improving the conditions resulting from current agribusiness. Emphasis was also put on potential providers of these services and principles that need to be followed in order to be effective. Last part is dedicated to communication as a crucial aspect of extension activities, which is needed for proper transition of information to small-scale farmers.

To sum it up, in theoretical background it was identified problem in form of limiting conditions of small-scale farmers within agribusiness together with possible solutions for improvement of this current state in form of information provision for small-scale farmers.

# 4 STATE OF SOUTH AFRICAN AGRICULTURE AND ITS DEVELOPMENT

This section is dedicated to the place of actual realization of model project proposed in this thesis. Firstly general information about South Africa is examined. This is followed by historical development of South African agriculture with regard to land reform, small-scale farmers and its current state.

## 4.1 Basic characteristics of South Africa

| | |
|---|---|
| **Official name:** | Republic of South Africa |
| **Form of state:** | A federal state, comprising a national government and nine provincial governments |
| **Area:** | 1 219 090 km2 |
| **Agriculture:** | 81.6% of total land area |
| **Arable land:** | 12.1% of total |
| **Irrigated land:** | 10.15% of arable land |
| **Capitals:** | Pretoria (administrative)<br>Cape Town (legislative)<br>Bloemfontein (judicial) |
| **Provinces:** | Eastern Cape, Gauteng, KwaZulu-Natal, Mpumulanga, Northern Cape, Limpopo, North West, Free State, Western Cape |
| **Population:** | 51 770 560 (Census 2011) |
| **Population groups:** | African 79.2%, Coloured 18.9%, White 8.9%, Indian/Asian 2.5% (Census 2011) |
| **Official languages:** | Afrikaans, English, isiNdebele, isiXhosa, isiZulu, Sesotho sa Leboa, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga |

***Table 1: Republic of South Africa - basic information (source: southafrica.info, 2012)***

South Africa is a medium-sized country, with a total land area of 1 219 090 square kilometres. By its size, it could be proximately compared to countries such as Niger, Angola or Colombia. It measures some 1 600km from north to south, and roughly the same from east to west. Country is bounded by Atlantic ocean on one side and Indian on the other. The total length of the country coastline accounts for 2 798 km. It bounds desert areas in the northwest and goes further by Skeleton Coast and Cape Agulhas with very low temperatures. Then, the coastline continues to copying fertile hills and wide beaches at the coast of Indian ocean. Coastline ends by the border with Mozambique, where subtropical climate can be found.

Since South Africa is country with relatively big size, its climate is different in various provinces. General location of South Africa is subtropical, influenced by the ocean, that bounds the country from three sides. This, together with vast plateaus in the inlands, makes great warm and sunny conditions. On the other hand, South Africa tends to have locations suffering from drought as well. The average annual rainfall accounts for proximately 450mm, while around one fifth of the country receives less than 200 per one year. For comparison, world average annual rainfall accounts for 860mm. Rainfall in South Africa is also unequally distributed regarding the season, Western Cape receives most of the rainfall in winter, but for the rest of the country is mostly typical rainfalls during summer.

As for the economy of the South Africa, it is continuously reported as one of the most developed and advanced from African countries. Most of the GDP contribution by sector is generated by services, particular around 66% of the composition of GDP. Servies are mostly represented by government functions, finances, transport, communication, personal services etc. The lowest contribution and significance from the sector is by agriculture sector that accounts just for around 3% of the GDP. As for farming, Agricultural production is mainly targeted to stock breeding and growing of commodities as maize, cotton, cereals and others. (SouthAfrica.info, 2012)

One of the most significant issues that South Africa is facing is unemployment, with its rate around 25%. The number of unemployed people accounts for 5.2 million people and more than 15 million not economically active.  Around 39% of population lives under the

poverty line, which means that they live for less than 1.25% dollars- per day. This represent one of the most crucial development issues, that should be addressed. (The World Bank, 2015)

On the other hand, South African government is fighting this social problem with investing into the education of its population. 20% of the total state expenditure and 7% of GDP is designated for education, which makes South Africa a country, with one of the highest public investment into education worldwide. The number of those who matriculated increased from 20.4% to 28.5%. Those who had no schooling at all decreased from 17.9% to 8.6%. (SouthAfrica.info, 2012)

This general summary of basic South African characteristics shows us, that in comparison with other African or developing countries, South Africa is country with relatively good conditions and future prospects. On the other hand, there are many neglected and problematic area that are resulting from difficult history of the country.

## 4.2 State of agriculture in South Africa – historical development and land reform

As it was discussed previously, South Africa has rich biodiversity such as different vegetation types, climates and soil types. Some of the agricultural regions prosper from winter and summer rainfalls and utilize it for crop production, other settled in more arid conditions are focusing on cattle breeding and sheep farming. Combinations of specific climate and soil result in just 12% of the South African are suitable for rain-fed crops. The amount of proper fertile land is also very low, it accounts for only 3% of total area. However, grazing is feasible on the most of the land in South Africa, 69% of the land is suitable for this type of agriculture activity, therefore livestock farming is the most important agricultural sector. (Goldblatt, 2011)

There has been also reported continuous growth of exported agriculture products mainly to Europe, in last ten years wine and fruit production is increasing together with exports. Third of all agricultural production is export oriented. The concept of agriculture sector is dualistic, which means that both large commercial agribusiness and small-scale

agricultural holdings are functioning beside each other. Due to problematic soil types and water scarcity in the country, there can be great fluctuations in production every year. (OECD, 2006)

When it comes to agriculture in South Africa, it is crucial to mention land reform that was adopted. This was consequence of long colonial history and racial inequalities resulting from racial dominance of white population. One of the aspects of unequal social justice, land was distributed just for small part of society represented by white farmers despite the efforts of native black people to resist this injustice. It has serious implications for current state of agricultural in South Africa, specifically for black small-scale farmers, mostly from rural and poor develop urban areas such as the target group for proposed model project in this thesis.

African colonial history and influence of land dispossession based on race resulted in unequal land distribution, mainly in rural areas. Vast majority of South Africans were denied the rights to own the land, therefore their farming activities started to diminish. In 1913, the Native Land Act was adopted. Its implications meant prohibition of purchase or tenure of land, that is located in reserve exteriors that were designed by contemporary apartheid government. (DA, 2013)

The consequences resulting from this Act were crushing for Black farmers that were successful in their agricultural activities and prosperous until the adoption of the law. In numbers, proximately 87% of land was designated just for white population. Creation of reserves shifted former skilled black farmers to precarious labor jobs that were utilized by white land owners. (James, Lever, 2001 in DA, 2013)

Since 1994, when apartheid came to its end, new elected democratic government managed by African National Congress (ANC) created and published set of objectives, that were supposed to fight injustice described above. The main effort in this context was to transfer 30% of farmland that is owned by white farmers, to black population.

Two main principles, that are undertaken in order to transfer the land that was owned by white farmers to black residents, are land redistribution and land restitution. Main aim of the restitution consists in compensating black land owners by returning them the land that

was dispossessed based on unequal racial laws. Contrary to this, land redistribution is aiming at racial equality of land ownership. In other words the process seeks to redistribute land owned by white population to black owners in order to create racially balance land distribution. There is also third principle, that is focused on reform of land tenure. (Stickler, 2012)

However the desired impact in form of more racially equal land distribution is not very much visible. In reality the desired impact still remains absent. Tenure insecurity and deficiency of basic possessions of millions of black farmers is still persistent, despite the government efforts to repair this state by adoption of new laws. These prove themselves to be rather ineffective. (Lahiff, 2003)

The progress of land reform seems to be rather complicated, unsuccessful and slow. Main objectives remain not met. Government has not managed to create foundations for establishment of new commercial farmers entering the market, furthermore government desired to support rural small-scale, family, subsistence farmers trough adoption of new laws, which is not so far successful either. In context of rural farmers population, this was particularly important in order to ensure their food security. (DA, 2013)

Department for Rural Development and Land Reform conducts the policy messaging continuously from 1994 up to this date. Initially, their proclamations and policy aims were targeted to poverty alleviation with Reconstruction and Development Planning (RDP). But than the efforts moved towards black farmers and their market entrance objectives. But this liberal approach proved to be inefficient and unstable and lack of government incentive slowed down the whole land reform process. Meanwhile this unsuccessful efforts, other programs for land restitutions were failing, such as the Proactive Land Acquisition Strategy (PLAS) and the Land Redistribution for Agricultural Development (LRAD). (Mbatha & Muchara, 2015)

Another defect in land reform could be seen in its poor linkage to agrarian reform that are directly connected. This in practice means, that once mostly small-scale farmer acquire financial capital generated by various and grants as a part of land reform , there is no follow-up strategy developed in form of agrarian subsidies, that are required to overcome

initial stages of farm management. Due to unequal conditions for black farmers resulting in poor financial security, missing skills and experience, they are not able to ensure proper productive functioning of their farms on their own. Therefore, small-scale farmers supported to enter the agribusiness environment usually do not manage to handle the farms provided by government, which results in redistribution of once successful large farms to unexperienced black owners, for which is typical to lower the productivity of the farm and usually lead it to breakdown. (Lahiff, 2003)

To sum it up, the policies imposed under current land reform program is committed to mainly support branches that are generating export earnings, taxable revenues and formal job creation, therefore government is committed to preserve current structure of large-scale commercial farming that is accompanied by upstream and downstream agribusiness. However, small-scale rural agriculture activities and their support tend to not have any potential for economic growth.

This government strategy results in many limitations for land reform program, mainly in creating restrictions for black farmers newly entering the market and generally doesn't meet the requirement of rural black population, that desires to come in and contribute to agricultural activities. This doesn't have just economic and job market implications. Fair land acquisition would also result in better coherence in society that has been polarized due to its historical development and apartheid era.

### 4.2.1 Small-scale farmers in South African context

Small-scale farmers residing in rural communal areas of South Africa tend to have limited access to resources and factors of production and information. Furthermore they face difficulties, when they attempt to enter local markets, mostly resulting from inappropriate property rights or unavailable transaction costs.

South African agriculture is very unique, when compared to other countries worldwide. Usually we can observe many types and sizes of agriculture holdings in most of the countries, but South African agricultural sector has its specifics. We can identify either small-scale, family, subsistence farms, or contrary to this large commercial enterprises functioning within agribusiness. There are basically no types of farms that would fall

within these two extremes. Even the concept of small-scale farming itself has mostly negative conotations and is frequently misinterpreted. The term itself is usually mistaken with backward, or nonproductive. (Kirsten & Zyl, 1998)

South African agriculture has dual concept. This means, that there are professionally developed commercial agriculture companies with around 46,000 commercial farmers, that occupy proximately 86% of all agriculture land. Besides that, we can also observe small-scale, subsistence farmers, that are occupying rest of the agricultural land that accounts proximately for 14%. (Ortmann & King, 2006)

According to many agriculture experts it is essential to promote and support small-scale farmers in South Africa for many reasons. One of the is the fact that while governments strong support for mainstream supply chains, there is still insufficiency in food supply. These conglomerates and big-scale farms are not able to provide and distribute demanded amount of food. They also cannot create enough job opportunities, which is crucial in terms of developing countries such as South Africa.

Future efforts of South African governemnt should therefore place small-scale farmers of local, regional and national policies. Policies regarding not just agriculture, but also social and economic in general.

Government should also support small-scale farmers, because household farms deplete soil less, than in case of industrialized agriculture. This Aspect should be also taken into account in order to promote ecological practices in South African agriculture.

# 5. ESTABLISHMENT OF AGRICULTURE EXTENSION PROGRAM IN MBEKWENI TOWNSHIP

## 5.1 Description of the region designated for the implementation of the project

### The Western Cape Province

The place of realization of this project is located in the south western part of South Africa, namely in Western Cape province. From both population and area perspective, it is the fourth biggest province from total nine provinces with an area of 129,449 square kilometres (49,981 sq mi) and 5.8 million inhabitants.

Capital city of this province is Cape Town, which is the second biggest city of the country and the legislative capital at the same time. Cape Town is also the residence for about two thirds of total province population. Another bigger cities in this area are Stellenbosch, Worcester, Paarl, and George.

Western Cape province represents approximately one tenth of the whole country with its 129,462 square kilometres. Its coastal boarders are situated in the intersection of two oceans- Atlantic and Indian. Two major rivers- Berg and Olifants drain into the Atlantic Ocean. Another important rivers- Breede and Qourids drain into the Indian Ocean. North part of the province is represented by Northern Cape and on the east by Eastern Cape.

Western Cape is known for its geographical diversity. Significant part of the province lays in the mountainous area with highest peaks above 2000km. Valleys, that are situated between these mountains are usually plentiful, which creates great conditions for agriculture. Specific location of the province triggers off diverse unique climate. Main influence on local climate is represented by different oceans. On one hand-cold water in Atlantic and worm one in Indian. That is why the weather is so unpredictable and might differ on proximate places. There are specific types of climate that can be found in the Western Cape. Inland of the province is formed by Karoo, which is semi-desert natural

region with steppe climate, for which is typical mainly two weather extremes- cold winter and very hot summer. In the southern part of the province is boardered with so called Garden route that extends from Mossel Bay in the Western Cape to the Storms River in the Eastern Cape. Mossel Bay is known to be second place on the earth with the mildest climate, which basically means that the temperature tend to remain stable with no strong weather extremes. Along with another region-Overberg it has oceanic climate, that is typical for very moist both winters and summers. All other parts of the province are mostly situated in the mild climate.

The Western Cape is divided into five district municipalities. These district municipalities were demarcated as directed by the Local Government Municipal Structures Act (1998). The City of Cape Town is classified as a metropolitan municipality, the only in the Western Cape with this status. The five other district municipalities are the West Coast, Central Karoo, Eden, Overberg and Cape Winelands as the place designated for proposed model project.

## 5.2 Analysis of the problem and project objectives

In this chapter, attention is dedicated to primary and secondary research conducted in order to analyze the problem that is addressed by the project. Part of this section is also description of already functioning partner project that will be followed up with proposal of agriculture extension.

First part is dedicated to secondary research that was conducted before the actual visit of the place designated for implementation of desired agriculture extension program. Attention is paid to characteristics of the locality, where the project is intended. Based on the findings, the questionnaire survey was developed in order to assess all relevant and detailed data of the target group of the potential project. Overall and specific objectives that are desired to be achieved are also part of this section.

**Description of initial state according to secondary research**

Before the actual designing of the project proposal, it was crucial to investigate the locality of potential project, together with determination of the current development

challenges of the place. Before the actual visit and conducting the empirical research, statistical data were explored. Based on the character of the proposed project, this secondary research was aimed at phenomenon such as unemployment, poverty, income inequality, agricultural holdings and their characteristics.

Agriculture activities in Western Cape cover an area of 9.8m hectares, that account for proximately 16% of land designated for commercial farming in South Africa. The agricultural conditions in this area differ from the rest of the country, because of winter rainfall. Agriculture presents the highest sector contributor to Western Cape economy. On one hand, the GDP contribution of the province accounts only for 14%, but as for the total added value by agricultural sector in South Africa, Western Cape contributes by 20%. Cape Winelands District as one of the municipalities of the Western Cape is the place, where the where Mbewkeni township is situated; the actual place of realization of the project. For its Agriculture profile is typical, that the number of farming units is decreasing. This trend, that is visible also on the national level, is consequence of practice, where bigger farms tend to buy out other smaller agriculture holdings. This results into phenomenon of increasing of the sizes of the farm. Cape Winelands District accounts for proximately 38% of the farm output generated in the Western Cape, but provides 47% of provincial regular employment in agriculture and 54% of causal or seasonal farm employment. (Murray, 2010)

Crucial term connected to agricultural households is HPHC, which is the importance of home production for home consumption. HPHC aims to capture information on the quantities values of home produce consumed and sold to market. Home production often forms an important part of the livelihood strategies of rural households in developing countries.

According to statistics Only 28,980 households (2.7%) in the Western Cape are involved in HPHC. This number is extremely low, because the national average is 19.3%. This figure is composed of 6,294 African households, 14,986 Colored households and 7,699 White households. Contrary to this in 143,228 households (13.6%) the income is

generated from wages coming from agricultural and other related activities of the household members.

Since the definition of agriculture household is rather problematic, two definitions are used and presented in the tables below. One of the definitions is broad definition that describes agriculture household as any household, that generates income from both formal agriculture employment or the members of the household are skilled agriculture workers. These households are also characterized as those, that sale or consume their household agriculture production. Next definition is the strict one. Under the strict definition, household earns at least half of its income from agriculture activities, either formal or informal. Households falling within this definition are also the ones, where their own agriculture production is at least half of the total annual food expenditure.

Vast majority of these households (99,689) are represented by colored population, while 32,481 are African and 11,058 are households with White population. There are significant household income inequalities with regard to different types of race, by far the highest incomes are recorded at White households, which could be explained by the fact that these households are typically composed of the owners or managers of the farms. Average of the incomes of the white agriculture households are R149,825. African and Colored households typically are typically represented by labor in agriculture activities, with average household incomes of R18,180 and R31,289 respectively.

If we combine households with regard to production and agricultural employment, we can state that 15.3% of household in the Western Cape can be defined as agricultural households, according to broad definition. With respect to strict definition, proximately 11.3% of households could be defined as agricultural.

As for the size of agriculture households located in the Western Cape, it ranges from 3.9 to 4.1 members per household with respect to strict and broad definitions respectively. This represents that provincial share of members of agricultural households is larger than the share of households, that could be defined as agricultural. The table below describes, that people living in agricultural households based both definitions is ranging from 478,426 and 674,991 people, which accounts proximately for 12.0% respectively 16.9% from the population residing in the province. As for the workforce involved in agriculture, more precisely skilled agriculture workers or workers in agriculture industry both on

formal and informal basis, it accounts for around 14.0% of total Western Cape's province workforce. (PROVIDE, 2005)

Apart from the agricultural characteristics, this section also focuses on problematic issues that are prevalent in the potential place of project realization and are connected to economic development.

As for the economy of the Western Cape province, it has went trough significant transformation recently. The main change in the economy consists in shifting away from unskilled, labor intensive primary and secondary sector. Tertiary sector represented by services of various kind is now the most important sector, which has resulted in higher portion of skilled labor in the province. Contrary to positive effects of this change, it is crucial to mention that this development has affected negatively unskilled workers due to lower provision of job opportunities for this type of labor. One of the effects is also rise of inter and intra race income inequalities. The general consequences of this are unemployment and poverty, that is described below.

First it is crucial to understand the factors influencing the state of Western Cape economy and its consequences on the population such as unemployment or poverty. One of the driving force is educational inequalities, which is still the result of apartheid legacy. The educational system in the province has proved to be ineffective in reducing inequality in labor market resulting from uneven educational opportunities. Another factor influencing the economy of the province is migration, data from 2005 present that annual inflow of people is around 48 000. Therefore, economically active population is growing rapidly, twice more than in comparison with national levels. This creates pressure on labor market of the province. HIV disease also presents significant threat to the development of the province, however it has the lowest provincial share in this indicator. As it was mentioned above, wage levels of skilled workers are increasing due to skills shortage on labor market, which creates income inequalities among racial population. It is also connected with the phenomenon of poverty that is mostly common for African population in the province. As a result of these factors, there are growing numbers of people that are dependent on social safety network.

One of the most significant issue in Western Cape, but also in the whole South Africa is unemployment. The provincial unemployment rate recorded in 2005 accounted for around 17.6%, which is good performance in comparison with national level that is 26.5%.

This relatively positive figure is covered by very bad labor market conditions of African population. There is significant racial inequality on labor market, which is most visible in comparison with national numbers. According to statistics from 2003, on national level, 30 of 100 Africans were able to find employment from 1995 to 2002. Contrary to this, during the same period, the figures show that in Western Cape only 3 of 100 Africans found employment. This inequality on labor market is directly resulting into higher poverty of disadvantaged Africans and inequality in general. As for the gender inequality with regard to the unemployment, it was found out, that women are more employable than men, because 66 of 100 women were able to find employment, while male population accounted just for 39 of 100. Young people tend to be affected by unemployment mostly, because they represent 82% of all unemployed. (westerncape.gov.za, 2005)

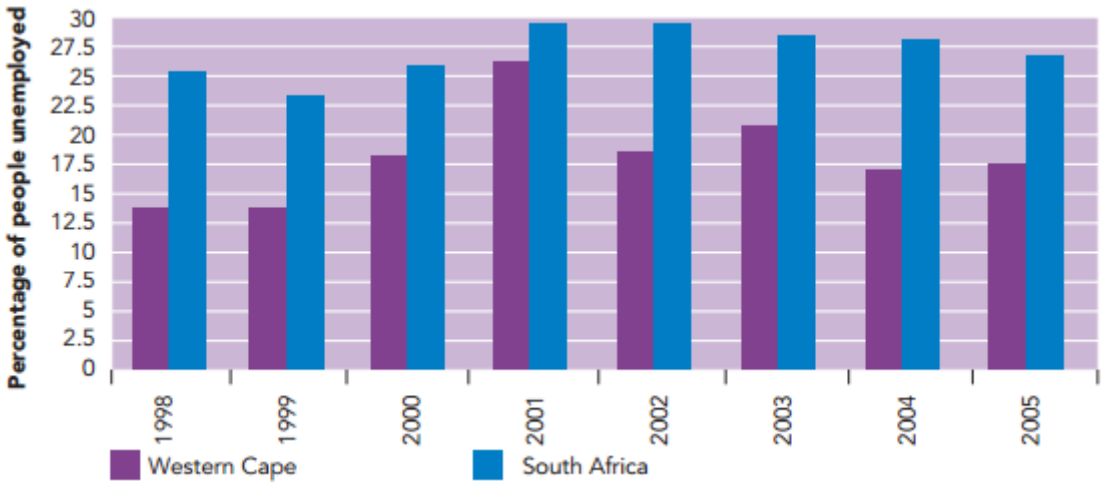


**Figure 4: Official unemployment rate in Western Cape (source: Labor Force Survey, 2004 in westerncape.gov.za)**

Although Western Cape has lower unemployment rate than the national average, it is still estimated that 612 000 of potentially economically active people suffer from unemployment.

The effects and impact of unemployment within the province are very wide and deep. As one of the consequence, there is increasing social tension accompanied by lowering of the self-esteem of unemployed population together with the crime and violation. It has also negative effect when it comes to HIV epidemics. Development of the province is also triggered by this, because of low household incomes and skills shortage affecting tertiary sector. All mentioned also results into low foreign investment in the province.

As for the issue of poverty, it is essential to examine associated indicator, which is Gini-coefficient.

The number of people living under the poverty line in Western Cape was estimated to be 21.2% in 2003. The problem of income inequality is visible regarding race, gender but also spatial characteristics. (SAIRR, 2004 in westerncape.gov.za, 2005)

Positive trend connected with poverty in Western Cape is that provision of basic services targeted at population under poverty line is increasing. On the other hand, problematic access to education is creating problems to benefit from the economic development in terms of higher demand for skilled labor. This is the main factor leading to income inequalities in the province.

Main tool for poverty alleviation is social security system that has been developing recently. The main triggers of persistent poverty are low levels of human and social capital together with lack of job opportunities for the residents of Western Cape. This is the reason, why more and more people are becoming dependent on social safety network. (westerncape.gov.za, 2005)

To summarize the results from the secondary research it is essential to mention main issues that Western Cape is facing. As mentioned above, these are mainly low number of agriculture households involved in HPHC, which reflects the utilization of home production for home consumption. Another crucial problem consists of very high income

inequality, mostly with respect of the race of the household members. According to data showed above, White households ten to earn almost 10 times more than African ones. Poverty with all its aspects and unemployment are also problematic issues of the province, as it is described in the paragraphs above.

In order to fix current situation, there are many institutional and other efforts on national, provincial or local level that could be undertaken. Programs promoting skills development should be adopted. One of the examples is Expanded Public Works Programme (EPWP) organized by Western Cape government. The tools used under this program are mostly based on giving temporary work to unemployed population. Development of skills programs and work experience. Guidance in job seeking and own business start-ups.

From the national perspective, there is so called The National Skills Development Strategy (NSDS) that aims to contribute to sustainable development of skills, growth and equity of South African population. This strategy is aligned with Sector Education and Training Authority that promotes skill specialization, which means that people learn exact appropriate skills that are needed by particular employers and communities.
One of the main provincial initiative targeting the issues stated above is so called Human Resource Development Strategy. Its main aim is to promote the importance of learning on various levels, such as at school, at home, within the community or at work. This is the main precondition for proper human resource development.

Another development initiative organized by Western Cape government is Social Capital Formation Strategy that is focusing mostly on youth and their relation with institutions, norms and networks that are shaping social environment of the province. As a result of the strategy, province should become home for every resident of Western Cape with no difference according to social status, race, occupation etc. People should have a sense of well-being, better opportunities, services and information. The safety of the people should be also increased. The tool used for this desired outcome is continuous collaboration and cooperation among government, civil society, labor and representatives of business.

Apart from many other national or provincial initiatives and programs, there are also local project mostly focusing on particular problems. One of the examples is Food Security and Livelihood Project (FSALP) that is described more in detail in following sections. The model project proposed in this thesis is a follow-up of this FSALP project.

**Description of the initial state according to questionnaire survey designed for particular target group**

During the practical internship in Cape Town, the questionnaire survey was conducted. Main aim of the survey was to establish Mbekweni small-scale farmers profile together with their information demands. In this section main findings are presented, the complex report can be found in the appendices of the thesis.

As it is described in later part of the thesis, respondents of the survey were Mbekweni household farmers, that are already participating on agriculture development project called Food Security and Livelihood Project (FSALP).

Main aim of the survey consisted in identification of the current state of agricultural information provision to household farmers. It was focused on both information demand and supply aspect and farmers satisfaction with potential information provision. It was intended to identify information tools and channels that would be the most preferable for beneficiaries of model project proposed as a part of this thesis. Based on determination of neglected areas of agricultural information provision, we can design the information support system and adapt it to farmers requirements. Early parts of the questionnaire are focused on the general information about the project beneficiaries, because it is crucial to establish detailed profile of the Mbekweni household farmer, because so far, there has been no data about this topic.

The entire survey was divided into three main parts. First consists of demographic characteristics of the household farmer. Second focuses on information about home-gardens of the farmers and last one about the agricultural information aspects. Questionnaire was in the printed form and was constructed out of open, closed and semi-closed questions. Content of the survey was consulted with local expert along with the employee of the local community center.

As for the gender representation of the households, 65% of the respondents were women. The age distribution in household farmers is strongest between 35-55 years, accounting for 60%, followed by 35% of farmers older than 56 years. As a result of the survey it is visible that farmers younger than 35 years are very rare and present only negligible 5% of the respondents. Almost half of the respondents have education of 1-5 grade, followed by 20% of respondents with no education respectively with 11-12 grade education. Most of the home-gardens of the farmers are maximum $50m^2$. Vast majority, more precisely 90% of the households involved in the questionnaire generate their main source of income from non-agricultural activities. The experience of respondents in farming varies, there is no significant difference among experienced and newly emerged farmers.

As for the priority of the home-gardens and its production, respondents indicated that most important function of their gardens is to ensure own home food security or support extended family. Respondents were also asked about how often they can ensure their food security trough household farming, most of them indicate, that sometimes. Only 15% of respondents can ensure this never or rarely.

Furthermore, questionnaire revealed the question of crop overproduction and its potential usage. In case of overproduction, households mostly support their extended family.
Next part of the survey focused on the identification of the crops that are cultivated by the respondents. Most of the respondents marked out similar crops with just neglectable differences.

Next questions intended to identify areas of agriculture information, that are actually provided to household farmers and agriculture they demand to receive. The result was interesting, vast majority of the respondents marked out, that only type of information, that they have been given is considering household food security. As it was found out, there was conducted an education project in the community focusing on ensuring of food security few years ago, but as it turned out- farmers were not satisfied with information and they cannot recall even the particular content. So technically there is no agriculture information provision flowing into this community, so we verified they interest in production stages information with regard to crops produced identified in previous part of the questionnaire. The response was positive.

Crucial part of information provision section is identification of channel that should be used for the transfer of information. As it was already mentioned in early parts of this paper, project beneficiaries are already part of the ongoing project that has established relations among each of the project partner.

Respondents requirements are very clear in question of information tools, that should be used for proposed Information Support System. Majority have identified, that most favorable way of information distribution for them are continual courses lectured in close surroundings of their households with combination of further practical demonstrations, that should be assured with assistance of already known community worker, who will be intermediate between community and course developer. Respondents also marked out, that they would prefer materials with summarized and graphically depicted information from each course.

**Description of initial state of Food Security and Livelihood Project (FSALP)**

As it was mentioned above, this project proposal intends to attach its realization phase to already ongoing project organized by Wagon of Hope foundation and Cape Town University of Technology- Food Security and Livelihood Project (FSALP) situated in Mbekweni township near the city of Paarl. It is important advantage to cooperate with already existing project due to many factors. At first, project beneficiaries are available for questionnaire survey. Secondly, there has been already established functioning relation among project partners, which could be further developed.

The number of project beneficiaries is 121 and took one year. Project beneficiaries were provided with seedlings of several crops and basic tools and equipment needed for planting and cultivation of vegetables.

Four individuals were employed by the project , but the project is also supported by group of volunteers represented by students from the faculty of Agriculture and four lecturers from the department of agriculture of CPUT.

Main desired outcomes of the project were reduction of hunger and strengthening of food security of small-scale farmers. Furthermore, the project broadens the relationship between the community and education institutions together with improvement of urban agriculture in Mbekweni township.

**Overall objectives**

The overall objective is to increase the level of vocational knowledge of local small scale farmers in the field of agriculture and agribusiness. This will be ensured by raising their knowledge with regard to successful managing of their household farming. As a general impact, this should result into improvement of their living standards. Apropriate informed household farmer will improve his decision making process and benefit from newly gained skills from crop production area that will lead to higher yields and effectiveness of farming in general. This will not only improve food security of the households, but also their market accesibillity with regard to potential overproduction. This should result to higher contribution of agriculture activities to each of households income and their better social-economic status.

The improvement of crop production, specifically the desired extension of production levels will contribute not only to food security of households involved in the project, but also to local community in general, since impacted household farmers will be able to supply their overproductions.

**Specific objectives**

One of the specific objectives of the project is to create Agriculture Extension Service designated for Mbekweni household farmers. This consist in information network among three partners of the project, which are: Cape Peninsula University of Technology, Wagon of Hope foundation and project beneficiarries represented by household farmers. Extension agent will provide advice and information needed for solving the agriculture issues of the participants of the project. Extension agents should target self-development of farmers as well, trough discussion and dialogue they should give farmers the insight to their difficulties and obstacles connected with farming processes. Agents will discuss scientific findings and know-how with farmers and helping them capture a greater share of the value chain. This should serve as a tool used for accomplishing overall objective stated above.

Each of the project partners is responsible for provision of different services. Trained farmers will improve their vocational knowledge and be more confident in question of solving everyday farming challenges. Farmers participation on developed courses will

also influence their cooperation with other members of the project. Formation of groups should enhance their mutual share of information and experiences with agriculture topic.

## 5.3 Target group and another involved subjects

**Target group**

The main target group of the project itself is represented by Mbekweni townships small-scale farmers involved in already mentioned Food Security and Livelihood Project (FSALP). All of these small-scale farmers are focusing on vegetable cultivation. Their more detailed profile can be found in the survey section above.

Target group is represented by residents of Mbekweni township in south of the Wellington city, that is situated in Western Cape Province. This township actually connects city of Wellington with another important city of the region, which is Paarl.

Mbekweni, which means a place of respect in local Xhosa language, is a township in the Western Cape area of South Africa about 60 kilometres north of Cape Town. Mbekweni has an official population of 24,000. Although the actual population is estimated to be over 50,000 people, with 40% under age of 15. Almost half of all residents live below the South African poverty line, in often over-crowded conditions lacking basic facilities. More than 1 in 5 are living with HIV/AIDS and average life expectancy in the township is only 54 years. Crime poses a significant challenge in Mbekweni, with the murder rate almost 50 times higher than in United Kingdom.

**Analysis of involved subjects of the project**

Involved subjects in the Czech Republic:

*Mendel University in Brno*

Mendel University in Brno is located in Brno, Czech Republic. It is university with long tradition, since it was founded in 1919. Now it consists of five faculties, one of them is Faculty of Regional Development and International Studies, which is accountable for SID, Scholarly Internship in Developing Countries. Main aim of this program is to innovate the fields of study focused on developing countries mostly trough scholarly internships. Preparation phase in South Africa as a part of this project was conducted under this program.

Involved subjects in South Africa:

*Cape Peninsula University of Technology, CPUT*

Cape Peninsula University of Technology is an university located in Cape Town, South Africa. It is the only university with technology focus in the province. At the same time it is the largest university in Western Cape province. The number of students attending is around 32,000.

The university has many branches, one of them is situated in Wellington Campus. Campus offers a range of courses in the Faculties of Applied Sciences, Business as well as Education and Social Sciences. Local professors will be involved in the proposed project as agriculture experts responsible for course and agriculture activities development.

Wagon of Hope Foundation

Wagon of Hope is a community development organization based in the Drakenstein municipality, Western Cape Province, Republic of South Africa. They are active in many towns of the region such as Paarl, Wellington, Franschhoek, Gouda and Saron. Their main focus is targeted towards Mbekweni township, which is the location of proposed project. This organization has already successfully implemented many development projects connected to education, job creation, social issues such as HIV prevention and many others. Together with CPUT, Wagon of Hope Foundation has been continuously putting effort to development of small-scale farmers in Mbekweni township.

The organization is using local Mbekweni E-center for most of its activities, which will be used for the purposes of proposed project as well.

## 5.4 Proposal of the activities in the process of implementation

### 5.4.1 Human resources

Project coordinator

Project coordinator will represent head of the human resources hierarchy. His main activities will consist in supervision of the project, delegation of tasks to other members of the project and also guarantee proper project implementation. At the beginning of the project, project coordinator will be also responsible for staff selection and establishment of the project team. Important part of his responsibility will be ensuring proper communication and cooperation among all parts of HR organization structure. Coordinator will also administer financial part of the project in cooperation with project manager.

Project manager

Project manager will be represented by Wagon of Hope foundation employee, who will be in charge of supervision of all activities connected to organization of extension service logistics, such as ensuring the training rooms, transportation of extension agents. His role also consists of selection of extension agents, because of his knowledge of the environment and mutual trust between him and project beneficiaries of the project. He will keep in close touch with project coordinator and consult any major problems or challenges of the project. Manager will be present at the place of implementation for the entire project period.

Apart from budget managing along with the coordinator, manager is responsible for all required administration documentation, lead information about project participants. Important activity of manager is time scheduling of the courses, in case of holidays or any other constraints to the course realization occur.

Agriculture expert

Agriculture expert is represented by Cape Peninsula University of Technology professor, who will be responsible of developing the content of agriculture extension service. This will mainly consist of courses that are divided into two main summer season and winter season parts. In each of the parts there will be presented detailed crop production process with regard to type of crops planted according to the preferences of farmers assessed in questionnaire survey. Course developer is also responsible for creating study materials that will be provided to each of the project beneficiary after every course. Agriculture expert will be in permanent contact with Agriculture Extension agent and provide him with all necessary additional information to the content of project activities. At the same time, agent will communicate with agriculture expert in order to inform him about feedback of the beneficiaries.

Agriculture Extension Agent

Agriculture Extension Agents main responsibility is to intermmidiate among community households and Wagon of Hope and CPUT. He will be selected by Manager of the project with regard to several criteria such as agriculture experience, proper education and qualification, language skills (English, Afrikaans, Xhosa) and others. Apart from theoretical education, he will ensure practical demonstration at homegardens of project beneficiarries. He will also consult community feedback with both project developer and manager of the project. Agriculture extension agent will be most favorably represented by experts from Western Cape Departement of Agriculture with proper experience from similar activities.

### 5.4.2 Description of individual activities

**Establishment of Agriculture extension program in Mbekweni township**

The main objective of the Extension activities will be to improve agriculture skills of beneficiaries of the project. More precisely to provide them with required information and practical guidance leading to higher productivity and effectiveness of their farming activities. As for the means used to achieve this, the extension service will be based on

group extension methods that are very diverse, such as expert lectures, group discussions, field days, practical demonstrations, informative meetings etc.

The approach chosen for this agricultural extension service is "demand-driven". This means, that all the content- information, advisory, courses, materials will be based on preferences and demands of beneficiaries themselves. This will be achieved trough survey in form of questionnaire conducted before the establishment of the service, but also trough continuous evaluation and suggestions of farmers during the implementation of the project. This demand-driven, participatory approach will ensure, that extension activities are as effective as possible and meet the particular needs of the small-scale farmers involved in the project.

**Agriculture extension activities and methodology**

As it was mentioned above, extension activities will be based on group method, this is used mainly to finance and resource scarcity and cost-effective aspect. Also, advantage of this method is creation of cooperative environment among farmers participating on the project, farmers will be able to reflect, compare and discuss the topic of each course. The coverage and scope of impacted farmers will be also higher, than in case of individual extension. Group extension activities conducted will bring together farmers with similar farming issues, in many cases the solution could be delivered more easily if farmers decide cooperate and help each other. Total length of the project is 20 months, however extension activities itself will have duration of 12 months, Detailed activity schedule is part of appendices.

<u>Group Meetings</u>

Group meetings will be the most common method used. The agent will bring new agriculture practice or incentives. This new information will be introduced by agent and evaluated, discussed and analyzed. There are many purposes of these group meetings, such as the informational that has been mentioned. Furthermore, meetings can be also designated for planning, where particular problem is determined and possible alternatives for its solution will be revised. Special interest meetings can also take place, these will

be specified for particular farmers, that are interested in for example certain crop production, that is not common for rest of the participants of the extension activities.
General community meetings will be also implemented, their main objective is to involve members of the community-township as well, not just the farmers as the beneficiaries of the project. Representatives will present the community interest, so it is not overlooked and their requirements are also taken into account.

Meetings will be designated for 20-40 participants, based on the topic. It will take place in the Mbekweni e-Centre. The length of the meetings will be limited to maximum 2 hours. The agenda of the meetings will be various, such as presentation, using visual materials, discussion etc. As a result, the attention of participants is ensured.

Demonstrations

Apart from meetings, demonstrations will be also used as an extension method. These will serve as place for demonstration of practical usage of new farming techniques, approaches and tips provided by extension agents. Since we have assessed in the questionnaire, that literacy rates of respondents are not sufficient enough, demonstrations are one of the main tools how to address farmers with low reading and writing skills. In order to make demonstrations effective, group will account just for 20 farmers, so everybody has practical experience.

There will be two main types of demonstrations, first one is "method demonstration", where participants are presented procedure how to perform particular farming activity, e.g. pesticide usage for carrot. Farmers will be presented the procedure step by step. Participants are able to raise questions and share their own experience, as well as practically try out the techniques.

Another type of demonstration is so-called "result demonstration". The main purpose of this method is to show farmers, that recommendations and presented practices during method demonstrations are applicable and successful in local conditions. Main technique used is comparison. Agent will present comparison before and after adopting innovative practices. For example the yields and quality of cultivated carrot before and after implementing pesticides as they were recommended in method demonstrations. This will

assure farmers, that new methods are effective and their adoption to daily practices can result in more productive farming. Farmers will develop their trust towards the agents and his recommendations.

As a place for implementation of demonstrations, household gardens of the participants will be used, so their confidence for the extension is developed and they can see the results on their own gardens.

Field days

Field days are another activity implemented as a part of extension service. It again consists of results demonstration, but in this case on more large extent and tend to be less organized and held in less formal way. Firstly, farmer from the community is chosen, that will present his own good practice. He is responsible for explaining all the important features by himself, with minor guidance of the agent, if needed. So the program of field day is exclusively in hands of farmers, but at the end of the session, agent is responsible for summarizing and conclusion of the findings and outcomes of the field day.

Tours

Tours will be held in order to see practices of other farmers outside the community of participants of the project. Farmers will be presented different agriculture practices and approaches that are adopted in different farms and districts. The main idea is to exchange good practice and experience with external farmers. The areas designated for tour visits will have similar conditions, so their practice is appropriate. Also, the farms visited will be chosen based on their successfulness in terms of yields and quality of crops cultivated, so they can serve as example of good practice for participants of the extension service.

**Content of the extension activities**

Agriculture expert from CPUT will be responsible for curriculum and the content of the extension activities. The content of the activities is divided into two main parts based on two production cycles. As it was mentioned above, demand driven approach will be used, so the content of the extension activities will be adjusted to needs, demands and requirements of the project recipients. Each of the season is suitable for different kind of

crops. Activities will be adjusted to the winter and summer crop season, so the beneficiaries gain information about specific crop in period, when it should be planted. In the questionnaire, respondents revealed what are the most typical plants cultivated by them. Therefore, extension activities will respect following preferences of beneficiaries:

Summer crops- Tomato, Sweet potato, Pumpkin, Squash, Green beans

Winter crops- Cabbage, Carrot, Spinach, Potato, Onion

Farming stages sections: Soil preparation, seed sowing, crop diversification, nutrient and pest management, irrigation, fertilizing, harvest and post-harvest information such as storage, promotion, market access. Since one of the main principles of agriculture extension is to adapt to participants demands during the implementation of the program, farmers feedback will be recorded by agent and forwarded to agriculture expert, that is in charge of extension content development.

**Organization of extension activities**

Number of courses per project: 10 → 1 course for every crop

- Number of participants per course: 20
- Total number of disciples of the courses: 120
- Total length of one course: 10 days
- Total theory: 30 hours (3 hours per day)
- Total practice: 40 hours (4 hours per day)
- Total theory + practice: 70 hours

**Assuring Human Resources**

Detailed description of human resources system and their responsibilities is available in Human resources section. Project coordinator will be responsible for staff selection before the actual implementation of the project. He will ensure, that there is enough human resources for all the project activities. Project coordinator will also delegate tasks and responsibilities to project team. This all will be part of the contract that will also contain financial evaluation of each project member.

**Propagation of the project**

The beneficiaries of the project will be contacted in advance by project coordinator together with extension agent, so they are prepared and anticipate the project implementation. Since the questionnaire survey was already contacted with part of the project participants, they are aware of the intended agricultural extension activities. One of the methods used for project promotion will be personal visits in Mbekweni township farming households. Apart from this, printed materials promoting the project will be also distributed, mainly in the Mbekweni E-center that is in close proximity to project beneficiaries. According to the participants language spoken, that was identified during the questionnaire survey, all the promotion materials will be printed in Xhosa, Afrikaans and English as well.

**Ensuring logistics of the project**

As it was already mentioned, most of the extension activities will take place in Mbekweni E-center. Since the Mbekweni township is relatively large and public transport is not functioning, responsibility of the project coordinator will be to ensure transportation for recipients, that cannot commute to courses on their own. This will be done with help of Wagon of Hope Foundation that has already many experience with transport of local farmers to E-center. Project coordinator will also book the E-center in advance based on the timetable of the extension activities. Regarding the nature of the course or workshop, coordinator will also arrange all needed utilities and tools, such as projector, flipchart, audiovisual utilities etc. Since the project will also include field days and tours outside the township, this also needs to be ensured by project coordinator.

**Final project report**

Creation of this report will be responsibility of project manager, but coordinator and extension agent will be vital part of its development as well. This report will consist of all the documentation, materials, curriculum that was created and implemented during the project cycle. Project manager will also develop evaluation of all the project members, budget and financial aspect. Crucial part will be based on evaluation of desired impact and objectives, that were desired to achieve. This report will serve as a base for

agricultural extension manual, which could be adopted by different organizations and utilize it for different small-scale farmers communities.

### 5.4.2 Financial aspect of the projected activities

Detailed information about financial aspect of the project is included in the appendices. Financial costs of the project are mostly connected to wages for project staff, apart from that there are just minor expenditures for materials costs and additional services. As a part of financial strategy of the project, it was also essential to assess potential sources of grant acquisition. As an appropriate source, it was identified Small-scale Farmer Support Program that is facilitated by Cape Winelands District. This particular call for project proposals is ideal source of financial aid for model project proposed, because the general objectives are in correspondence with proposed project objectives.

## 5.5. Methods of project objectives evaluation

As for the evaluation of the success of the project, so-called goal-based impact evaluation tools will be used. With help of this technique, we will be able to determine, weather we managed to achieve the goals and objectives that were stated before implementation of agriculture extension.

The approach used for evaluation consists in assumption, that success of the project can be assessed by measuring and comparing projects outcomes with goals and objectives stated at the beginning. First step is to identify objectives that can be measurable and then collect data, that affirm weather and to possibly to what extent the desired goals have been achieved. As for the measurable objectives, the project intends to develop productivity of farming activities in terms of higher yields, enhance the income resulting from agriculture and contribute to food security of the households involved in the project.

The assessment and evaluation will be based on comparison of records before and after the intervention. In case of higher yields and agricultural income, these will be assessed at the beginning and end of the project by measuring the volume of production in each household and conducting survey about the income from agricultural activities.

Comparison of initial household incomes with incomes after intervention with determination of triggers of change will be performed.

Evaluation of food security development is rather complex issue, therefore more complex questionnaire has to be conducted. This will consist mainly of the questions regarding all aspects of food security such as for example inadequate quality or quantity of food consumed by the household etc. One of the main parts of the evaluation is establishment of two comparison groups that will serve as a contrast to the group of recipients of the projects. First of the comparison group will consist of rural farmers with no agriculture extension program, second one will be represented by farmers participating on similar agriculture extension program provided by different organization. This means, that the results from the evaluation surveys will be triangulated and properly compared.

First step of the evaluation is to create the program theory that determines the results chain from inputs to outcomes of the project. This theory reflects the logical framework that is included in the annexes of this thesis. The program theory explains, how the inputs function and affect the process of the project, how are they linked to the outcomes. This is done mainly to avoid "black box" evaluations, which means, that impact is assessed and confirmed, but there is no evidence of causality between the impact and intervention.

Before the implementation of the very project, baseline study within all three treatment groups will be conducted. This will allow us to make "difference in difference" estimates.

Evaluation of this kind will be based on measuring production and farm income for a representative sample of farm families, and then comparing the figures with previous levels. Than the conclusions will be made, in order to prove that changes revealed by recorded figures are related to the extension inputs and activities during the project. The evaluation tools and concept of triangulation mentioned above will ensure, that external factors triggering the outcome are determined, so only the true contribution of the intervention is visible. This external factor could be for example better weather and rainfall conditions that result to higher fertility of the land, therefore to higher productivity and crop yields of the farmers.

# 6 DISCUSSION OF PROPOSED MODEL PROJECT

This chapter is dedicated to expected outcomes generated by model project proposed. This is followed by possible risks that can emerge from project implementation. Emphasis is also put on sustainability of the project. All this indicators combined together can assess actual feasibility of the project and its relevance.

## 6.1 Project outcomes

**Agriculture extension program**

Main output of the project is establishment of agriculture extension program, that consists of creation of network among main three partners of the project- Cape Peninsula University of Technology, Wagon of Hope Foundation and beneficiaries of the project represented by small-scale farmers from Mbekweni township. Main aim of this network is to bridge the gap between research and expert findings and rural farmers, that might adopt this know-how into their daily practices.

**Agriculture extension materials and activities**

Extension activities will be based on group extension methods that are very diverse, such as expert lectures, group discussions, field days, practical demonstrations, informative meetings etc. The content of the activities is based on demand-driven principle, which means that requirements of project participants are taken into account. Content is divided into two main parts based on two production cycles. Each of the season is suitable for different kind of crops. Activities will be adjusted to the winter and summer crop season, so the beneficiaries gain information about specific crop in period, when it should be planted. Specific steps of agriculture will be also included such as for example irrigation or pesticide management.

**Small-scale farmers with developed agricultural skills**

121 beneficiarries practising household farming will be divided into ten groups, each accounting for 12 participants representing their households, respectively one accounting

for 13 members. Each of this group will participate on courses and other activities developed by Agriculture expert represented by CPUT professor and facilitated by Extension Agent. Main goal of these courses is enhancing of their decision making activities connected with all segments of agriculture.

## 6.2 Risk and assumption analysis

This project is facing several risks that are connected mainly to target group and its behavioral characteristics. These could be characterized as internal risks. First assumption that has to be ensured is the interest and willingness to actively participate on this project. To determine farmers positive approach, we included question about this topic in the questionnaire, where majority of respondents expressed their motivation and interest to be part of the project.

Another fact supporting our confidence about farmers participation is, that they have already get involved in project organized by the same partners as are proposed for this project. This results into mutual trust among concerned project parts.

Next risk could be caused by unwillingness of the participants to commute to place of course realization, but the facility of the Wagon of Hope foundation is strategically located at the edge of the township and for outlying households could be provided transportation with foundations vehicle. Another risk that this project might face is language barrier among involved members. Vast majority of the farmers, mainly the eldery part speak just traditional Xhosa language and therefore all the activities have to be instructed in this traditional language. This will be ensured by selection of extension agents that speak Xhosa, Afrikaans and English.

During the implementation of the project, participants will be given possibility to express their overall satisfaction with the project, but also detailed comments about particular activities. This feedback should eradicate the risk connected with participants losing their interest for the extension, because of not benefiting from the activities. Agriculture expert should always keep on mind the education level of household farmers, that was identified in the questionnaire survey. Agriculture expert should always take into account

Crucial part of the project is implementation of gained information into practice. Assuring that beneficiaries are utilizing information properly is one of their responsibilities of extension agent. He will guide household farmers with recommendations and consult possible problems with course developer represented by CPUT professor.

## 6.3 Sustainability of the project

Risk analysis has set foundations for sustainability of the project. All the factors that can pose risks to the project were checked off during the preparation phase. One of the main assumptions for sustainability of the project is the fact, that agriculture extension program will follow up already functioning project- Food Security and Livelihood Project (FSALP) and the structure of the network already proved to be effective. Therefore already existing patterns will be used and modified for extension purposes. There is already developed mutual trust among involved partners and

There are several dimensions of the project that needs to be taken into account regarding the sustainability. The first one is logistic dimension that consists of continuous maintenance of facilities and sufficient places for extension activities. Some of the activities will take place in the field, but most of them will be set in Mbekweni e-center, that is provided by Wagon of Hope Foundation.

Another dimension is very crucial, because it is connected to participation of the recipients of the project, their motivation to be part of the project was assessed in the preparation phase trough questionnaire survey. Their participation will be also ensured by field days, where farmers themselves will be responsible for demonstrations.

Next important dimension of sustainability is focusing on appropriate distribution of inputs of the projects. To be more precise, the project will be based on mechanisms, that will ensure equal distribution of extension activities to all participants continuously.

Organization perspective is described more in detail in the human resources section of this thesis. Delegation of tasks, activities and responsibilities of each staff is given.

## 6.4 Partial Conclusion

Before the creation of model project and its detailed designing, primary research in form of questionnaire survey was conducted as a part of practical internship in South Africa. The main aim of this survey was to supplement theoretical background of the problem and determine detailed state of small-scale farmers in the place of location of the project. The results of the survey confirmed the assumption, that agricultural information provision to small-scale farmers is neglected. Furthermore, questioned farmers expressed their motivation to become part of extension program, which main aim is to fix the current negative situation.

The actual model project with its basic characteristics is described in the Logical Framework Matrix, that available in appendices.

The very process of model project designing was based on cooperation with local experts, mainly agriculture specialists and community workers. Crucial part of communication with them was to revise former Food Security and Livelihood Project, which was mutual effort of Wagon of Hope Foundation and Cape Peninsula University of Technology. Their experience with target group of the project, which will be part of proposed model project as well, was helpful in order to anticipate the dynamics of the community and basic characteristics of local small-scale household farmers. Together with agricultural professors theoretical research about possible interventions that could be implemented was conducted. Revision of already functioning agricultural development initiatives was also done, both national or provincial and local.

Secondary research detected serious development issues in the province. These are mostly connected to bad conditions for small-scale farmers and significant income inequalities based on gender, spatial characteristics, but mostly on race of the household. Unemployment rates are also serious together with large portion of population under poverty line.

Based on all the gathered information from secondary and primary research the actual model project was developed. Its main aim is to provide information support to small-

scale farmers from Mbekweni township trough establishment of agricultural extension program.

As the result of the project, participants will develop their agricultural skills with respect to increase of crop cultivation productivity and higher yields from their household farms. Part of the desired impact is also increasing of agricultural activities contribution to household income. Next objective of the project is to improve food security of the involved households.

After the completion of the project, part of the outcomes is creation of final report with all the used materials, curriculum and findings. This will be then simplified to manual, so other organization and initiatives can benefit from it and implement similar projects to some different target group. This could be characterized as dissemination project results to relevant stakeholders.

# 7 CONCLUSION

The aim of this thesis was to investigate possible function of agricultural extension program as a support instrument for development of small-scale farmers agricultural skills connected with the improvement of their farming productivity in terms of higher yields and that have potential to enhancing food security and higher income of the households. Concrete development project is proposed, with main objective to deliver agricultural information to particular target group of small-scale farmers.

The very beginning of the thesis was focusing on agribusiness, it was necessary to briefly introduce current state of agricultural industry in general along with definition and characteristic of connected phenomenon of agribusiness.

Furthermore, attention was paid to problematics of small-scale farmers. Firstly it was essential to understand context of forming size structure of agricultural holdings. This part continues with different definitions of small-scale farmers and the state of this phenomenon worldwide.

Next part was connected to position of small-scale farmers within the agribusiness environment. Special emphasis was put on the context of developing countries and latest trends in agricultural sector that is affected by industrialization and changes of world market.

Part of the theoretical background was also relation of small-scale farmers and food security, respectively poverty and development challenges in this context.

Next part of the theoretical background was dedicated to core issue of the thesis, which is agricultural extension. Firstly it was essential to define the term and concept of this development method. This was followed by brief revision of historical development of this concept together with potential providers of the service. Principles of extension are part of the next section.

Last part of the theoretical background was focusing on basic characteristics of South Africa together with description of South African agriculture.

Second part of the thesis is dedicated to model project itself. It consists of description of initial state regarding the primary and secondary research, This was followed by problem identification together with target group and description of involved subjects. Furthermore objectives of the project were stated. Human resources and definition of project activities follow. Part of this part of thesis is also description of project outcomes and evaluation methods used. Risk analysis and sustainability of project was also included.

Last part of the thesis continues with list of references, figures and tables. In appendices can be also found questionnaire survey, description of partner project, budget proposal, logical framework and time schedule.

# 8 REFERENCE


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**Appendix 1:** Results of primary research - questionnaire survey

**Questionnaire survey**

This section's focus is on the results of the empirical research to determine information gaps prevailing among household farmers from Mbekweni township. Number of respondents accounted for 20 small-scale farmers from Mbekweni township, involved in FSALP project. Research results do, to a large extent, reflect the extent of lack of knowledge on agriculture information by the targeted study group. Questioned sample of the respondents represents 20% of the household farmers involved in already ongoing project. The interviews were conducted in both English, Afrikaans and Xhosa languages. This questionnaire took place in September 2014 in Mbekweni township situated in the south of the Wellington, Western Cape.

**Survey objective**

Main aim of the survey consisted in identification of the current state of agricultural information awareness of household farmers. It was focused on both information demand and supply aspect, farmers satisfaction with potential information provision. It was intended to identify information tools and channels that would be most preferable for project beneficiaries. By determination of neglected areas of information provision, we can optimize the agricultural extension program and adapt it to respondents requirements. Early parts of the questionnaire were focused on the general information about the project beneficiaries, because it is crucial to establish detailed profile of the Mbekweni household farmer since there has been no data about this topic.

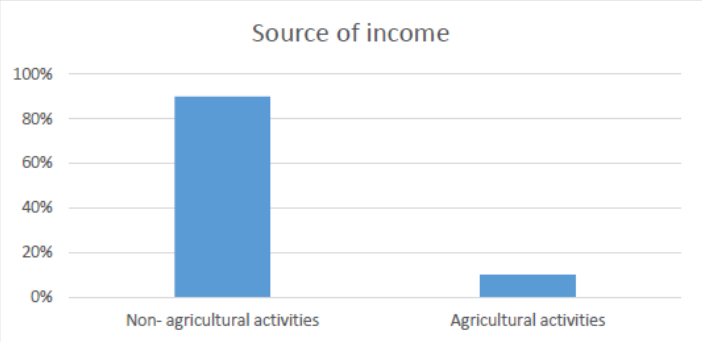
**Survey Methods**

The entire qualitative survey was divided into three main parts. First consists of demographic characteristics of the household farmer. Second focuses on information about home-gardens of the farmers and last one about the information aspects. Questionnaire was in the printed form and was constructed out of open, closed and semi-closed questions. Content of the survey was consulted with local expert along with the employee of the community center. Special attention needed to be payed to method of question creation with regard to assumed education level of respondents. Therefore,

questions needed to be simplified as much as possible and perception errors issuing from cultural difference. This resulted into decision, that sophisticated matrixes and tables were replaced by more informal discussion of the topic and recording the findings. Another obstacle that had to be solved was language barrier, which was eliminated with help of community volunteer speaking in Afrikaans, Xhosa and English language.

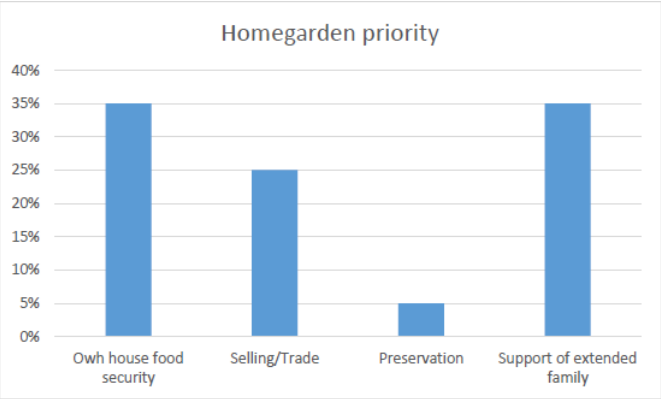
**Survey results**

As for the gender representation of the households, 65% of the respondents were women. The age distribution in household farmers is strongest between 35-55 years, accounting for 60%, followed by 35% of farmers older than 56 years. As a result of the survey it is visible that farmers younger than 35 years are very rare and present only negligible 5% of the respondents. Almost half of the respondents have education of 1-5 grade, followed by 20% of respondents with no education respectively with 11-12 grade education. Most of the home-gardens of the farmers are maximum 50$m^2$. Vast majority, more precisely 90% of the households involved in the questionnaire generate their main source of income from non-agricultural activities. The experience of respondents in farming varies, there is no significant difference among experienced and newly emerged farmers.




**Source: Own work**

As for the priority of the home-gardens and its production, respondents indicated that most important function of their gardens is to ensure own home food security or support extended family. Respondents were also asked about how often they can ensure their food security trough household farming, most of them indicate, that sometimes. Only 15% of respondents can ensure this never or rarely.




**Source: Own work**

Furthermore, questionnaire revealed the question of crop overproduction and its potential usage. In case of overproduction, households mostly support their extended family.
Next part of the survey focused on the identification of the crops that are cultivated by the respondents. Most of the respondents marked out similar crops with just neglectable differences that are depicted in section focusing on content of extension activities.

Next questions intended to identify areas of agriculture information, that are actually provided to household farmers and agriculture they demand to receive. The result was interesting, vast majority of the respondents marked out, that only type of information, that they have been given is considering household food security. As it was found out, there was conducted an education project in the community focusing on ensuring of food security few years ago, but as it turned out- farmers were not satisfied with information and they cannot recall even the particular content. So technically there is no agriculture information provision flowing into this community, so we verified they interest in production stages information with regard to crops produced identified in previous part of the questionnaire. The response was positive.

Crucial part of information provision section is identification of channel that should be used for the transfer of information. As it was already mentioned in early parts of this paper, project beneficiaries are already part of the ongoing project that has established relations among each of the project partner.

Respondents requirements are very clear in question of information tools, that should be used for proposed Agricultural extension program. Majority have identified, that most favorable way of information distribution for them are continual courses lectured in close surroundings of their households with combination of further practical demonstrations, that should be assured with assistance of already known community worker, who will be intermediate between community and course developer. Respondents also marked out, that they would prefer materials with summarized and graphically depicted information from each course.

**Survey conclusion**

Survey results presented above confirm seriousness of situation regarding lack of agricultural information provided to small-scale farmers in Mbekweni township. At the same time, the survey assessed current state of local farmers regarding food security aspect, which is not very stable. Overproduction from their home-gardens is also rather rare. Marketing practices are based on non-sofisticated patterns and potential of agricultural activities for household income is also rather problematic. Their preferences for information provision were also assessed and indicate possible model for development project. Furthermore their motivation and interest for information provision trainings was confirmed along with particular tools and channels that they prefer. Based on these findings, model project proposed in this thesis was drafted.

**Appendix 2**: Description of initial state of former FSALP project

This section is providing basic information about FSALP project, that will be followed-up by model project proposed in this bachelor thesis.

| | |
|---|---|
| 1. Number of beneficiaries to date | 121 |
| 2. Project duration | One year |
| 3. What the project provides | i. 18 seedlings of Cabbages.<br>ii. 18 seedlings of Beetroot.<br>iii. 18 seedlings of lettuce.<br>iv. 42 seedlings of onions.<br>v. 36 seedlings of tomatoes.<br>vi. 30 seedlings of carrots.<br>vii. 24 seedlings of spinach.<br>And the following tools to each participating household:<br>i. One hand spade.<br>ii. One weeding hoe.<br>iii. One watering can.<br>iv. 40 kg of compost.<br>v. One kilogram of snail bait. |
| 4. Number of employees | Four individuals are employed by the project. The project also gets support from an army of volunteers. These are as follows:<br><br>1. Six university students from the faculty of agriculture.<br>**2.** Four lecturers from the university's department of agriculture. |
| 5. Project outcomes | 1. Reduce hunger and strengthen food security.<br>2. The project broadens the relationship between the community and education institutions.<br>3. Improve urban agriculture. |

**Table 1:** ***FSALP project (Source: Wagon of Hope Foundation)***

**Figure 1: FSALP project (Source: Wagon of Hope Foundation)**

**Figure 2: FSALP project (Source: Wagon of Hope Foundation)**

**Figure 3: FSALP project (Source: Wagon of Hope Foundation)**

**Figure 4: FSALP project (Source: Wagon of Hope Foundation)**

**Figure 5: FSALP project (Source: Wagon of Hope Foundation)**

**Appendix 3:** Budget proposal

All prices are expressed in EUR

| Human Resources | | | |
|---|---|---|---|
| **Function** | **No. of experts** | **Monthly salary** | **Total per project** |
| Project coordinator | 1 | 700 | 14 000 |
| Project manager | 1 | 700 | 14 000 |
| Agriculture expert | 2 | 800 | 16 000 |
| Extension agent | 2 | 900 | 18 000 |
| **Total HR** | 6 | 3100 | **62 000** |

| Other costs, services | |
|---|---|
| **Item** | **Total** |
| Transport | 3 000 |
| Classroom rental | 3 000 |
| Potential ad hod expert assistance | 2 000 |
| Study materials, stationary | 2 000 |
| Total | 10 000 |

| Total - Human resources | Total - Other costs, services | Total |
|---|---|---|
| 62 000 | 10 000 | **72 000** |

**Source: Own work**

## **Appendix 4:** Logical Framework Matrix

| | **Intervention logic** | **Objectively verifiable indicators of achievement** | **Sources and means of verification** | **Assumptions** |
|---|---|---|---|---|
| **Overall objectives** | Development of agricultural skills of small-scale farmers<br><br>Contribute to ensuring food security<br><br>Increase of income generated from agriculture activities | Better performance of agricultural activities, crop diversification<br><br>Adequate quality and quantity of food consumed<br><br>Higher household income | Survey with indicators about food security, household income and farming improvements | |
| **Specific objectives** | Improvement of agriculture information provision to small-scale farmers<br><br>Raise agricultural productivity | 121 small-scale farmers trained by extension agent<br><br>Higher farm yields | Attendance reports from each extension activity<br><br>Comparison of initial household incomes with incomes after intervention with determination of change triggers | Motivation and interest of small-scale farmers<br><br>Participants ability to utilize the information in practice |
| **Expected results** | Establishment of agricultural extension program<br><br>Extension activities conducted by agent according to developed courses | Functioning network of methodology developers, extension agents and community workers<br><br>Small-scale farmers affected by agricultural extension activities | Signed contracts<br><br>Questionnaire assessing improvement of agricultural skills | Interest of project partners and their proper cooperation and communication<br><br>Ability to ensure appropriate extension agent selection |
| **Activities** | Development of methodology and materials of extension activities<br><br>Staff selection<br><br>Administrative arrangements<br><br>Ensuring logistic essentials | **Means:**<br>Agricultural Experts<br><br>Project staff and partners<br><br>Small-scale farmers<br><br>Extension methodology and materials | **Sources of information:**<br>CPUT agricultural professors, researches, surveys<br><br>Local organizations, officials and initiatives<br><br>External project partners and other relevant stakeholders | **Preconditions:**<br>Confirmation of project intentions by small-scale farmers in questionnaire survey<br><br>Mutual agreement of project partners about project characteristics<br><br>Grant Acquisition |

**Appendix 5:** Activities Schedule