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TIYESEKO



- A Study on Small-Scale Farming Women in Sustainable Agriculture in Zambia

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Abstract

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The purpose of this study is to understand what impact courses in sustainable agriculture have had on small-scale farming women in Zambia, who have started using alternative techniques in their farming. Weather conditions, political issues and other circumstances in Zambia have made it difficult for people to grow enough crops to feed their families and gain extra money alternative methods are being promoted by organisations at all institutional levels, in order for people to survive. At Kasisi Agricultural Training Centre, east of the capital, Lusaka, sustainable methods in farming practices are taught to small-scale farmers. It is a qualitative study, accomplished within the field of Human Geography, and the theoretical frameworks that have been used are political ecology of sustainability, low-external input in sustainable agriculture, and gender and development. The qualitative methods used are in accordance to Rapid Rural Appraisal, where small-scale farming women have been interviewed on a semi-structural basis. Additionally, secondary data in the form of literature has been gathered and direct observations have been made in the field. Results show that the courses in sustainable agriculture have had an impact on the lives of participating small-scale farming women and that they are able to spread their knowledge to neighbouring small-scale farmers. It also shows that politics has a major influence on the daily life of the women.

Keywords: small-scale farming women, sustainable agriculture, political ecology, rapid rural appraisal, Kasisi, Zambia, Minor Field Study

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Karin Johansson

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Cover: The Chinyunyu Study Circle Group, Chongwe, Zambia

All photos and figures have been made by the author. The maps of Africa and Zambia have been created with inspiration of the National Geographic Society (<http://www.nationalgeographic.com/expeditions/atlas>).

Abbreviations

BSAC	British South African Company
CGIAR	Consultative Group on International Agricultural Research
FAO	Food and Agriculture Organisation of the United Nations
GAD	Gender and Development
HEIA	High-external-input agriculture
IMF	International Monetary Fund
KATC	Kasisi Agricultural Training Centre
LEIA	Low-external-input agriculture
LEISA	Low-external-input and sustainable agriculture
MAC	The Ministry of Agriculture and Cooperatives
MMD	Movement for Multi-Party Democracy
NAIS	National Agricultural Information Services
NGO	Non-governmental organisation
OPPAZ	Organic Producers and Processors Association of Zambia
ORGUT	Organisationsutvecklingskonsult AB
RRA	Rapid Rural Appraisal
SCAFE	Soil Conservation and Agro Forestry Extension
SCC	Swedish Cooperative Centre (Kooperation Utan Gränser)
SV	Studieförbundet Vuxenskolan
UNZA	University of Zambia
WB	World Bank
WID	Women in Development
ZCF	Zambia Cooperative Federation
ZNFU	Zambian National Farmers Union

1. Introduction

Given that women in the South produce most of the food consumed by their families, issues related to environmentally sustainable land use are often central to their lives. Previous studies have shown that where women have been given access to better seeds, tools and education, yields have increased and land has become more productive. However, many countries still do little to encourage their female farmers. Investments in agriculture and technical assistance policies often assume that their recipients are men, as is the case normally in Western countries, and therefore landholding and legacies are inclined in their favour.

In Zambia, a country with plentiful, fertile soils, exceptionally good prerequisites for farming such as favourable climate and many rivers to fetch water from, farming conditions are optimal. Small-scale farmers constitute almost 75% of farming households and they dominate the country's agricultural production. Still, they are among the most afflicted by poverty and experience considerably long periods of lack of food.¹ Especially during years such as 2002, when the eastern and western parts of the country received very little rainfall, resulting in droughts that aggravated the lack of food and caused subsequent famine.

Agriculture is by far the main opportunity for income and employment for women in Zambia, who comprise 65% of the rural population, and they are more heavily afflicted by disturbances to the farming cycle. If agriculture was fully exploited, with well functioning farming systems and policies, it could not only ensure the food security of families and the country as such, but also contribute to the economic growth of Zambia.²

One solution might be to develop on-going ecological rural development projects, such as the one at Kasisi Agricultural Training Centre (KATC), 40 kilometres northeast of Zambia's capital Lusaka. The staff at KATC works in collaboration with different NGO's aiming at training small-scale farmers in environmentally friendly and sustainable agriculture, and to encourage women to participate in the courses given.

This study will focus on small-scale farming women who have participated in the courses given at KATC. I want to see whether the courses have had any impact on the participating women's

¹ Project Zambia (2001) *Zambience*, p.44

² *Evaluation Draft Report*, KATC

lives, and if they have, what kind of changes have occurred. I will present my problem more thoroughly in the first chapter. Then follows the theoretical approach towards the problem, the methodology and an introduction to Zambia. The study of small-scale farming women is presented in the sixth chapter, followed by a broader perspective, in which I present what NGO's and the government in Zambia are doing to change the situation of small-scale farmers. The conclusion analyses the results, the theoretical approaches and methods used in the study, and eventually the study ends with a general discussion. On the final pages of this study, the references on the literature and respondents from the interviews are listed. I just want to make a comment on the title of this study, *Tijyeseke*. It is a saying in the local language Chinyanja, and it means "Give it a try". It is the name of one of the women's groups of which I interviewed one woman, and I believe it expresses a glimpse of hope and expectation of their future. Let us give it a try!



Figure 1. Map of Africa.

2. Presentation of the Problem

One of the focal points at Kasisi Agricultural Training Centre is to encourage small-scale farming women to try new methods in their agriculture, based on sustainable techniques. This is a study within the hermeneutic sciences, which claims that no observation or explanation can be neutral, but involve an understanding of the world as it is perceived through a systems of meanings, constructed by man through socialisation and re-socialisation with other human beings. Thus, hermeneutic science does not offer any explanations on how and why things are the way they are, but rather understanding of the problem.³ The aim of this study is to understand what impacts the courses in sustainable agriculture have had on small-scale farming women who have attended them. Since they are encouraged to learn different techniques of how to manage their farms, in a more sustainable way than traditionally or conventionally, I find it interesting to see what effects the courses at KATC have had on them.

2.1. *Questions at Issue*

The main questions at issue have been the following:

- What impact have the techniques of sustainable agriculture had on the small-scale farming women who attended courses given at Kasisi Agricultural Training Centre?
- Have their lives changed? If so – in what ways?
- Have they been able to spread their new knowledge to other farmers in their neighbourhood, so that more people learn of the sustainable methods?

It is also interesting to see whether women who are not practicing sustainable agriculture live a different life, than the above mentioned ones. Therefore, I have also interviewed women who use traditional or conventional methods in their agriculture to answer the following questions:

- What are the differences between small-scale farming women using the methods of sustainable agriculture and those who use conventional or traditional farming methods?
- What are the main advantages and difficulties in farming for a small-scale farming woman?

As local, national and international development bodies affect the situation of small-scale farming women, I find it interesting to see what these organisations do to support the farmers.

³ Johnston, RJ (1997) *Geography and Geographers*, pp.34

- What are the government, NGO's and other organisations doing to improve the lives of small-scale farmers in Zambia?

Finally, I also want to see if the chosen theoretical approaches can be applied onto a realistic case.

- To what extent are the indicators according to low-external-input and sustainable agriculture taught by KATC?
- Can the theoretical approach of political ecology be used to explain the situation of small-scale farming women?

2.2. Definitions

Sustainability as a definition has been woven into the agenda of many governments, research institutes and evidently also within agriculture. Many are the farmers that have embarked their own ways to sustainability on their farms, but what does sustainable agriculture actually mean? What is the difference between organic, ecological, and sustainable agriculture and why is there such a variation of usage of words? It is difficult to grasp the entire vocabulary, which is why I will make a brief outline, based upon readings of different texts on sustainability. In this part of the paper, I also want to discuss the expression of a small-scale farmer, as its meaning apparently varies.

Sustainable agriculture: The word *sustain* indicates that something is to be kept in existence and implies durability. To be considered as sustainable, a farm has to maintain a level of production that complies with the needs of the household, both material and social needs. Sustainable agriculture describes farming systems that are

“capable of maintaining their productivity and usefulness to society indefinitely. Such systems ... must be resource-conserving, socially supportive, commercially competitive, and environmentally sound”.⁴

It is suggested that the farmer should use the natural resources close to the farm in order to maintain sustainability within the system. However, there is lack of a sharp definition and a critical discussion of the concept is ongoing. It should also continue, because an incessant focus on the concept will keep sustainable agriculture from becoming comprehensive or insignificant. A statement by Garth Youngberg and Richard Harwood in 1989 is still worth mentioning:

“We are yet a long way from knowing just what methods and systems in diverse locations will really lead to sustainability... In many regions and for many crops, the particular mix of methods that will allow curtailing use of harmful farm chemicals or building crop diversity,

⁴ Gold, M. (1999) *Sustainable Agriculture: Definitions and Terms*

*while also providing economic success, are not yet clear. The stage is set for challenging not only farm practitioners, but also researchers, educators, and farm industry”.*⁵

Ecological/biological farming: Accordingly, this definition is widely used in Europe and the South, i.e. you seldom see the expression in the debate in the United States of America. Even though it at times is strictly defined (e.g. “*biological farming is a system of crop production in which the producer tries to minimise the use of chemicals for control of crop pests*”), both of the expressions are used in wider senses, covering a number of practices and techniques of farming sustainability, such as organic, biodynamic, holistic and natural farming. Farming systems that today are named as ecological agriculture are often heading a step towards sustainable systems.⁶ For instance, the European Union defines ecological farming as one form of sustainable agriculture, a system where renewable resources and recycling are being used, and the nourishment of waste products are returned to the soil.⁷

Organic farming: The concept is synonymous with organic agriculture and it is a system that “*relies on ecosystem management, rather than external agricultural inputs*”.⁸ Organic agriculture is labelled by the Food and Agriculture Organisation of the United Nations (FAO) as a

*“holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasises the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system”.*⁹

Farmers who exercise organic agriculture cannot guarantee that the products are entirely free of residues, but methods are used to effectively reduce pollution from water, air and soil. *Organic* as such is used as a labelling term, indicating that its products are produced with no artificial inputs. Countries have their own regulations and certifying processes for the labelling of organic com-

⁵ Gold, M. (1999)

⁶ Gold, M. (1999)

⁷ European Commission, europa.eu.int/comm./agriculture/qual/organic/def/index_en.htm

⁸ FAO, www.fao.org/organicag/ram11-e.htm

⁹ FAO, www.fao.org/organicag/ram11-e.htm

modities. However, the products sold on the market and organic agriculture systems are not always certified and are therefore labelled as “*non-certified organic agriculture or products*”.¹⁰

As noted, there are a lot of different explanations and definitions for the above-mentioned expressions, although they are somewhat similar. It is difficult to interpret the expressions and also to separate their meanings from each other. The main definition used by KATC and the farmers for what they are practicing is sustainable agriculture (even though they in a future perspective have visions of their farmers being able to produce and sell organic products on a local and international market). Therefore I will be using the expression sustainable agriculture throughout this paper.

Small-scale farmer: It is a bit difficult to grasp what a small-scale farmer actually is, and I have been given different explanations on the matter. According to Mr Edwin Abwino, staff at KATC, a small-scale farmer is not measured by the size of land that is used, but someone who has little financial and material resources. However, according to Mr Robby Muzungeaile, lecturer at Zambia College of Agriculture in Monze, farmers are categorised by the area of their land. Accordingly, traditional farmers cultivate less than 1 ha, and grow only a few different species of crops. Their equipment is usually limited and rather basic. A small-scale farmer uses 1-20 ha of arable land, growing different crops and using basic implements. A medium-scale farmer cultivates between 25 and 50 ha of variable crops with more advanced implements and can afford some external inputs, while a large-scale commercial farmer tends more than 60 ha of land and has the capacity of running a farm with technical machinery and expensive inputs.¹¹ I have tried to find a precise definition in the literature of what a small-scale farmer actually is, but have not been successful. Why there is the gap of size of land between a medium-scale farmer and a large-scale farmer, I can only refer to what Mr Muzungeaile explained to me.

3. Theoretical Approach

Theories are used to construct an approach for the problem that will be studied. This study has been accomplished to understand what impacts courses in sustainable agriculture have had on small-scale farming women in Zambia. Considering different circumstances leading up to present

¹⁰ FAO, www.fao.org/organicag/ram11-e.htm

¹¹ Mr Robby Muzungeaile, 20 May 2002

day situation, I will be using three theoretical approaches; the political ecology of sustainability, low external input and sustainable agriculture, and gender and development. These will help me answer the questions at issue.

3.1. Political Ecology of Sustainability

Not only are the poor people of the South frequently held responsible for environmental degradation, they are also dominant among its victims. However, according to Piers Blaikie and W.M. Adams, there are strong links between poverty, environmental degradation and development, which illustrate how important social, political and economic issues are to explain the relationships between poverty and environmental degradation. They name it *political ecology*, challenging reputable methods to understand the links between changes in the environment and human exploitation. Political ecology focuses on

*“the centrality of political economy to the explanation of why particular people experience the environment in particular ways, and to challenge understandings that draw narrowly on science and claim to be impartial and apolitical.”*¹²

To examine the complexity of the situation is an enormous task, and I can only take a superficial view upon it in this paper. Apparently, the cause of environmental degradation and its effects are not neutral on the poor, as environmental quality is established by a somewhat discriminating society. The distribution of and access to supplies such as firewood, farming land and clean water, is uneven. Therefore, Blaikie’s fundamental argument is that it is of most importance that one sees the relations between environment, economy and society.¹³ An extended interdisciplinary perspective is needed in order to understand the underlying processes, why political ecology tries to find its explanation in both social and natural sciences, and also attempts to integrate explanations across spatial and chronological scales.

Before expressing environmental issues, which do include agricultural matters, one has to take into account how the people who live there experience the environment. There is a need to understand how they grasp their situation, and pay attention to their opinions. This diversity will interrelate in political decisions, why issues of power need to be appreciated at all levels. Environmental degradation cannot only be regarded as a product of local processes, such as farming

¹² Adams, W.M. (2001) *Green Development. Environment and Sustainability in the Third World*, p.251

¹³ Blaikie, Piers (1985) *The Political Economy of Soil Erosion in Developing Countries*, p.89

practices. The problem should also be considered as one of political economy on the local, national and international arena. Small-scale farmers struggling with eroded soils due to droughts or heavy rains are influenced by a number of issues over which they have little or no power or control. Examples of issues are that men have migrated out of the household in search for a job opportunity in the town, leaving wives and children alone, that the government subsidises imported products, or how national insolvency affect rural areas.¹⁴ Due to the above-mentioned issues, one cannot leave out the political economy when trying to explain environmental degradation. When discussing soil erosion, Blaikie has created his own chain of explanation, where he implies that

*“physical changes in soils and vegetation were linked to economic symptoms at particular places at particular times, and in turn to land use practices in that place, to the resources, skills, assets, time horizons and technologies of land users, the nature of agrarian society and finally to the international political market.”*¹⁵

International companies, organisations and governments can compel developing countries’ policies by allocating money through ‘environmental conditionality’ and targeting in aid-giving and in that way affect small-scale farmers at the grass-root level. Even droughts are linked all the way from the household’s lack of ability to produce food, through the market and the government to the international economy.¹⁶ In his earlier writings on soil erosion, Blaikie argues that the loss of soil is the result of numerous decisions on land use made by the land-users, and these cannot be isolated from the discussion on political economy. Through taxation, distribution of land, increasing demands for cash crop products, or introduction of new technologies the government has a great influence on the small household, whose economic and material situation easily can be disrupted.¹⁷

One essential area of the debate is whether the government and other important institutions, to try to improve the situation, will take the signals from small-scale farmers seriously. Since there is a lot of money involved and the chances of making large profits are high, signals from larger, commercial farmers and highly productive areas tend to receive more attention than small-scale farmers.¹⁸ Previous studies have shown that almost all development and research at research stations has been made upon certain products divorced from their social, economic and environ-

¹⁴ Adams, W.M. (2001), pp.253

¹⁵ Adams, W.M. (2001), p.254

¹⁶ Grigg, D (1995), *An Introduction to Agricultural Geography*, p.101

¹⁷ Adams, W.M. (2001), p.278

¹⁸ Blaikie, P. (1985), p.19

mental framework. The methods of researchers on farming systems that study the complex of decision-making by farmers, who have talked to the farmers in field using adaptive research needs on the spot, instead of spending their time at a research station, tend to be more useful as new crops can be discussed and tested on the spot whether they suit the environment or not. Yield-increasing programs are usually only available through the network of state institutions, and can mainly be reached by those with access to credits, which is the large-scale farmer. A small-scale farmer often has too limited resources to take advantage of the equipment and knowledge handed out by the government and its allies, which is why they frequently are left out of the system.¹⁹ Additionally, due to external circumstances, political ecology suggests that small-scale farmers in general, considering their constrained possibilities of using too expensive inputs to increase the outcome of their farming, use their lands in a non-sustainable way as they have no other options. Furthermore, the small-scale farmer in general is not interested in selling off what is produced on the land for the main purpose is to feed the family. The farmer thus tries to produce as much food as possible with a minimum of risk, which is why s/he seldom wants to take any chances with new crops or methods of farming.²⁰

3.2. Low-External Input and Sustainable Agriculture

Environmental problems in countries of the South are often due to overgrazing, over-cropping and deforestation. High-yielding crops that are more resistant to pests and responsive to artificial fertilisers have altered food production in the South from the use of indigenous methods to more conventional farming system, which in general is more profitable for large-scale farmers than small-scale farmers.²¹ Extensive use of chemicals within agriculture increases environmental problems. Even though farmers in the short run can over-plough and over-pump their farm plots and achieve good yields, this might be devastating in the long run. Agricultural systems that use external inputs, such as artificial pesticides and fertilisers, are often capital intensive and highly market orientated. A lot of money needs to be spent on buying expensive inputs, and the system predominantly works in areas where ecological conditions are relatively homogeneous and easy to control. The use of artificial inputs, no matter how good the yields and income are, seriously affects our nature. High-external-input agriculture (HEIA) uses non-renewable resources such as oil and phosphates at a high rate, it is capital-intensive and depends on technical equipment,

¹⁹ Blaikie, P. (1985), p.23

²⁰ Grigg, D. (1995), pp.81

²¹ Adams, W.M. (2001), p.301

which often needs to be imported from countries in the North.²² Additionally, the use of chemicals can often be harmful for both crops and farmers. Plants tend to develop resistance to pesticides if used for a long time, which is why inputs eventually become useless. A more acute problem is the health of the farmers. More than half of the reported cases of pesticide poisoning are reported from the South, with over 10,000 persons dying every year. Generally, small-scale farmers in the South have very little knowledge on how to use the chemicals, which is why they are more affected than farmers in the North.²³

Due to the above-mentioned factors, small-scale farmers in the South often find the use of HEIA difficult. They can seldom afford the expensive inputs nor are they able to maintain the technical equipments needed. This is closely connected to the ideas of political ecology. As agriculture becomes more intensified due to political and economical processes, with technical equipment and expensive inputs as a result, poor farmers become excluded from the agricultural market. Instead they need to carry out their own way of farming their land – on a low-external-input agricultural (LEIA) basis, based on indigenous knowledge. This includes the sporadic use of fertilisers, of oxen and hand-made tools and the labour of the family. In well-functioning LEIA systems, all living things do not only have productive but also ecological functions. They can be compared to natural ecosystems, where most of the produced biomass is returned into the system to maintain fertility and biotic permanence. However, in many of these areas production growth lacks behind the growth of the population. Farmers tend to overuse their land beyond its carrying capacity, leading to deforestation, soil degradation, and less resistance to pests, diseases and droughts.²⁴

A solution for sustainability in a farming system without any long fallow periods could lie in the preservation of soil fertility, through the use of legume crops, nutrient cycles and integration of crops and livestock – a low-external-input and sustainable agriculture (LEISA). Since many small-scale farmers cannot afford expenses such as artificial fertilisers and pesticides it is important to make efficient use of local resources. The system of LEISA aims to maintain a “*stable and adequate production over long term*”, rather than maximising it on a short-term basis.²⁵ It cannot, however, be regarded as the solution to the environmental and agricultural problems of the world, but it can play an important role trying to solve some of the difficulties. To understand how the small-scale

²² Reijntjes, Coen, Bertus Haverkort and Ann Waters-Bayer (1995) *Farming for the Future. An Introduction to Low-External-Input and Sustainable Agriculture*, p.7

²³ Adams, W.M. (2001), p.305

²⁴ Reijntjes, C. et al (1995), p.8

²⁵ Reijntjes, C. et al (1995), p.21

farmer and the farm works, farming has to be regarded in a holistic way. This view suggests that farming is not just a means of production, but a way of life. Being a farmer is being part of a larger whole, where animal husbandry cannot be separated from cropping, nor can economics be separated from ecology. This again illustrates a similar spirit as political ecology states, that there is a need for an interdisciplinary perspective on the subject. A statement made by the Consultative Group on International Agricultural Research (CGIAR) in 1978 declares,

“Farming is not simply a collection of crops and animals to which one can apply this input or that, and expect immediate results. Rather, it is a complicated interwoven mesh of soils, plants, animals, implements, workers, other inputs and environmental influences with the strands held and manipulated by a person called the farmer who, given his (or her) preferences and aspirations, attempts to produce output from the inputs and technology available.”²⁶

According to the principles of LEISA, agriculture is considered sustainable when it is a) *ecologically sound*, meaning that the quality of the natural resources is preserved and the liveliness of the agro-ecosystem is enhanced, b) *economically viable*, indicating that the farmer can produce sufficient food supplies for the family and/or for income, measured not only in yields but also in terms of functions such as minimising the risks and conservation of resources, c) *socially just*, aiming for a distribution of resources and powers that meets the basic needs of the entire society, and that issues such as the right to use land, technical assistance, and market opportunities are guaranteed, d) *humane*, respecting all living things, including plants and animals, e) *adaptable*, making sure that rural communities are able to adjust to the constantly changing premises for farming, such as policies, growth of the population and so on. In order for these factors to guarantee sustainable development, well-considered policies are needed on all levels – from the grass roots, through the national government, onto an international arena.²⁷

To be considered sustainable, a farm has to maintain a level of production that comply with the needs of the household, be they material or social. Since the circumstances for farming are subject to change, farming households need to be dynamic. The farm that is able to adjust to these changes will most likely survive. Previous studies have shown that farmers throughout time have developed several different farming systems through innovations and alterations to the surrounding ecological, social and political environment.²⁸ As new ideas bloom amongst the farming

²⁶ Reijntjes, C. et al (1995), p.24

²⁷ Reijntjes, C. et al (1995), pp.2-3

²⁸ Reijntjes, C. et al (1995), p.36

neighbours, new technologies are spread by the word of mouth or imitation. This can also be done from outside, with the help of field workers spreading new innovations through informal education in the villages. It is important to extend the sources of information, as relying on farmer-to-farmer knowledge has its limitations. They can be of various reasons, such as political and language barriers between different tribes, long distances between villages in rural areas, class differences and hierarchical knowledge, and so on. Also, land tenure can be a hindrance for the adoption of a more sustainable land use, as the land users might not invest in the new techniques if they are not guaranteed benefits from the inputs they make.²⁹ By assisting farmers in their interest in the environment with its problems and possibilities, agricultural advisors and researchers, in cooperation with the farmers, can achieve a successful development of sustainable agriculture.

As the different processes of the soil are very much affected by the climate, human, plant and animal life, farmers need to be aware of how the processes are affected and also what can be done to grow healthy and fruitful crops. Sustainable agriculture requires the best possible use of local resources, where a wide diversity of crops, livestock and trees are used in a way that is appropriate to the ecological conditions. Generally, the small-scale farm functions on the basis of self-sufficiency, where crops are grown for several different reasons (e.g. fuel, food, medicine), and products for markets are of less value. Different ways of conserving soil and water should be used. It is also important to spread the risks instead of maximising the outcome of the products. This can be done through mixing different crops and animals, and choosing to grow crops with built-in resistance to pests, and so on. Integrating crops and trees help to improve the soils, as their root systems diminish the leakage of nutrients, maintain water levels, and also reduce the risk of soil erosion. “*Good soil is a precondition for good plant health*”.³⁰ Therefore it must be made certain that the quantity of nutrients that leave the soil does not surpass the quantity that is returned – there must be balance (see figure 2).

²⁹ Kinlund, P. (1996) *Does Land Degradation Matter?*, p.20

³⁰ Reijntjes, C. et al (1995), p.64

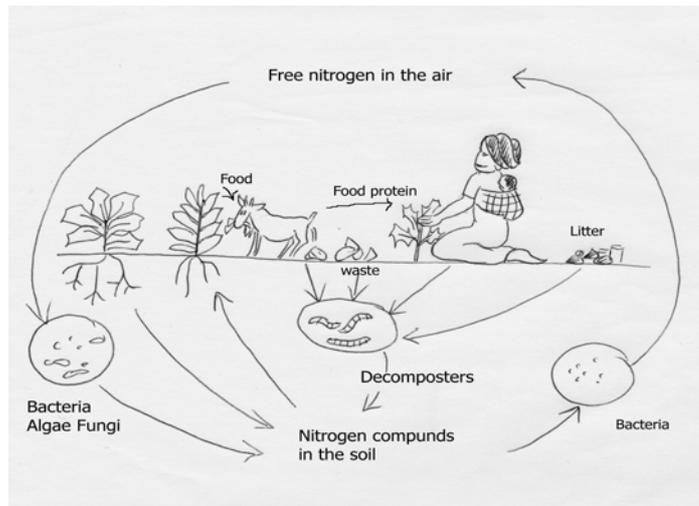


Figure 2. Example of balance in the nature, the nitrogen cycle.

3.3. Gender and Development

Sustainable agriculture should also consider sustainability between men and women. In almost all countries of the world, women are in a worse situation than men when considering poverty and its effects, access to land, clean water and health services. However, for an effective change to take place not just women need to be targeted, but men should also be involved. As Ms Mulenga at SSAFE/ORGUT put it:

First of all, we are all human beings, with the same basic needs and wants. Secondly, we are either a man or a woman, and with that come our specific needs.³¹

Both men and women need to be drawn in to developing projects so that they both understand and grasp each other's problems. If failing to do so, the techniques introduced might not be well implemented and therefore, the result will be unsatisfactory. Gender is a socially formed phenomenon, referring to the learned behavioural differences between women and men. The roles are subject to change and they differ from culture to culture. The different roles of men and women in Africa and Zambia are quite distinct, as African women have been and in many cases still are subordinated men, even in the agrarian society.³²

The Gender and Development (GAD) approach appeared in the late 1980's, and developed out of the previous Women in Development (WID) approach. GAD links the relations of produc-

³¹ Ms Glenda Mulenga, SSAFE, May 22, 2002

³² Mbewe-Mbozi, Dorcas (1992) *Women in Development and Gender Analysis in Agriculture*, p.1

tion to those of reproduction and takes into account all aspects of the lives of women and men. It also focuses on the social construction of roles and relationships of gender, and questions the ascribed roles of women and men. The approach considers women as being active participants in the change, rather than passive beneficiaries of development assistance. In contrast to WID, GAD welcomes the prospective contributions of men who also are interested in working for equality and social justice between women and men.³³

However, women in the South have rather small margins for change. For instance, within work patterns they already are overloaded with work. The lives of women are seldom seen in their full intricacy, and to be able to address them effectively would require radical changes within society at large. The effectiveness of GAD utterly depends on the goodwill of the governments of the South, which are predominantly men unwilling to improve the lives of women.³⁴ There are some positive experiences from previous studies to consider as they have shown that when a female extension officer has attended a women's group's meeting, the effects of copying her knowledge has been higher than when the extension officer has been a man. Additionally, it is important not only for female extension officers to work with female farmers, but also to set up women as contact farmers and having demonstration plots. Furthermore, the importance of cooperatives and extension workers emphasises the need to support for the build up of infrastructure in rural areas.³⁵

In this section, I want to emphasise that women cannot be regarded as a homogeneous group. There are differences in class, in ownership of land or one being landless. There are variations in the stages of the African human life cycle. Differences appear in the households as well, as they can be matriarchal, part of joint or patriarchal. Women can be single for various reasons, being either widowed, divorced, single mothers or the man might have out-migrated.

³³ Braidotti, R, et.al. (1994) *Women, the Environment and Sustainable Agriculture*, p.82

³⁴ Braidotti, R, et.al (1994), p.83

³⁵ Quisumbing, A.R, et.al. (1998) "The Importance of Gender Issues for Environmentally and Socially Sustainable Rural Development", p.190

4. Methodology

4.1. Method and Sources

The aim of this study is to understand what impacts courses in sustainable agriculture have had on the small-scale farming women who have attended them. To carry out the study, I have used qualitative methods, according to the techniques of Rapid Rural Appraisal (RRA). These techniques were developed in the 1980s to gather rather cheap and reliable data in a quicker way than more formal methods. RRA was developed to suit studies accomplished in agrarian societies in the South, why I found it suitable for my study. RRA as such uses different sources and means to briefly obtain new and quick information on rural life.³⁶ Secondary data, direct observations and semi-structured interviews have been used in this study. Secondary data is published or unpublished data, which are relevant for the study at focus. Such information can be found as project documents, annual reports, maps, newspaper articles and so forth.³⁷ The secondary data that has been used in this RRA, has been found at KATC, Swedish Cooperative Centre (SCC), The University of Zambia (UNZA), and the National Agricultural Information Services (NAIS). Direct observation is a relatively basic method, which includes any direct observation of field objects, events and relations with people.³⁸ By observing the objects, the researcher tries to capture the entire picture of the situation of the observed and this can be done in open or concealed observation. In an open observation, the participants are aware of the researcher's function as an observer, while in a concealed observation the researcher has not announced the reason for his appearance.³⁹ This study has been conducted as an open observation, where the participants were aware of my being there as a student, collecting material for my advanced paper.

Regarding the main topic of my study, what impact the courses in sustainable agriculture have had on small-scale farming women, I have mainly used semi-structured interviews. This is a rather reliable technique, carried out like an informal conversation around some fixed questions. The respondents have been able to talk relatively free around given topics, and have shared their experiences with me. I have interviewed 30 women, who all are head of their families, being either single, divorced or widows. I have also interviewed 7 married women, who considered themselves as head of the household. The husbands either had their own land to manage or were away

³⁶ McCracken, J., Pretty, J.N., Conway, G.R (1988) *An Introduction to Rapid Rural Appraisal For Agricultural Development*, p.12

³⁷ McCracken, et al. (1988), p.18

³⁸ McCracken, et al. (1988), p.19

³⁹ Holme, M & Solvang, B. (1997) *Forskningsmetodik*, p.111

in town (i.e. Lusaka) working or looking for work. A strategic selection was used when choosing the respondents. To be able to make a comparison between women who had accomplished courses in sustainable agriculture and those who had not, 17 of the women were using the techniques of sustainable agriculture on their small farms. The women who used the techniques of sustainable agriculture had all accomplished courses at KATC. The majority lived in Chongwe district, east of Lusaka in Lusaka Province, apart from three women who lived in the districts of Choma and Monze, in the Southern Province. As the women who used traditional or conventional methods on their farm all lived in Chongwe district, close to Kasisi, they were selected as respondents. The selection was made with the help of the teachers at Kasisi who knew of the surrounding neighbourhoods.

The majority of the interviews were carried out individually, but in two cases group discussions were accomplished. The interviews lasted between 45 minutes and 1 hour 30 minutes. In agreement with one of the staff, we came to the conclusion that it probably would be more effective and not so frightening for the respondents to accomplish the interviews without any pens or papers. It required more of myself as I had to be very concentrated and remember everything that was said. I believe the respondents felt more secure when they talked to me, instead of talking to me being busy with a pen. After one interview was finished, the answers and other notes were written down at a distance from the respondents. Since many of the respondents were not able to carry out a discussion in English, several of the interviews were conducted with the help of interpreters, Mr Martin Bwalya and Mr Peter Mpilipili, staff at the KATC. Both of them had good knowledge of the local languages Chibemba and Chinyanja, and they also had established contacts with the respondents.

To give the problem a broader perspective I have interviewed people from organisations in Lusaka that work with gender issues and organic farming. I have also interviewed people from the Zambian government that were well initiated in the questions at issue. I found it interesting to see if something else is being done within the field, apart from what the NGO's are working with, and also what the government's attitude is on the situation. These interviews lasted approximately 1 hour, and notes were taken during the time of discussion.

Concerning the theoretical issues of political ecology, LEISA and GAD, this information has mainly been conducted through literary studies. Articles and books were found through an initial search at databases, such as *Libris* and local ones at Södertörns högskola (university college), the

Nordic Africa Institute and UNZA. There is a vast amount of valuable literature on all the theoretical approaches, why it has been somewhat difficult to make a reasonable selection. Furthermore, I found references in the books that have been of great use. Some of the more important books have been *Green Development. Environment and sustainability in the Third World* by W.M. Adams, *The political economy and soil degradation* by Piers Blaikie, and *Farming for the Future* by C. Reintjes, et al. I have discussed the matters of sustainable agriculture with the teachers and staff at KATC and have in that way achieved additional knowledge on the matter. I have also received supplementary information on GAD when talking to employees in different organisations dealing with gender-issues in Lusaka.

4.2. Criticism of the Sources

The main sources of written information have been books, reports, articles and also information from official web sites on the Internet. There has been a vast amount of literature on the subjects, which is why it at times has been difficult to limit oneself. The sources have many things in common concerning substance and quality, but they also have distinguished features. Some of the written information has occasionally been contradictory, such as numbers of inhabitants, growth rate in the country and percentages of certain groups. Thus, I have chosen to present the figures from what I believe to be reliable sources, such as the official websites of the United Nations and the documents from SCC.

With some of the respondents, I found it essential to use interpreters. Even though necessary, there is always a risk in using interpreters, since the translation in one way or another might be biased. The interpreter might put his values into an interpreted question and in that way change the original meaning of it. Or he might expound the question, put the words in the mouth of the respondent, or choose not to tell me everything that has been said. However, I believe that my questions and the replies I received have fulfilled the intention of the interviews.

4.3 Validity and Reliability

This qualitative study has been accomplished within the field of Human Geography, based on literature readings, interviews with small-scale farming women and other sources. As a researcher, the aim has been to present as accurate and reliable information as possible. Reliability is defined on how measurements are carried out and how accurate the information has been worked up.

This measurement is more central in studies of quantitative kind, as qualitative studies aim to achieve a greater understanding of certain problems. It is almost impossible to combine statistical representatives with a deeper understanding of what people feel and experience in their lives.⁴⁰ Validity relates to what extent the results from a study can be generalised and applied onto a larger study or problem. In general, it is easier to achieve valid information on a qualitative than quantitative study, as the researcher in a qualitative study normally has a greater closeness to the studied problem. Bear in mind though, that my role as a researcher is dependent on my personal values and thoughts. Like all people have certain values and approaches, so does the researcher. This does eventually stamp the study, as one cannot emancipate oneself entirely from ones values.⁴¹ It can also be difficult to re-create the social process that this study has been built upon. Still there is a need to ensure that the information given is as accurate as can be. As far as possible, I have tried to maintain an objective attitude to the study and not let my own values be displayed.

As this study has been accomplished in a small area in Zambia, with unique small-scale farming women that answered the questions given, it cannot be considered as valid for all small-scale farming women in the world. The results cannot be compared with any other region of Zambia either. When using qualitative methods the researcher has to be flexible, able to adjust the questions as the study proceeds and in that way attain a greater and deeper understanding of the problem. This flexibility can also be a hindrance to the research, as it can be more difficult to compare the given information from the respondents. As the course of action has been flexible with the result of several personal and thorough answers, it has not been too difficult to make relevant interpretations of the answers. However, it can be difficult to achieve any standardised information, as I, during the study, have been able to change the questions, which in turn means that the interpretation cannot always be univocal.⁴²

5. Zambia – A Brief Background

Zambia is a country in Sub-Saharan Africa, and lies within a land mass area of 750,000 square kilometres. It is landlocked in the tropics and surrounded by eight other countries (see figure 3).

⁴⁰ Holme, M & Solvang, B. (1997), p.94

⁴¹ Holme, M & Solvang, B. (1997), p.337

⁴² Holme, M & Solvang, B. (1997), p.80

Thus, since the country's altitude is between 1000 and 1500 metres, it takes the edge off the extremely hot and humid climate that other countries might experience. The population is estimated to be 10.6 million, its population growth rate is 2.09% per year⁴³ and with approximately 40% of the population living in urban areas, Zambia is considered to be one of the most urbanised countries in Africa.⁴⁴

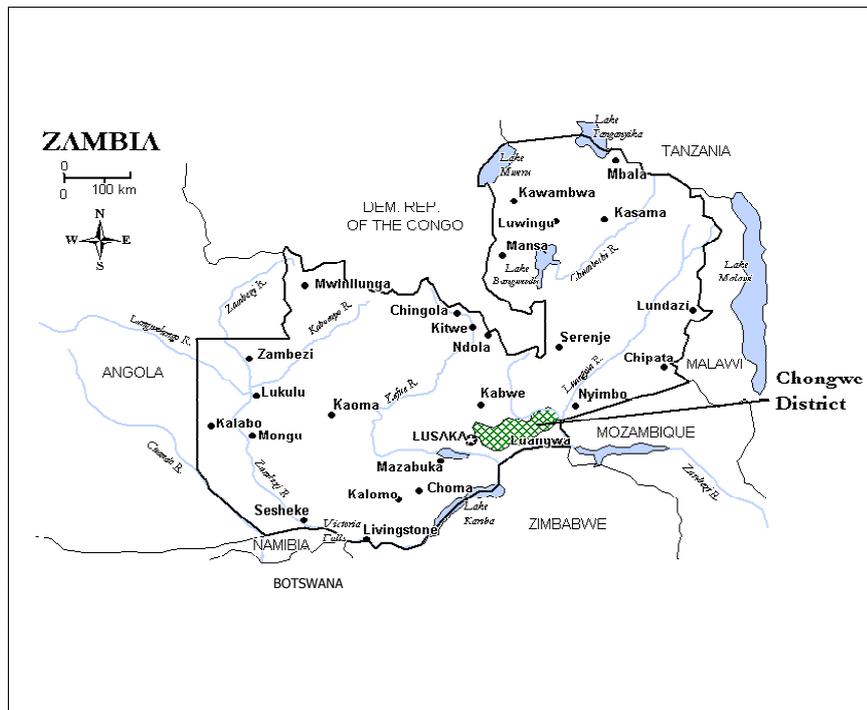


Figure 3 . Map of Zambia.

This is the result of historical events, when British miners discovered rich supplies of minerals such as gold and copper in the northern parts of the country. In the early 20th century the British South African Company (BSAC), managed by Cecil Rhodes, needed workers for the mines and encouraged native Zambians (or Northern Rhodesians as they then were called) to come and work for the company. The profits from the mines led to an economic upswing for the country, but the power remained in the hands of the white men. Since the income from the mines was very profitable, the country still relied on them when Zambia became independent in 1964, and continued to do so. However, as the worldwide price on copper declined drastically in 1974, the economy of Zambia was struck badly. The export of copper comprised almost 90% of the country's export earnings and almost 50% of the total local production of Gross Domestic Product.⁴⁵

⁴³ United Nations Population Division, www.un.org/esa/population/publications/wpp2000/annex-tables.pdf, p.46

⁴⁴ United Nations Population Division, www.un.org/esa/population/publications/wup2001dh.pdf, p.21, 26-27

⁴⁵ Chigunta, F.J. et al. (1998) *Will the Poor Always Be With Us?*, p.6

Over the past ten years, with a recent change of government, there has been a drop in real income levels and a vast increase in poverty, which has affected almost the entire population. Official statistics imply that more than 85% of the Zambian population live on less than \$1 per day.⁴⁶

People who live in rural areas primarily depend on agriculture, both for personal use and for marketing. Farming is by far the main opportunity for income and employment for Zambian women, who comprise 65% of the rural population. With its favourable climate, exceptionally good soils and access to water, many believe the agricultural sector is one of the main future providers for an economic development for Zambia. However, only 9 million out of its 60 million arable hectares of land are presently being used.⁴⁷ In the southern parts of the country, drought is a quite frequent hazard, with a rainfall of less than 800 mm/year.⁴⁸ This year (2002) many areas in Zambia were severely struck by drought. The Southern Province has received very little rain and even Lusaka Province has been badly affected, which is why hundreds of thousands of Zambians today are bordering on starvation.⁴⁹

5.1. Political Issues of Zambian Agriculture

As indicated by Blaikie in the chapter on political ecology, politics do influence even small-scale farmers lives. Thus, the policies of the Zambian government have played a major role in the lives of small-scale farmers in Zambia. The liberalised economy, which was introduced in the beginning of the 1990s, has revealed itself in a number of ways within the agricultural sector. During the former government led by President Dr. Kenneth Kaunda (1964-1991), the economy was centrally planned and cooperative institutions such as Zambia Cooperative Federation (ZCF) and Lima Bank were actively involved in the agricultural sector with credit expenditures, fertilisers and seed distributions as well as marketing. In this way, small-scale farmers were able to achieve the supplies they needed rather easily. However, in 1991 there was a change of government when Movement for Multi-Party Democracy (MMD) with its leader President Dr. Frederick Chiluba won the elections and became the new leading party. The new government introduced the structural adjustment programme, supported by the World Bank (WB) and the International Monetary Fund (IMF), which had been abandoned by the former government in 1987. MMD took even further steps to change the economy through a liberalisation of domestic and foreign trade, de-

⁴⁶ *Regional Programme 2002-2003*, section 2.1

⁴⁷ Project Zambia (2001) *Zambience*, p.44

⁴⁸ James, AR, et al. (2001) *Swedish Support to the Agriculture Sector in Zambia*. Sida Evaluation 01/26. Department for Natural Resources and the Environment, p.5

⁴⁹ *Omvärlden* (2002) nr.4-5

control of prices, abolishing agricultural subsidies, and “*the abolishment of state monopolies by the introduction of the programme of privatisation*”.⁵⁰ Due to this, the last decade has seen a decline in real income levels and enormous increase in poverty, which has affected men, women and children. Many of the surrounding countries subsidise their agricultural products, why it has been difficult for Zambian farmers to compete on the domestic as well as on an international market. The government has left it to the private sector to involve in the inputs and marketing of agricultural products, which has been especially challenging for small-scale farmers. The help from cooperative institutions that used to be there can no longer be found.⁵¹

According to the National Agricultural Policy, the agricultural sector is Zambia’s key to development of the country’s economy and will be the engine of growth for the next decade and beyond.⁵² There is a great agricultural potential in the country considering the good climate, plentiful land, access to water and also the possibilities to produce various sorts of goods. In 1999, the government began to enthusiastically encourage the formation of primary cooperatives. However, the move of the government has had a negative effect on local level initiatives and the entrepreneurial atmosphere. The inadequate growth of the agricultural sector is a result of underfunding and discrepancy in the policies of the government. Even though the production and export of horticulture, floriculture, tobacco and cotton has increased significantly, the production of the small-scale farming sector has lingered. The increasing demand of some crops has arisen the number of out-grower schemes, which in turn have provided an effective environment, due to the empty space of functional agricultural organisations left by the collapse of the cooperative movement in Zambia.⁵³

Today, the government cannot do much to help the farmers since there is a lack of money. Also, it seems to be somewhat reluctant to deal with the issues that have been handed over to the private sector to consider.⁵⁴ Nevertheless, the government does involve itself in agricultural matters, as for example the occasional provision of fertilisers and other inputs to farmers in times of need. The Ministry of Agriculture and Cooperatives (MAC) provides information to the farmers on what crops should be grown for best profits and where in the country farmers should sell their products. Through consultants such as the SCC, ORGUT, Harvest Help and other organisations,

⁵⁰ *Document & Appraisal of Approaches to Achieve Gender Equity in Three SCC Supported Projects in Zambia*. (December 1997), p.4

⁵¹ *Midterm Review of SCC supported projects in Zambia* (August 1998), p.23

⁵² Mwanamo, A. (1999) *Agricultural Marketing Policy Reforms in Zambia*, p.5

⁵³ *Regional Programme 2002-2003*, section 2.1

⁵⁴ The new government, elected in December 2001 and led by President Dr. Levy Mwanawasa, had in June 2002 not yet stated what it would focus on considering the policies of agriculture, why the information given basically is based on the regime of Dr. Chiluba.

small-scale farmers are trained in basic principles of democracy, gender issues and sustainable agriculture or conservation farming. Farmers are encouraged to work together in groups, as they as a group have easier access to markets, to invest in farming implements such as round presses and dipping machines. Bringing in gender issues into agriculture is natural, as farmers first of all are human beings, with same basic needs, while secondly, the farmers can be divided into men and women. Sustainable agriculture is promoted since the inputs are cheaper, easy accessible and nourishing.⁵⁵

The changes of policies in Zambia have been difficult and have had severe consequences for small-scale farmers and other exposed groups. Considering small-scale farmers, the price formation by market forces on farming outputs and inputs, and the elimination of subsidies, have resulted in an instability that the farmers have not experienced before. Even though alternatives have arisen, the lack of access to information, unreliable price settings, and uncertainty of the provision of inputs and so forth, has made it very difficult for farmers to make rational choices on what to produce.⁵⁶

5.2. The Situation of Small-Scale Farming Women in Zambia

Official statistics imply that more than 85% of the Zambian population live on less than \$1/day. 70% are said to be extremely poor and of the latter, 89% live in the rural areas.⁵⁷ Female-headed households comprise one third of the total number of households, are among the poorest, and they mainly depend on agriculture in order to survive.⁵⁸ Still, they have not yet benefited from the development process as much as men have, due to inequalities in the social, economic and political sectors of Zambia.

The Zambian agriculture is divided into four categories of farmers; small-scale farmers, which is the dominant group, comprising about 75% of the estimated 600,000 farm households, and three different groups of commercial farmers. Small-scale farmers usually use the family as labour force and simple tools when working on their farm.

Within Zambian agricultural production, women are in slight majority within the labour force. In 1991, women comprised 54% while 46% were men. In 1993, the figures were 53% women and

⁵⁵ Pär Oscarsson and Glenda Mulenga, SCAFE/ORGUT, May 2002

⁵⁶ *Regional Programme 2002-2003*, section 2.2

⁵⁷ *Regional Programme 2002-2003*, section 2.1

⁵⁸ Mbewe-Mbozi, Dorcas (1992) *Women in Development and Gender Analysis in Agriculture*, p.6

47% men.⁵⁹ However, these figures are hiding the facts that women's labour within agriculture is



Figure 4. A small-scale farmer with her season yields of maize.

more than that of men. Rural Zambian women have two important roles in the agricultural sector. The first major role is the production of household food crops, for which women in general are responsible and generate approximately 80% of the essential workforce. The second important role is the production of cash crops for sale at the market, of which they comprise more than 50%.⁶⁰ Despite this, women have not been seen as farmers in their own rights but as the

wives of farmers. Additionally, courses given in agriculture seem to disregard female participants. Women only constituted between 15% and 29% of the total numbers of farmers who attended courses given by Farm Training Centres and Farm Institutes in 1993. Beside these training programmes, women tend to receive training in home economics, cookery and vegetable growing, while men obtain training in crop production. These courses lead to continuously stereotyped roles of cooking and sewing, where women do not achieve the adequate productive skills and in turn are marginalised from conventional production orientated programmes.⁶¹ Regarding female-headed households, studies have shown that increases in income controlled by women have had a greater influence on food security of the household as well as on investments in the children's schooling and health, and so on.⁶²

Small-scale farmers have been badly affected by poverty, since the production of both crops and livestock have diminished for some time. Droughts and outbreaks of corridor disease⁶³, lack of good farming practices, poor input supplies and other factors have contributed to the difficulties of being a small-scale farmer today. Similar to a study made in The Gambia, due to droughts and lack of governmental assistance, small-scale farmers in Zambia manage to change their livelihoods in different directions.⁶⁴ Today, many of them use organic methods in their farming systems, since they do not have access to the technical equipment, fertilisers and other artificial in-

⁵⁹ Document & Appraisal of Approaches to Achieve Gender Equity in Three SCC Supported Projects in Zambia. (December 1997), p.10

⁶⁰ Siame, M. et al. (1998) *Beyond Inequalities. Women in Zambia*, p.23

⁶¹ Document & Appraisal of Approaches to Achieve Gender Equity in Three SCC Supported Projects in Zambia. (December 1997), p.11

⁶² Quisumbing, A. et al (1998), p.187

⁶³ the corridor disease is a serious bug that swept out entire herds of cattle throughout the southern and eastern provinces of Zambia in the late 1990's

⁶⁴ Baker, C. (2000) "Ecological possibilities and political constraints", p.157

puts, advocated by conventional agriculture systems. These inputs have damaged the soils to the point that they are useless even when adding more fertilisers. They are also rather expensive and small-scale farmers have problems finding credits and buying the inputs.⁶⁵ However, traditional farming practices are not entirely environmentally sustainable. Especially the use of the slash-and-burn method has led to an escalating level of soil and land degradation. Sustainable, improved methods of organic farming uses the knowledge based on indigenous experiences, low-cost inputs and advocates for technologies suitable to sustain an expanding agricultural production.⁶⁶

5.2.1. Cultural Strains

Some of the important difficulties for women's active participation within agricultural production are cultural traditions and norms that are biased towards men. In this point of view, women are seldom considered as farmers, but as farmers' wives. The husband is usually regarded as head of the household, where he decides on the important issues and the 'good wife' is supposed to comply with her husband and accept her place in the hierarchy.⁶⁷ In addition, due to the impact of colonisation and the Western ideals, and the integration into the world market, agriculture is more associated with men than women. Women have therefore been neglected to participate in training offered by extension officers, farm training centres and other institutes, resulting in women's lack of knowledge in cash crop production technologies and generally poor agricultural production skills. Even so, women usually contribute with more than 50% of the labour put into cash crop production.⁶⁸

Previously in the Zambian society, when the husband died, his male relatives normally looked after the widow and their children, whatever their kinship. However, today things are changing and with an increasing poverty, the situation of widows and children has become worse. Much of it has to do with the practice of property grabbing. Property grabbing is a tradition where relatives of the late husband collect all marital property from his former home and sometimes also their house and land, leaving many women and children impoverished.⁶⁹

⁶⁵ *Ecorural Development Project. Progress Report for the Period April-June 2000*(2000), p.2

⁶⁶ Carianne de Boer, OPPAZ, 14 May 2002

⁶⁷ von Bülow, Dorte and Anne Sørensen (1988) *Gender Dynamics in Contract Farming*, p.127

⁶⁸ *Midterm Review of SCC supported projects in Zambia* (August 1998), p.22

⁶⁹ Zambia Daily Mail, *Property grabbing is major problem*, 13 June 2002, p.6

5.2.2. Access to Land

Female small-scale farmers face several other constraints, such as little access to and control of important resources. One major factor is the right to own land. All land in Zambia is by law controlled by the President, who holds it in infinity for the people of Zambia, whilst local District Councils administrate the distribution of land. According to the Land Act 1995 of Zambia, the country's land area is divided into two; Customary and State land. Approximately 90% of it is made up of customary land, available for e.g. agriculture, and most of this is authorised by local chiefs.⁷⁰ This control of land follows patriarchal principles, which concludes that women hardly have any access to land. Her use of land normally derives from her 'being allowed' to use it, the land being assigned to her husband (should she be married) or to her father, brother, uncle, and so forth. Even traditional chiefs hold customary land rights, which are accepted by the rural population, and they have authority over the land they rule.⁷¹ However, some chiefs do allocate land to women. Data from 1988 shows that out of the customary land, 11% were allocated to women, while 89% were for men. In 1993 the situation had improved somewhat, with 19% women obtaining title to land compared to 81% men.⁷² Despite the legal position of land title, it is never sold but inherited or granted. In the rural areas where most small-scale farmers are located, land is traditional and it often depends on the kinship patterns of the ethnic group. If a farmer can prove that s/he is working hard and can achieve something, the chief can give the farmer more land to manage, while indolent people only receive a small plot. In other cases, it can be difficult for women to acquire land. If she is single she needs to have a proof of income, which is difficult to verify as less than 10% of those in waged employment are women.⁷³ Lack of land rights is an additional negative factor for female farmers, since many lending institutions use land as a security for giving out loans.

On a Zambian farm, land is often divided between the husband and the wife. The husband usually grows cash crops, while the wife cultivates staple crops and vegetables for family use or to sell on the local market. The husband also tends to manage the land that is most fertile, while the wife obtains the plot that is left. Nevertheless, when the husband is absent, the woman's role may be strengthened since she is able to make her own decisions regarding how the farm shall be managed. Some groups of women, especially single and separated mothers, find themselves being increasingly emasculated. These women usually live together with the parents and support them-

⁷⁰ Mbewe-Mbozi, D. (1992), p.7

⁷¹ Mbewe-Mbozi, D. (1992), p.7

⁷² *Document & Appraisal of Approaches to Achieve Gender Equity in Three SCC Supported Projects in Zambia.* (December 1997), p.9

⁷³ Mbewe-Mbozi, D. (1992), p.9

selves on the land of their father's. When their younger brothers later grow up and establish families, the women will most likely be put off the land and need to find another place to stay.⁷⁴

5.2.3. Access to Credits

Concerning access to credits, there have been and still are major difficulties for women to achieve them. This lack of credit is accepted as a major restriction to a woman's equitable participation in and benefits from the development within her country. It appears to be administrative practices that hinder women from gaining access to credits. Issues such as lack of knowledge of credits is more serious for women than for men, as they tend to be less educated, less mobile, and are not as often in touch with extension officers (who often carry the information) as men are. In addition, women lack access to credit because lending institutions demand security in the form of land, previous agricultural experiences in cash payments, or a husband's written permission for his wife to use his land. The problems for female small-scale farmers are therefore displayed in inequalities in the cultural gender division of labour, and the potential of productivity of women is linked to fundamental structural inequality in access to land and the right to own property.⁷⁵

6. The Study of Small-Scale Farming Women in Zambia

The major part of this study took part in Chongwe District, approximately 40 kilometres east of the capital city Lusaka (see figure 5). Most people here live on their small-scale farm and are dependent on prerequisites such as good rainfall during the rain periods, sunny spells, fertile soils and so forth. Chongwe is the main town in Chongwe district, but my main area of study took part in and around the village of Kasisi. However, as KATC also enlists participants from other nearby districts, I did interview women from Choma and Monze as well.

6.1. Kasisi Agricultural Training Centre

Kasisi Agricultural Training Centre was established in 1972 by Brother Paul Desmaris, and is today run by the Society of Jesus (the Jesuits). It collaborates with SCC, Studieförbundet Vuxenskolan (SV) and other NGO's, to offer a non-formal education for small-scale farmers, primarily

⁷⁴ von Bülow, D. (1988), p.172

⁷⁵ *Document & Appraisal of Approaches to Achieve Gender Equity in Three SCC Supported Projects in Zambia.* (December 1997), p.11

in Chongwe district. Their aim is to develop people “*who will be able to sustain a better standard of living through a more efficient and ecologically sound use of human and natural sources*”.⁷⁶ They seek to extend a greater appreciation of ecological land use and the links between soil, plants, livestock, human beings and the biosphere. An essential part of their vision is the struggle for justice, ecological balance and a just and sustainable use of our earth’s resources. Apart from offering weekly courses in sustainable agriculture, KATC also offers training in dairy and pastures, agro-forestry, beekeeping and six week long courses in blacksmithing. A 2-year trainee program for young families has been set up, where husband and wife (and their children) live at the centre; work together and are provided with knowledge on rain-fed crops, irrigated vegetables and livestock. New varieties of seeds, livestock improvement and cultivation techniques are taught. Eventually they return to their home village with improved knowledge and finances to manage their own organic farm.⁷⁷

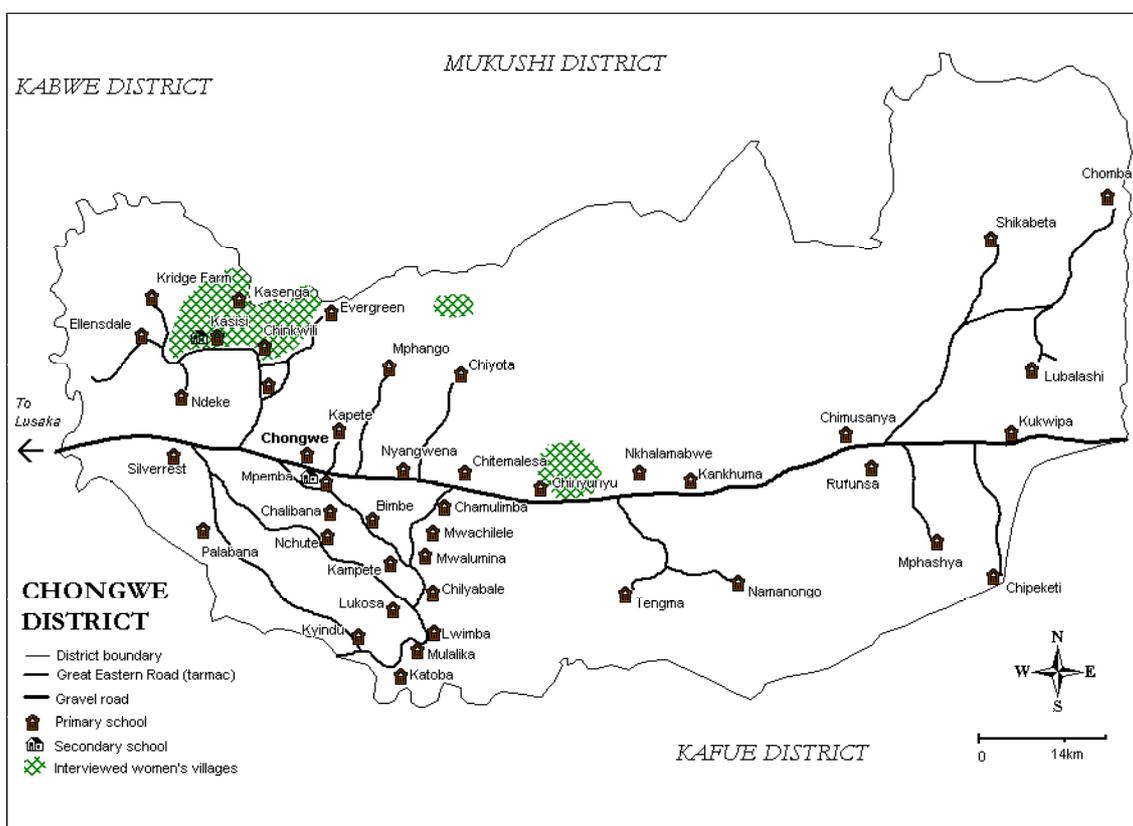


Figure 5. Map of Chongwe district.

⁷⁶ Progress Report for the Period July to September 1998, p.1

⁷⁷ Mr Vincent Choongo, KATC, 25 April 2002

One important area KATC has been trying to work with is enhancing women's participation in these courses and programs. Their ambition is that the figure of women attending the courses per year should not be less than 30%. In the year of 2000, the overall gender representation was 39% women and 61% men.⁷⁸ The intention of this policy is to support women, especially in female-headed households, to gain knowledge that eventually will help them make decisions on their own farms. KATC is therefore teaching small-scale farmers on the basic principles of sustainable and environmentally friendly farming practices.⁷⁹

To encourage small-scale farmers to join the courses given in sustainable agriculture, the staff of KATC, in assistance with former participants (so called model farmers) of the courses, arrange field days to inspire and encourage small-scale farmers to start with the techniques of sustainable agriculture. Model farms are established where field days are held, and eventually, those who are interested in the principles of sustainable agriculture are invited to attend a five-day course at KATC. The staff also recruits small-scale farmers when they travel around to nearby villages to follow-up small-scale farmers that already have accomplished the courses. Word is spread from farmer to farmer, and with convincing words from the staff, more people in nearby villages and households are involved.⁸⁰ KATC also encourages the farmers who have accomplished a course to spread their knowledge to their neighbours at home, through study-circles and unofficial meetings. This is a cheap and easy accessible method for both KATC and the farmers to use in their strive to increase the knowledge of alternative farming methods. It is also a way of sharing knowledge to the farmers who are interested but unable to attend a course at KATC. The courses are financed by SCC and other NGO's, why housing, meals and education are free of charge for the farmer. However, the farmer needs to find transport to and from Kasisi and the seeds they receive at the end of the course must be 'paid back', when their own plants have seeded.

6.1.1. The Principles of Sustainable Agriculture at KATC

The basic outline of sustainable agriculture at KATC is defined as

“agriculture production and peasant livelihood that contributes to the rehabilitation and maintenance of ecological balance and the environment with just economic returns, promoting a better

⁷⁸ *Ecorural Development Project. Annual Report (2000)*, p.16

⁷⁹ *Ecorural Development Project. Progress Report for the Period April-June 2000*, p.2

⁸⁰ Mr Peter Mpilipili, KATC, 20 April 2002

quality of life for farmers and consumers and fostering the development of local institutions for the benefit and survival of all humankind.”⁸¹

By teaching small-scale farmers the importance of soil organic matter, and retaining it through crop rotation and intercropping of traditional cereals, legumes and leguminous trees, soil fertility is built up. (see figure 6.)

Year	Field A, 1 ha	Field B, 1 ha	Field C, 1 ha
First cycle			
1	<u>Cereal</u> Interplant legumes Green manure	<u>Cereal</u> Interplant grass Green manure	<u>Grain legume</u> Interplant legumes Green manure
2	<u>Cereal</u> Interplant grass Green manure	<u>Grain legume</u> Interplant legumes Green manure	<u>Cereal</u> Interplant legumes Green manure
3	<u>Grain legume</u> Interplant legumes Green manure	<u>Cereal</u> Interplant legumes Green manure	<u>Cereal</u> Interplant grass Green manure
Second Cycle			
1	<u>Cereal</u> Interplant legumes Green manure	<u>Cereal</u> Interplant grass Green manure	<u>Grain legume</u> Interplant legumes Green manure
2	<u>Cereal</u> Interplant grass Green manure	<u>Grain legume</u> Interplant legumes Green manure	<u>Cereal</u> Interplant legumes Green manure
3	<u>Grain legume</u> Interplant legumes Green manure	<u>Cereal</u> Interplant legumes Green manure	<u>Cereal</u> Interplant grass Green manure

Figure 6. Example of a crop rotation system to maintain the nutrition of the soils. Examples of cereals are millet, sorghum and maize. Examples of grain legumes are ground nuts, cow-peas, green beans, mungbeans and pigeon peas.

At KATC, the practice of sustainable agriculture holds a holistic approach, where the cycle of nature is taken into account. This is in accordance with the principles of LEISA (see chapter 3.2.), which advocates of the farm not being just a means of production but a way of living. It is important to see the farm as being part of something greater, where issues such as husbandry, business, cropping and ecological systems are included. Participants of the courses in sustainable agriculture acquire knowledge on different types of organic manure (green manure, cow manure and chicken manure which together with water are processed into manure tea, used to improve the soil’s fertility), how to make composts (of old grass, worms, soil, residuals of the manure and

⁸¹ from KATCs working paper for “5-day Workshop for Small-Scale Farmers”, September 02-07 2001



Figure 7. Composts and manure tea are being made at KATC.

so on), conservation tillage (a farming system that leaves 30% of the surface covered with old crop residue), and other farming techniques (see figure 7).

The potholing method is a method used to prevent soil erosion. Instead of ploughing the area, 30 cm deep holes are dug with a distance of 15 cm from each other, and instead of spreading seeds onto the ground, seedlings raised in a planting nursery are planted. The

farmer puts two-three plants in each hole, fills it up with compost or manure and then waters it. It preserves the nutrition in the soil and also eases the weeding process. According to some of the farmers, this method has increased their yields vastly. Additionally, within the courses of sustainable agriculture the principles of agro forestry are encouraged. To combine trees and/or shrubs with crops and/or animals within a farming system, might help to increase the total yields of the land in an environmentally friendly, socially just and economically viable way.

As sustainable agriculture on a low-external input promotes, the tools used for farming are basic and often traditional. Since the participating small-scale farmers often are very economically restrained and also making sure that the people involved can adapt to the new techniques, KATC have needed to find suitable solutions for them. The clay soils of Zambia can be rather heavy, which is why it is important to do a proper soil preparation at an accurate depth. If the same piece of land is ploughed with an ordinary plough year after year, much of the moist in the ground will evaporate, resulting in a shallow loose layer of soil on top of a hard pan. This can easily dry out, be washed away in heavy rains or blown away with strong winds, resulting in soil erosion. Should a dry spell occur consequently the plant could not break through the hard pan and would eventually die. Thus, KATC promotes the use of a ripper. It is a fine implement, used to open narrow, parallel furrows in the field, spaced at even distances. The furrows are then used for seeding, either by hand or using a planter. The reasons for using a ripper instead of a plough are that it is much quicker (which means that planting can be done earlier in the year giving a head start at the beginning of the season), it is lighter than a plough (in that way being more easy to lift and handle), it is less expensive to buy and maintain and its advantage of creating fine fur-

rows in straight lines eases the weeding. By tilling only the planting lines, organic matter and moisture is better preserved in the soil.⁸²

For irrigated crops such as vegetables, KATC advocates the use of a treadle pump. It is a water lifting apparatus, appropriate for small-scale irrigation purposes. With a hose in the river, one person stands on two pedals, treading water in a pace of approximately 2 litres/second. With this device, one lima (a lima is the size of a small, often long and narrow plot, common on small-scale farms, app. 2500m²) can be irrigated in one hour. A treadle pump is useful for the small-scale farmer, as it requires less maintenance than motor driven pumps (see figure 8).



Figure 8. Two of the trainees at KATC manage the treadle pump.

By using different solutions to retain soil organic matter and fix nitrogen to the soil, soil erosion can be prevented. The use of organic and traditional inputs also reduces the costs for small-scale farmers, since they do not have to spend money on artificial inputs or technical equipment.

Another thing that KATC encourages the farmers to do is to get together and work in groups. As a group, the farmers can learn from each other and share different experiences. They can also use each other's different resources. For example, if one farmer has cattle, s/he can rent them to a neighbouring farmer who does not have any, and in that way one of them earns a little money, while the other one eases the preparation of the lands. They can also get together and sell their products on the market or make investments together in certain equipment, as it most likely will give them better deals, and they also share the costs of getting to and from the market place.

6.2. Small-Scale Farming Women from KATC

With the help of the staff at KATC, I was enabled to visit 37 small-scale farming women in Chongwe, Choma and Monze districts. The issues discussed were on sustainable agriculture, how

⁸² Mr Peter Mpilipili, KATC

the lives of the women had changed, and also what the situation was like being a small-scale farming woman. Since I was interested to see whether their lives differed much from other women in the area, almost half of the women had accomplished courses in sustainable agriculture at KATC while the other half had not.

6.2.1. Household Structures

Most of the women interviewed were widows and had been so for many years. Among the women who used techniques of sustainable agriculture seven of them had been widowed for a long time. Six women were married, and in these cases the husband worked on the farm as well, had retired, or lived and worked in town (i.e. Lusaka). One woman was married to a man with three wives, which is why she lived on her own but still considered herself being married. One was a single mother, and three were divorced. Of those who did not use the techniques of sustainable agriculture, twelve of them were widows. Three were married, two were single mothers and three were divorced. The divorces were a result of the husband marrying another woman, whom the first wife could not cope with, or his problem with chibuku⁸³, and according to one divorcee there was *”a confusion within the marriage”*, which is why she divorced him.⁸⁴

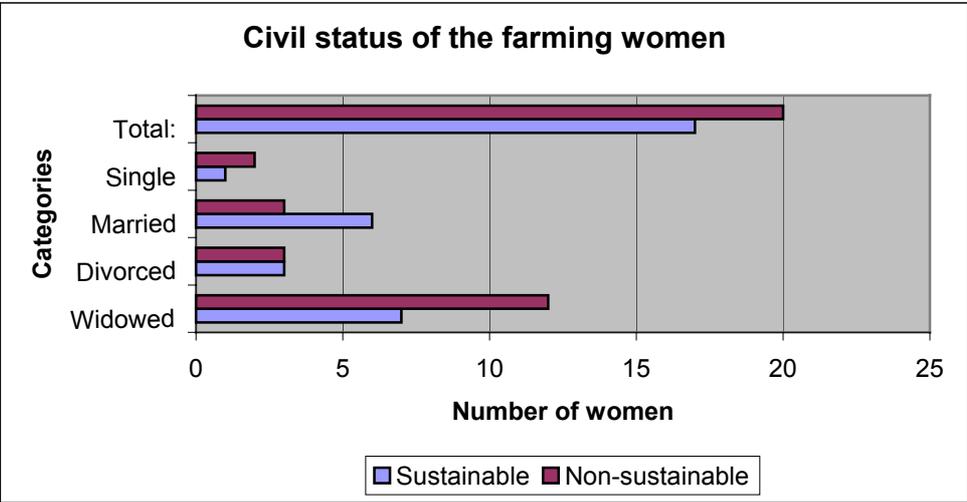


Figure 9. The civil status of the farming women.

The families varied in size. The women who used methods of sustainable agriculture had between 3 to 12 people to feed, with an average family size of 7 people. The other women had between 2 to 14 people to feed, with an average of 7.5.

⁸³ the local beer sold at taverns in the countryside, brewed on maize, sorghum, millet or whatever there is to brew on
⁸⁴ Ms Mubala, 30 April 2002

The land issue is an important question for small-scale farming women. As mentioned earlier, land is usually traditionally owned by the chief of the village, who then gives it out to families depending on how well they work and how large their family is. Previously, if a man died, the land would be taken back by the chief or inherited by a to the late husband male relative. However, my study has shown that all the women, apart from two who lived on their father's land, had 'their own' land and could decide what to do with the plot themselves. From what I could understand though, it was not their own land legally but owned by the chief of the village. In the cases where the women were married, land was divided between the husband and wife, and they grew different crops for different purposes. Many of the women could only estimate the area of the farming plots, why the actual size might be different. Additionally, all land of the household might not have been arable, why in some cases it might seem as if they owned more land than they were farming. The farming plots of the women that used the techniques of sustainable agriculture were 5 to 10 ha, with an average of 6,8 ha. The women who did not use the techniques of sustainable agriculture had farming plots of the sizes varying from ½ lima to 5 ha. The average size of land to use was approximately 2 ha.

6.2.2. Sustainable Agriculture on a Small-Scale Farm

The seventeen women who had accomplished training at KATC in the techniques of sustainable agriculture had done this since 1998. Most of them had only done the course in sustainable agriculture, wherein agro forestry and conservation tillage is taught. The women went to KATC to learn of new techniques to manage their farms mainly due to the expenses of the artificial fertilisers that is commonly used in the agriculture in Zambia. Other reasons for going to KATC were due to draught problems, poor farming with bad yields, and the staff had come to some women encouraging the family to try other methods to improve their farming. One woman had learnt from her friends that the courses were given, and since their farming turned out much better than hers, she insisted on trying the courses as well.

The crops that grew on the farms varied. The staple crop was maize, and they all grew beans and groundnuts as main crops as well. Other crops grown by the women were sunflower, cowpeas, Chinese cabbage, lettuce, okra, sweet potatoes, cassava, pepper, millet and tomatoes. The most important farming systems used were crop rotation and intercropping. Therefore, many of them also grew different kinds of fruit and leguminous trees, and legumes to maintain soil fertility and nitrogen in the soils. The women also used composts, green and animal manures, and conservation tillage to improve the soils. All women had at least some chicken, hens or ducks, so that they

were able to make their own manure tea. Five of them also had either cattle or donkeys, for animal draught power and dairy products, and goats.

Considering the changes on the farm from what it was like in the past compared to the use of the techniques of sustainable agriculture, most women were positive. In general, food amounts had increased noticeably. They were able not only to feed their family sufficiently, but also sell the surplus on the local market. In turn, their income had increased. One woman had been able to build her own brick house and also send all her children to school.⁸⁵ The amount of work had become more intense. Previously, they had time to rest during the year, since artificial fertilisers and pesticides would ease a lot of the work for the farmers. Now, they have to work all year round, without any rest. Already in May, the preparation for the coming season had started by making potholes, so that they are ready when the first rains come in October to plant the seeds and nursery plants. A normal day could look something like this:

I wake up at about four in the morning, to make the fire, prepare the bath for my husband, who usually wakes up at six thirty, cook breakfast for the family and at six o'clock I go to work in the fields or in the tobacco works. I work until around three in the afternoon, when I return home, to prepare dinner and start planning the coming day. I fetch water and take a bath myself, and eventually I am in bed by ten o'clock.⁸⁶

Many of the women believed that the change from conventional farming to sustainable farming had improved their standards. As one woman was able to build her own house of bricks, her status in the village increased. By showing the chief that she was good at managing the fields, another woman improved her chances of gaining more land, and by earning her own money a third woman was able to spend it on whatever she liked. One woman put it; *“Being a widow since 1988, I now regard sustainable agriculture being my new husband”*.⁸⁷

Several issues were mentioned when asked of the main advantages with sustainable agriculture. The methods of sustainable agriculture – the use of composts and natural manure making it cheap, the method of potholing, and crop rotation – were most approved of. Additionally, they mentioned better supplies of food, a chance to improve their lifestyles and the opportunity of

⁸⁵ Mrs M'bao, 24 April 2002

⁸⁶ Mrs Hamanenga, 20 May 2002

⁸⁷ Mrs Hamusokwe, 20 April 2002

working together in groups as positive experiences with sustainable agriculture. According to one women's group, they believed that women in single-headed households gain a lot from the techniques of sustainable agriculture since they in a relatively cheap way can provide food for their families and thus survive. The techniques were a benefit, since conventional farming cost a great deal and gave quite little in return. The women of one of the study circle groups that I interviewed, the Chinyunyu Study Circle Group, were really enthusiastic and were trying hard to make a change. They also thought of their children's future. One woman put it, "*Teach a man, and he'll have food for the day. Teach a woman and the whole world will be fed*". A fellow male farmer said that this probably was quite true: the picture of the man spending all his earnings on chibuku, while the woman rather put her money into developing her garden, or on the children's school, or save for investments in the home. These are remainders from traditional behaviour in the society and although some differences have occurred, it still is rather difficult to change the human deeds.⁸⁸

Considering the difficulties or problems with the use of sustainable agriculture, only a few women made any remarks. One woman said that since she just recently begun, it was difficult to get started. She would have liked a plough, to be able to work more efficiently, but since it was expensive she needed to work more before being able to buy one. In that way it felt very difficult and a lot of hard work needs to be put in to the farm before any results will show.⁸⁹ Another woman believed that if she had used artificial fertilisers this year, the yields that were small due to the drought might have been larger.⁹⁰ A further negative issue was the lack of help, from men and cattle. They had to use the hoe to make good fields before sowing, which took approximately 15 days by hand. Had they had an ox, they could have used a ripper and it would have been done in 1 day at the maximum. Sustainable agriculture is labour intensive. However, most of the women were satisfied with the new techniques. As some women told me,

There are no really serious problems with the use of sustainable agriculture. Since it is a good way of growing crops, which often gives good yields, one has to try harder to come up with solutions if something does not work as planned.⁹¹

One of the purposes with the courses given at KATC is that the participants should spread their knowledge to neighbours and friends in their home villages, so that more people can take advantage of the cheap and relatively reliable techniques of sustainable agriculture. The interviewed

⁸⁸ Chinyunyu Study Circle Group, 25 April 2002

⁸⁹ Mrs Deka, 22 April 2002

⁹⁰ Mrs M'bao, 24 April 2002

⁹¹ Mrs Moonga and Ms Hamabuyu, 20 May 2002

women had all encouraged some of their fellow farmers. One knew she had taught 5 other women of the principles, and one knew of 120 people that she had inspired, through study circles and village meetings. As two of them could not count the number they had inspired it is difficult to calculate on the actual number, but at least 160 other farming households had been taught the basic principles of sustainable agriculture with the help of these women. Most of the ones who were interested in these ‘new’ techniques were women, and many of them had got together in study circle groups to learn more of the techniques of sustainable agriculture.

6.2.3. Non-Sustainable Agriculture on a Small-Scale Farm

In addition to the women mentioned above, I interviewed twenty women who had not done any training in sustainable agriculture. Two women had taken courses in bee-keeping at KATC though, and there were a few of them who were interested in sustainable agriculture, who also had enrolled for forthcoming courses at KATC.

On the farms of these women, maize was grown as a staple crop. Two of the women grew beans, eleven grew groundnuts, five sweet potatoes and three of them grew other crops such as Chinese cabbage and pepper (see figure 10).

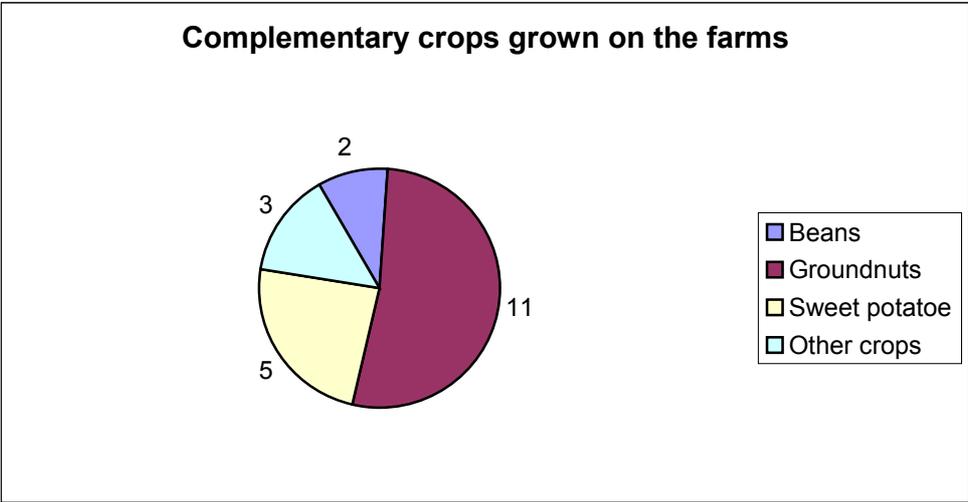


Figure 10. Crops grown on the farms, complementary to the staple crop maize.

The farming methods used by six of them was of conventional style; that is when they could afford, they bought artificial fertilisers to enrich the soils and pesticides to eliminate bugs and other pests that affect the plants. Some women were dependent on their neighbours’ cattle, where they at times could receive some dung to use as manure. But as the crops mainly are rain fed, most of

them had to rely on good weather. As a result, many of the interviewed women were in a bad situation, regarding the fact that this year the rains were inadequate, resulting in a lack of maize. One woman did however make a fortune from her pepper. She was able to buy the fertilisers needed and had been able to build a brick house. She also had her own diesel driven pump for irrigation why she was not too badly affected by the draught. Her intention was to save enough money so that she could buy some beehives and eventually also start a poultry farm.⁹²

In this group, one woman had a cow, and four women had chicken. Apart from the fact that the women who still lived close to their parents who had cattle and chicken, the rest had no animals at all. A few of them had had cattle in the past, but some years ago the corridor disease wiped out entire livestock herds throughout the region. Cattle are quite expensive for a small-scale farmer to buy (approximately US\$50 per animal), which is why they have not been able to invest in new animals.

The food that was grown was, for many of them, only enough for one or two meals per day for the family. The supplies would not last the entire season, why many of them were desperate, not knowing of what to do. Most of them had no extra income. Selling food on the market was almost impossible, as they first had to feed their own household. However, some of the women managed to earn some extra money by picking grass and selling it as roof material, straw hats or brooms, or worked extra for companies such as Agriflora⁹³ or road constructions when such offers were available. The amount of work seemed to be rather excessive as they to a great extent did most of the work in the fields on their own. Sometimes they could get some extra help from a neighbouring sister or the children, but mainly it was the women who carried the burden of work.

6.2.4. Being a Female Small-Scale Farmer

The women who have adapted the techniques of sustainable agriculture and the ones who have not, faced somewhat different experiences of being a female small-scale farmer. The main obstacles for the women that used the techniques of sustainable agriculture were the lack of equipment and help at the farm, and someone also mentioned cultural strains as being a problem. According to one group of interviewed women, they said that Zambian women in general tend to have more

⁹² Ms C Phiri, 26 April 2002

⁹³ Agriflora, established in 1993, is the largest company in Zambia that promotes organically grown products, mostly for export to the UK, South Africa and Kenya.

difficulties in making decisions. If a husband was around, the wife had to obey him and his wishes and wants. Traditionally, this has always been the case, but slowly the situation is starting to change. It was not very long ago that women were refused loans from the bank. Nowadays, women in Zambia can receive loans from the bank. However, these particular women lived too far from Lusaka, and the bank would not give them any loans to buy for example an ox. They had also noted that domestic violence was increasing and more rapes being committed; families tend to split up more today than before. There were difficulties for the women who were trying to manage everything on their own – running the farm, doing household chores, taking care of the children and so on. They were very hard-working women, striving for a change, but still it seemed difficult due to the lack of resources and money. Even traditions were difficult for single women to cope with. In the past, when a husband passed away, the widows and children used to be ruled by a cousin, an older brother of the late husband, or another male relative. However, as mentioned before, these things are slowly changing in the Zambian society. Today, women are allowed to head a household. But still there is the question of security – of the right to own land. A woman has not always been allowed to own land. In this part of the country, as in many other parts, land used to be owned by the community or by traditional inheritance, and the chief decided who received what. Since the land is not considered to be the woman's, someone still can, at any time, decide to build a road or let the cattle stray over her newly planted crops. The right to own land as a means of security is therefore an important issue for Zambian women.

The women who did not use the techniques of sustainable agriculture found the following to be the main difficulties; the lack of food to feed the family, the lack of money for paying school fees, clinic visits, clothes and so forth, and the amount of work having to be done mainly on their own (see figure 11). One woman put it this way: when her husband was alive, it was easier for the family to find money for food as he used to bring cash into the family. They could afford fertilisers and also had cattle. Additionally, there were cooperatives in the area to help improve the lives of small-scale farmers. Due to political decisions most of the cooperatives are gone today. Now, because of the corridor disease and drought, and the fact that her husband passed away, there is nothing left for her to look forward to and only “*the fittest will survive*”.⁹⁴ For those being married, the main problems were that the wish and wants of the husband always went first. The wife's ideas and needs were not regarded as important as the husband's. Consequently, the preparation of his land always came first, he used oxen when available, whilst the preparation of her land might start too late to be able to deliver good yields.

⁹⁴ Ms Musunda, 29 April 2002

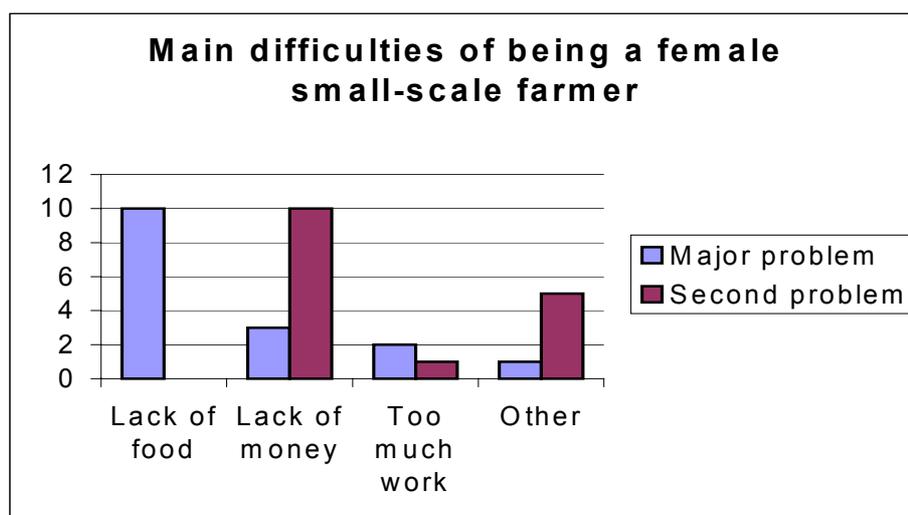


Figure 11. The main difficulties of being a female small-scale farmer.

When asked if there were any positive experiences from being a single female small-scale farmer, nine of the conventional farming women did not find anything positive whatsoever. Four of them said that the freedom that came with being alone was appreciated, as they were able to make their own decisions and handle the family and farm in a satisfactory way. As two of them had divorced their husbands, due to the men preferring chibuku and other women before their own wife, they said that they would rather be alone than being married again. One had totally lost faith in the opposite sex, saying, “*all men are crooks*”.⁹⁵ Another one said she would rather be a widow alone than remarry, since she was able to raise the children as she wanted and a new husband might not be good to them.⁹⁶ Considering the positive experiences within the group of women that used sustainable agriculture, they appreciated the higher status they had achieved when their harvests started giving results, the freedom of being able to do what they wanted, and also the blessing of composts and working together in groups.

KATC encourage the small-scale farmers at their courses to get together and work in groups, in order to facilitate their situation. Not all the women who used the techniques of sustainable agriculture were members of any group, but thirteen of them were and they were all members of women’s groups. The reasons for starting or joining groups varied. One woman said that she and her fellow farming women had started a women’s group in order to learn more of the methods of sustainable agriculture. It functioned as a study circle, as they met once a week and discussed a

⁹⁵ Ms Mubala, 30 April 2002

⁹⁶ Ms R Nyango, 29 April 2002

particular issue. Eventually, they went to someone's farm to try out the new things they have learned. Another group of women told me that;

As a group we are better off trying to solve problems (than men, also) since it is rather difficult being a single female farmer. We are not organised in what to do – a man can come and say 'We'll plant this today', and that would be fine – when planning the season. We women tend to have more difficulties in making decisions on our own.⁹⁷

Many of the women's groups did other things, apart from learning and improving their knowledge on sustainable agriculture. Clay pottery, basketry and selling vegetables on the local market were examples given on what other things the women did in their groups. One woman, who belonged to a women's club, said they were planning to build chicken runs for poultry and had already made more than 200 bricks out of clay. There will be two runs, with nine women working on each run. For them it was much easier to work in groups than alone, as it made more progress and even though the workload was the same, it was shared.⁹⁸ Another group got together and learned different styles of cooking, sewing, and so on, and the products they made were later sold on the local market. They also cooked beans and made sausages out of soybeans for sale. They trained in processing sunflower oil using their own round press, and together with the Ministry of Development Process, they ran a literacy programme for illiterate women.⁹⁹ Being a member of a women's group cost between 5,000-10,000 Zambian kwacha¹⁰⁰, a cost that covered the membership fee of the Zambian National Farmers Union (ZNFU).

Considering the women who had not done any training in sustainable agriculture, no one was a member of any women's group. Two were involved in church groups, where men and women got together and discussed spiritual issues. Only one said she was interested in joining a group, but she asked "*Who can start one and how can I afford to join it?*"¹⁰¹ Some of the women told me that they mainly did the entire job on their farm alone, but at peak times, such as harvesting and preparing the soils, they got together and helped each other. Other women said that in the village they lived in, nobody helped another farmer. Everyone worked alone. A similar and interesting case was when I interviewed two wives who, together with three other women, had been married

⁹⁷ Chinyunyu Study Circle Group, 25 April 2002

⁹⁸ Mrs Hamanenga, 20 May 2002

⁹⁹ Mrs Moonga, 20 May 2002

¹⁰⁰ US\$1 = ZK 4,350 (exchange rate 29 May 2002)

¹⁰¹ Mrs Mayembe, 30 April 2002

to the same man who just recently passed away. Cultural traditions have it that if many women are married to the same man, they still work on their own, trying their best to feed their own children. Accordingly, due to traditions and jealousy, the first wife usually does not like the second wife. When then a third wife appears, the first two do not like her and try not to cooperate with her. And so it continues. Instead of the five women together trying to solve the difficult situation with the deceased husband, they did all their work on their own.¹⁰²

7. From a Broader Perspective

To understand the issues from a broader perspective and further bring political ecology into the study, I discussed the matter of small-scale farming women with several NGO's and representatives of the government to grasp how their work might help change the situation of women farmers. Problems within farming systems cannot be seen as only local problems, but should be considered as problems of political issues also on the national and international scale. SCC, Harvest Help, Organic Producers and Processors Organisation of Zambia (OPPAZ) and SCAFE/ORGUT are all working along the same line – trying to help farmers by promoting the use of conservation farming and sustainable techniques. They are international NGO's with foundations in Sweden, United Kingdom and the Netherlands. They receive money through funding and governmental support in their home countries, but also to some extent from the Zambian government. The methods used are not the same but the NGO's are striving towards the same goal: supporting farmers to become self-sufficient in farming, to increase their self-confidence and to improve their lives.

Since sustainable farming is cheaper and more accessible for small-scale farmers, one might find it natural to promote these techniques. Harvest Help and SCAFE/ORGUT try to implement the principles of composting, manures, improving the land management, building up soil fertility, and to make the most out of the little rain that has fallen in Zambia during the past few years.

The most difficult phase, according to Ms Sitambule at Harvest Help, has been to convince the own staff to use the techniques of sustainable agriculture. How would they be able to convince other people to use the techniques if they were sceptical themselves? After some hard work and

¹⁰² Ms Mwalubemba and Ms Mwansomeka, 30 April 2002

proof that the methods they teach the small-scale farmers actually work, things have changed. Today all staff is using the techniques of sustainable agriculture and they have learned that it actually works.

Another major problem with promoting the techniques of sustainable agriculture is the infrastructure in Zambia. On many roads it is difficult to get through to the people that live in the very far rural areas and many farmers have no access to neither electricity nor water. The policies of the government can some times be confusing, when they bring about new ideas. For instance, at times they have distributed fertilisers for free. As it helps in a quicker way to manage the lands, many farmers have been tempted to accept and spread the artificial inputs on their farms, instead of working with organic manures and work in a more long-range planning. Sustainable agriculture is not something built up in one year or two. It takes time to introduce new techniques and new ideas on a farm and to see any results. A farmer should accept it might take at least 5 years of preparing and working with the sustainable methods before s/he can see any improved results.¹⁰³ As Harvest Help works with the provision of practical support to small-scale farmers in rural areas, teaching them the techniques of sustainable agriculture and in the long run increasing their self-reliance, the enticement from the government can be disturbing.

Farmers and local NGO's in Zambia, who needed to cooperate in order to grow and export organic products, founded the NGO OPPAZ. One of the requirements for a small-scale farmer to join OPPAZ is that s/he belongs to a farmers' group, as only groups can join the organisation. Ms de Boer at OPPAZ believed that there were more women than men being members of OPPAZ. The reason for this might be that since the farming husband, whose farm already works quite productively, is generally not interested in trying something new. This would correspond with Grigg (see chapter 3.1. on political ecology), who claims that the small-scale farmer usually is not interested in taking any risks in his farming, as the main purpose is to feed the family. If one would start challenging habitual and reliable farming methods, and trying new crops or farming techniques – who would then find the food if something goes wrong? The wife however, might want to try out some different techniques on her small plot, and therefore tries organic farming. Ms de Boer pointed out that the women she has been in touch with tend to be more open to new ideas, and as they already most often are joined in groups, they are used to discuss different matters. They tend to find it easier to try something new, such as organic farming, and are more open

¹⁰³ Mr Kakunta, 11 June 2002

to join OPPAZ than men.¹⁰⁴ In the chapter on LEISA, Reijntjes also point out how important it is to spread the risks, instead of maximising the outcome of the few crops a farmer grows. Should a hazard such as this year's drought wipe out the yields of rain fed maize, it is important to grow supplementary crops, which are not as dependent on rain, in order to receive enough food for the day.

Considering the issues of gender, all the organisations were aware that it is important to encourage women to join the projects and education days arranged by the organisations. At NAIS, Mr Kakunta pointed out the possible reasons for why women seem to be more receptive for new farming techniques. In general, due to culture and traditions, women are the ones doing most of the work, they have less formal education and have least access to money. In general, women are the ones who start with the techniques of sustainable agriculture, as they are the ones who venture to try something new. After a few years, when men can see that the new techniques work, they also have the courage to try it out. But, on the whole, they are less willing to work than women. Therefore, Mr Kakunta believes that it is easier to convince women to commence with cheaper and more accessible inputs.

At the Ministry of Agriculture and Cooperatives I met with the Chief Agricultural Officer of the 'Women and Youth' program, Mrs Thembo. The reason for them having started 'Women and Youth' is because Zambian women are considered being in a more vulnerable situation than men. Due to the culture and traditions of Zambia, there is a need to empower women, and the program provides information and help to women and young people in rural areas, through extension officers and field workers, in food nutrition and supplies. Many are illiterate and can therefore not take advantage of the news and other important information that is handed out in a written format, which is why staff need to bring out the information verbally. Unfortunately, there is a lack of money within the government so the Ministry itself cannot lend out money or handle any credits to small-scale farming women. They have to rely on funds from donors and on the farmers themselves managing to raise enough money for investments. There is a Rural Investment Fund from which money can be borrowed and used if the farmers want to, for instance, build a bridge over a river or repair a bad road. However, not many rural farmers know of this possibility therefore the majority of the money has not been distributed. The new government has declared its will to fight poverty and famine, but since they have been in charge of the coun-

¹⁰⁴ Ms de Boer, 14 May 2002

try for only five months¹⁰⁵, they have not yet managed to come up with any plan on how to handle it. Mrs Thembo, however, was quite pleased with what she had seen so far, and believes the government is encouraged in solving the problems.

8. Conclusion

In this final chapter, I will discuss the results of the study with starting point of the questions at issue. I will also consider the theoretical approach and the methods that have been used, and conclude with some reflections worth taking into consideration.

The aim of this study was to understand what impacts courses in sustainable agriculture, given at KATC, have had on women who have attended them. Have their lives changed and if so, what have been the changes? As the study shows, the lives of the seventeen women who have completed courses in sustainable agriculture at KATC have changed. All of them have experienced an increase of the yields compared to their situation before, and since they have been able to sell some of the surplus, they have not only been able to feed their family but also gain some extra income to the household. Additionally, their lives have changed in the way that the amount of work to be done has intensified. Now, they have to work all year round, without time for any longer rest or contemplation. Sustainable agriculture demands more human input than conventional, such as planning the activities of the year in advance, preparation of lands, more physical work during seeding, weeding and harvesting, and so forth. Furthermore, since they need to interplant useful plants with crops and use crop rotation systems, they automatically receive a more varied, nutritious diet than before, and they can also use the plants for medicines, composts, natural insecticides and so forth.

The women have also been able to spread their new knowledge to other farming women and men in their neighbourhood. Through unofficial meetings and more organised study circle groups the women whom I interviewed knew of more than 160 people that they had inspired with their methods and technology. This shows that one of the goals of KATC, which is to spread the knowledge of these rather cheap and easy accessible methods to small-scale farmers in the neighbourhood, actually is working.

¹⁰⁵ The interview was conducted in early June 2002, and the new government was inaugurated in January 2002.

The lives of the women who had accomplished courses in sustainable agriculture differ somewhat compared to the women interviewed that did not use the techniques of sustainable agriculture. In general, the latter group of women had much more difficulties in finding food for their families. As the rains in southern and eastern Zambia have been very bad this year, their crops have dried out and only very little have been harvested. These days, many of them only had enough food for one or two meals per day. Since they do not know how to feed the soil with sufficient nutrients, they have had to rely on the weather to be good and for prices on fertilisers to drop or the government handing them out for free. The diet of these women was rather unbalanced, as they only grew maize, groundnuts and sweet potatoes. As they only produced small amounts of food, they had not much to sell on the market to gain any income. However, some of the women were rather innovative, and made hats and roofs of the long, dry grass that grew everywhere, which then were sold in the city. Some other women sold used clothes and others worked extra for companies in times of need.

According to the women who had not accomplished courses in sustainable agriculture, there were no major advantages of being a single small-scale farmer. Some of them mentioned freedom as a positive experience but otherwise it was predominantly difficult being on your own. The major problem was the lack of food, lack of money and also lack of (mainly) men helping out with the heavy duties on the farm. The other group of women found more positive experiences being alone, as they appreciated the higher status they had achieved when their harvests starting giving results, the freedom of being able to make decisions on their own and the blessings of having learnt new methods and ways of thinking when it comes to farming. However, they also experienced some negative factors being single, as it is a lot of hard work and at times it might have been good to have external help from a husband. Traditional strains, such as access to credits and cultural matters, were also a hindrance.

8.1. Suitability of the Theoretical Approaches

According to Blaikie, it is important to see the interactions between the society, the environment and the political economy when trying to understand environmental issues, such as the situation for farmers in the South. The three indicators also imply the use of three different theoretical approaches in this study; gender and development, low-external-input and sustainable agriculture and political ecology.

As this study has shown, political issues have affected the small-scale farmers, both on a local and international level. Political matters, such as taxation, the distribution of land and introduction of new technologies from the government, cannot be left out when discussing the issues of the small-scale farming women. Issues of politics are found at all levels in the society, and as have been shown in this study, local and international NGO's as well as bodies of the government are involved, in one way or another, in the daily lives of the women. Normally though, according to Adams, Blaike and Reijntjes, a small-scale farmer has too limited resources to take advantage of technical equipment and information that at times are distributed from the government. Therefore it is important that organisations such as Harvest Help and KATC at a lower 'institutional' level exist and can fill out the gap. With the help of field workers, their information can be spread far out in the rural areas. By assisting small-scale farmers in their interest and in the environment, field workers in cooperation with staff, the farmers and researchers can achieve a successful development in sustainable agriculture. However, KATC, for example, are financially dependent on their sponsors from abroad and dependent on the MAC, regarding decisions on agricultural production. Unless they receive the money, they cannot sponsor the farmers to attend the courses in sustainable agriculture, and most of the farmers would be unable to finance them themselves. The other organisations that were interviewed did also experience difficulties with their work in trying to promote sustainable agriculture, and a major problem seems to lie within politics. The infrastructure in Zambia is poor. In many rural areas the roads are in such a terrible condition that it can be difficult, if at all possible, to reach the farmers. Additionally, there is a lack of electricity and clean water, which makes it more difficult for the people to keep up an adequate standard of living.

Grigg suggests that small-scale farmers in general use their lands in a non-sustainable way, considering the fact that they have constrained possibilities of using inputs to increase the outcome of their farming. Still, this study has shown the opposite. KATC does teach the small-scale farmers the techniques of sustainable agriculture, which have been adapted quite well by the participating farmers. One cannot judge all small-scale farmers for using their lands in a non-sustainable way. When comparing the principles of LEISA, stated above in chapter 3.2, with the methods and ideologies of KATC, it shows that it does consider the five criteria. When the staff at KATC encourage farmers to use methods that maintain soil fertility without the addition of artificial substances, to preserve the quality of the land, it can be considered *ecologically sound*. In a long term sense, these methods are supposed to enhance the farmer's and her family's lives, with a more sufficient diet, minimising the risks of farming and possibilities to gain extra income, which can

be comparable in an *economically viable* point of view. The study also shows that the techniques that are being taught are *socially just*, as they work to improve the situation of the women, who in this case are considered as less powerful although they are the ones that actually carry out a lot of work on the farm. KATC teaches the farmers that we are all the same, we are all human beings, and as such we should all be treated equally. According to this study, the methods being taught could also be considered as *humane* and *adaptable*. The holistic approach to farming does emphasise that we need to be gentle and to respect other human beings, animals and nature to make it all work. As a farmer, one has to think about this point of view when making decisions on the farm, as the methods might not work otherwise. Regarding the principle of adapting, it can be somewhat more difficult for KATC to come to terms with as it depends much on external factors such as policies, growth of the population and so on. One should also bear in mind the small-scale farmer's hesitation in trying new techniques or spreading the risks. How many new, different crops should the farmer try to grow each season? What guarantee will s/he have that new techniques work, and that the sheds will not be empty when the harvest has finished? However, according to the women that were interviewed, it does not seem too difficult for them to adapt to the new methods they have learned. Even though all these principles in some way or another are included in the teachings of KATC, it does not really matter unless the farmers themselves understand and grasp the fundamental meaning of them. What matters is that when the farmers return to their homes and start working with their lands they know of the above-mentioned techniques and can use them on their farms. Then, it makes sense and is of use for them and for their future.

In my study, I noticed that many of the women who had attended courses at KATC did have the holistic way of regarding their farms and were working in the direction that KATC has encouraged them to do. To be able to observe whether the principles are being followed to their extent would demand an even larger study, which was quite impossible at the time. Worth mentioning here is the fact that these techniques are not revolutionary or new in any way. They have been developed from the traditional way of cultivating the farm, similar to the principles of LEIA (see chapter 3.2). The methods per se could have been found on the farms today if the farmers had maintained the methods of their ancestors. What KATC has done is developed them in very successful way, and managed to spread this reinvention of sustainable agriculture, based on local, easy accessible inputs.

According to the GAD (see above chapter 3.3) it is necessary to bring in both men and women when discussing gender issues. One might then wonder why I have focused entirely on women in my paper. As mentioned in the beginning, even though women are the ones that produce most food consumed by their families and they are also the ones that to a larger extent are being excluded from education, even within agriculture. As one of the goals of KATC is to encourage women to join the courses in sustainable agriculture, I decided to focus on women. KATC is working towards a society where men and women should be regarded as equal, why it is important to involve both men and women in the projects. Some men do find it intimidating that women are included in the education and work, but at the courses at KATC, many of the men to whom I spoke did actually appreciate the fact that their wives and neighbouring women were accepted as farmers as well. Gender is a socially and traditionally formed phenomenon, which can be difficult to part from. As men and women have had different roles within agriculture it is important to try and look beyond the differences and instead work together for a better future.

From what have been discussed above, the theoretical approaches that have been used in this study can be considered as suitable, as the aim has been achieved and the questions at issue have been answered.

8.2. Suitability of Methods

The applied methods in this study have been developed in accordance with Rapid Rural Appraisal methods. Secondary data, direct observations and semi-structured interviews were used.

Secondary data has functioned as complement to the observations and interviews that were made in Zambia. Data has been collected at KATC, SCC, UNZA and NAIS. As the organisations and institutions themselves in general have produced it, one can always criticise the reliability and suitability of the information, as it based upon other people's personal opinions and interpretations.¹⁰⁶ Additionally, the author might have misinterpreted the readings, which can have affected the results of this study. Any mistakes or errors in this study should therefore be ascribed the author of this study.

Direct observations were made during the fieldwork at KATC. The observations were made as open observations, where the participants knew of my presence and aim of my being there. The

¹⁰⁶ Holme, M & Solvang, B (1997), pp.132

major part of this study was conducted in the field, through interviews with small-scale farming women and other people, and also participation in some events at KATC. At an initial phase, I had to build up some sort of confidence to be able to establish a natural contact with the people I was observing. In practice, I talked to the people at KATC and tried as far possible to join in their daily activities, trying to build up a shared trust and understanding. As the women I interviewed lived quite far from the village where I stayed, it was a bit difficult to work up a confidence with them in a short time. However, I believe that the method can be considered as valuable and important. Especially when accomplishing a study in the South, as the conditions for the researcher (and the people involved) are unusual. Confidence must be built up in order to make the local people feel more comfortable and also for the researcher to become more accustomed to the new situation.

By using semi-structured questions in the interviews, the women had more chance to develop their answers and explain their situation to me. It was a suitable method of understanding their situation, as follow-up questions could be made during the interview. Most of the time, the interviews were more of a discussion than complete interviews. Interpreters were used when the women could not carry out an interview in English, why at times the interviews were a bit difficult to accomplish. Very long answers from the women were occasionally shortened down, why I had to ask the interpreter to explain in more detail what had been said. Some of the respondents might not have been completely honest in their answers. Perhaps they ameliorated or degenerated their answers in accordance so they answered what they thought I wanted them to say, instead of being veracious. Through discussions with other people, I have come to the understanding that some of the respondents might have wanted to please me, or expected gifts or money if they told me that their situation was unbearable or better than I would think. Facts still remain; even though some women claimed they had no income whatsoever, their children often went to school and they did have other expenses, which leads me to believe that they must gain some sort of income from somewhere. However, I cannot blame them for acting this way, as this was an opportunity for them to perhaps achieve something more than a pencil and a card from these interviews.

One difficulty was trying to grasp definitions and in particular the definition of what a family was. One of my questions sounded something like “How many are there in your family and how many do you have to feed today?”, which in the Zambian culture varies a lot. The way of seeing the family as an extended one is a problem when trying to understand how many people the woman

actually has to care for. Some would account for children who lived in the towns and had their own income and own families, and others would count their cousins in nearby villages. Eventually though, after some explaining and discussion, I believe the number of people to feed is somewhat accurate.

As the interviews have been rather flexible it has also led to some difficulties, especially when the working up of the gathered information started. Nevertheless, in a qualitative study such as this, the purpose was to achieve a greater understanding of the small-scale farming women and their changing situation. To let them speak relatively freely around the given topics have eased the understanding of the women. To summarise, the technique of using semi-structured interviews in this field study has been suitable, as the techniques of RRA were developed to collect data on agrarian societies in the South.

8.3. Reflections on the Study

To conclude this study I would like to make some reflections. First of all there are a few rhetorical questions, to which I have no direct answers, but which I believe are worth considering. From my point of view KATC seems to work very well. The small-scale farmers do appreciate the methods they are being taught and the way their lives have changed in comparison to before they accomplished the courses. To be able to run the centre as it is run today is, as mentioned previously, very much a matter of financial issues. What will happen if KATC has to decrease the number of courses due to a lack of money from donors and sponsors? What will happen if KATC cannot support their farmers in the future, with advice and follow-ups? Will the farmers' lands degenerate or will they be able to maintain the knowledge they have developed? Would the lives of the women who have not accomplished a course have been different if they had had the possibility of joining them? Or is the result of this study dependent on the individual farmer, on how much she is willing to strive, work and make an effort to change her situation?

One of the reasons for my believing that KATC actually works very well is the issue of spreading new innovations. The importance of spreading the new knowledge of the small-scale farming women has obviously also functioned very well. Through study circle groups and unofficial meetings, the women that were interviewed knew of more than 160 other small-scale farmers that have been inspired by their work and methods. I believe that this is of great relevance to other organisations that work with similar issues, as it is a cheap, appreciated and successful way of spreading knowledge and building up the consciousness among small-scale farmers. This is one

of the reasons for why I find this study of great importance, and I hope that other people working with similar issues find it interesting as well.

The understanding that is achieved from a hermeneutic study as such can be used to enrich societies by making people better aware of each other.¹⁰⁷ One needs to understand that there is no single cause for why the situation for these small-scale farming women is the way it is, and various aspects take part in the matter. It has been shown, that there is a relationship between politics, the environment and the society that affects their lives. Political decisions at national and local level have major influences on small-scale farming women although they can do very little about natural hazards such as this year's drought. Almost everything is linked all the way from the farmer's lack of ability to produce food, through the local market to the government and onto the international arena. Access to land, to credits, to seeds and other inputs are all the result of politics, which have had restrictive effects on the farmers, which in turn have forced them to find other solutions in order to survive. With the help of local and international NGO's the small-scale farming women in this study have made use of sustainable techniques in their agriculture. With the help of local inputs, cheap and easily accessible, they have managed to create a sustainable livelihood for themselves and their families.

¹⁰⁷ Johnston, RJ (1997), p.35

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Mr Emanuel Pemba, trainee at KATC, 23 April 2002.

Staff at Kasisi Agricultural Training Centre

Informal talks from 18 April – 3 May 2002.

Mr Edwin Abwino
Mr Martin Bwalya
Mr Austin Chilala
Ms Mercy Chisanga
Mr Vincent Choongo
Brother Paul Desmarais
Father Roland Lesseps
Mr Peter Mpilipili
Ms Bernadette Malungo
Ms Mapeto K. Phiri