



Sveriges lantbruksuniversitet
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Faculty of Natural resources and
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From rice to sugar, from smallholder to businessman

– A case study of outgrower schemes within the EcoEnergy
Bagamoyo project, Tanzania

Från ris till socker, från småbrukare till affärsman

– En studie av kontraktsodling inom EcoEnergy's Bagamoyo
projektet, Tanzania

Agnar Kjeller



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Agnar Kjeller

Supervisor: Linda Engström, SLU, Department of Urban and Rural Development, Division of Rural Development

Assistant Supervisor: Flora Hajdu, SLU, Department of Urban and Rural Development, Division of Rural Development

Examiner: Kjell Hansen, SLU, Department of Urban and Rural Development, Division of Rural Development

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Abstract

Many governments in Africa envisage the potential to create rural employment, improve energy balances and strengthen their national economies by encouraging investment in large-scale agriculture. This trend is being intensified by global demand for alternative sources of energy and food, against a background of high oil prices and growing world population.

Bagamoyo EcoEnergy is a Swedish-owned, large-scale agriculture investment project taking place in Bagamoyo district, eastern Tanzania. The company has been allocated land for producing sugar for the domestic market and is promoting new jobs, wealth creation, power and better infrastructure. In 2013, EcoEnergy (EE) received a credit guarantee of 120 million SEK from the Swedish International Development Cooperation Agency (Sida). One of the main components of the project is an outgrower scheme intended to organise farmers to produce and sell sugar cane to the company. Outgrower schemes have become a commonly used model throughout Africa for generating mutual benefits between agro-food companies and smallholders. Features characterising outgrower schemes are often use of contracts, organisation of farmers, technical support, advisory services and market access for the farmers, in exchange for their produce.

EcoEnergy has targeted smallholders in two rice growing schemes in two separate villages to potentially become the first commercial sugar cane outgrowers. This thesis examines some key organisational aspects of these smallholder groups, particularly potential risks and opportunities associated with implementation of the outgrower plans in the respective villages. In semi-structured interviews, the main method used for data collection, members of the two organisations shared their experiences of the rice schemes and their views on the planned outgrower schemes for sugar cane. The results revealed a rice production enterprise fraught with difficulties and threats, such as cooperation issues, insufficient credit for maintenance costs and purchases, poor marketability, infrastructure and quality of rice variety, and environmental calamities. Changing the crop from rice to sugar cane is a major uncertainty and further potential threat to the organisations. Smallholders have no experience of sugar cane production and no tradition of farming collectively on the land. Moreover, the huge commercial loans required are arguably disproportionate to smallholders' current management capacity, while their visions and objectives are being heavily influenced and determined based on the plans of EE. To avoid dependence, members should be allowed to devise an organisation that best suits their needs.

Sammanfattning

Många länder i Afrika ser en potential i att skapa nya arbetstillfällen på landsbygden och stärka den nationella ekonomin genom att öppna upp för storskaliga jordbruksinvesteringar. Den här trenden intensifieras även av en global efterfrågan av alternativa energikällor och livsmedel i relation till höga oljepriser.

Bagamoyo EcoEnergy (BEE) är ett svenskägt storskaligt jordbruksprojekt i Bagamoyo distriktet, Tanzania. Företaget har tilldelats mark med syftet att producera sockerrör för den inhemska sockermarknaden. Projektet är tänkt att skapa nya arbetstillfällen och välfärd samt uppbyggnad av elektricitet och infrastruktur. 2013 fick BEE beviljat en lånegaranti från Sida motsvarande 120 miljoner SEK. En huvudkomponent i projektet är ett outgrower scheme projekt (kontraksodlingsprojekt) i omkringliggande byar med syftet att organisera bönder att odla och sälja sockerrör till företaget. Dessa typer av kontraksodlingar (outgrower schemes) har blivit vanliga i Afrika, då det finns ett behov av att hitta lösningar som gynnar såväl de stora jordbruksföretagen som de lokala småbrukarna. Det som ofta kännetecknar dessa modeller är upprättande av kontrakt, organisering av bönder, support med tekniska hjälpmedel, rådgivning och en marknad, i utbyte mot deras produktion.

EcoEnergy's initiala målgrupp för outgrower projektet är två mindre organisationer i två olika byar som för närvarande odlar ris i bevattningssystem. Den här studien kommer att beröra och lyfta fram några huvudaspekter kring organisering av dessa två organisationer samt de risker och möjligheter som innefattas i implementeringen av sockerrörs planerna för respektive by/organisation. Medlemmar från de två ris-organisationerna har fått berätta om deras erfarenheter och syn på projektet i semi-strukturerade intervjuer, som var huvudmetoden för insamling av empiri. Resultatet påvisar om en produktion som kantas av svårigheter och hot såsom samarbetssvårigheter mellan bönder, otillräckliga medel och kapital för underhållskostnader och inköp av produktionsmedel, marknadssvårigheter, infrastrukturella problem, låg kvalitet på den odlade rissorten och miljöfaktorer. Bytet av huvudgröda, från ris till sockerrör, är en stor osäkerhet och risk för de här organisationerna.

Lantbrukarna i området har ingen erfarenhet av sockerrörsproduktion och ingen tradition eller kultur av att odla gemensamt på marken. De stora lånen är oproportionerliga i relation till böndernas nuvarande kapacitet och kontext. Vidare är deras visioner och mål redan influerade och styrda av EE. För att undvika ett allför stort beroende till planerna, bör de få upprätta sina organisationer på det sätt som främst överensstämmer med deras behov.

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Introduction

Today's global demand for food and energy has triggered a recent surge in large-scale agricultural investments (LSAIs) in developing countries throughout the world. Vast land areas are being bought or leased in Africa and on other continents. Processes of globalisation and economic liberalisation have opened up new opportunities for foreign investors. At the same time, governments in developing countries are seeking ways to increase agricultural production and rural employment, so LSAIs have been perceived as a „win-win“ paradigm (Abdallah *et al.*, 2014). The land bought for LSAIs is often regarded as undeveloped land without owners, but in reality it is generally used by subsistence farmers, cattle herders or nomadic people.

An increasing presence of large-scale agricultural investors in Africa has created a new agricultural landscape where smallholders and investors have to find solutions for enhancing mutual benefits. One method to integrate smallholders into commercial farming is through the use of outgrower schemes or contract farming. By participating in outgrower schemes, farmers are provided with a market and perhaps also input or technical support from the investor, in exchange for their produce. However, establishment of outgrower schemes is not easy and has given rise to legitimate concerns and criticism.

The work described in this thesis examined one LSAI in Tanzania. A Swedish-owned company, today known as EcoEnergy (EE), has leased 22 000 hectares (ha) land for the next 99 years within Bagamoyo District, Tanzania. The investment is called the Bagamoyo EcoEnergy project (BEE). The allocated land area is an old ranch which was given by the Tanzanian government to the government of Zanzibar in 1974, to be used as a cattle farm, but was abandoned in 1994. EcoEnergy plans to produce sugar cane for processing, ethanol and power, mainly for the domestic market. Furthermore, the project is estimated to create direct employment for 2000 workers, plus another 1500-2000 new jobs for smallholder outgrowers in surrounding communities. In 2013, the Swedish International Development Cooperation Agency (Sida) approved a credit guarantee of 120 million SEK for the project, a guarantee that has since been withdrawn. However, EE is determined to continue with the project. Heavy criticism of the project emerged at an early stage, with some accusing the company of land grabbing. When the ranch was first abandoned, pastoralists moved in and nearby villagers began to use the area. Today there are around 1300 people living in the area in question and some of these villagers claim the right to the land (Abdallah *et al.*, 2014).

An important component of BEE is the outgrower programme, which aims to establish community outgrower farms where smallholder come together, set up, own and operate independent companies. In order to establish and operate those farms, each group of farmers has to take major commercial loans. A final appraisal report to Sida states that: “It is planned that there will be 30 commercial outgrower farms owned by 1,500 people but it is not clear how they will be organized” and “Before Sida approves the guarantee, the organizational framework including outgrower cooperatives should be in place” (Appraisal, 2013). EcoEnergy has targeted

two rice growing schemes in two villages to encourage them to become the first outgrowers. This thesis focuses on the outgrower component by addressing the organisational issues within these two rice schemes from the smallholders' perspective. The aim was to give a broader understanding of their potential for transition into commercial farming.

Purpose and research questions

No outgrower farm has yet been established. However, EE is initiating a so-called "early works" project, which involves development of outgrower groups with farmers growing rice in irrigated schemes

(www.ecoenergy.co.tz). There are currently two farmers' groups actively producing rice in irrigated schemes; one in Misasi and one in Kakora. These rice scheme farmers are expected by EE to expand and become the first outgrowers of sugar cane in the BEE project. EcoEnergy has a plan for how to organise the smallholders and how to establish the outgrower farms, but the question is how the farmers organise themselves today and how this matches the plans of EE.

The specific objective of this work was to:

Examine and compare various organisational aspects of the rice schemes in the two pilot villages, Misasi and Kakora, and draw conclusions about the potential risks and opportunities associated with implementation of the EE's sugar cane outgrower schemes in the respective villages.

The research questions examined were:

- How are the existing rice schemes organised with respect to vision, financing, structure, membership, work and cooperation between farmers?
- What are the strengths, weaknesses, opportunities and threats of the respective schemes? How do they compare with each other?
- Based on this knowledge, what is the potential for the envisaged transition to commercial farming in accordance with EE's planned outgrower scheme?

Background

This chapter begins with a short summary of what an outgrower scheme is and then moves on to describe the specific case of the outgrower development programme, a component of the Bagamoyo EcoEnergy project (BEE). To understand how land is governed in Tanzania, a brief presentation of land government in the country is also included. The chapter continues with an introduction to the study area, including basic information about history, geography, population, land use and farming in the villages.

What is an outgrower scheme?

The increasing presence and resurgence of commercial large-scale agriculture investors in Africa is raising a need for new solutions as to how smallholders and investors can benefit from each other. Using so-called outgrower schemes has become a commonly used model throughout Africa in order to find mutual benefits between buyer and smallholders. The objective behind LSAIs is often to create jobs and raise rural incomes. At the same time, many smallholder farmers lack access to productivity-enhancing inputs, markets, security of tenure over land and other factors limiting their ability to increase production. Outgrower schemes are often believed to be the solution to such problems, since they are promoted as a way to provide an assured market, inputs and technical support to farmers in return for access to their produce (Winter & Hamp, 2011). The outgrower model is also attractive to agri-food companies because it not only grants access to local markets, but also ensures control over source supply (Felgenhauer & Wolter, 2008).

Outgrower schemes can be formed in diverse ways based on how they are managed, structured or what kind of crop is grown. However, there are some key features that characterise an outgrower scheme in general, such as: use of contracts between smallholders and the company, centralised production/processing, farmer grouping, access to inputs and use of advisory services. In the ideal scenario, an outgrower scheme can provide a number of benefits for the outgrowers, such as providing higher income due to higher yields, reduced fixed and/or variable costs, guaranteed access to a market and access to credit. Beneficial factors for the buyer are often reduced capital investments (*e.g.* land, equipment), reduced labour costs and control of supply (Winter & Hamp, 2011:2). Risks and constraints related to outgrower schemes are addressed in the main discussion section of this thesis.

Land government in Tanzania

To understand how land is managed and allocated for different purposes such as outgrower schemes or other organised crop growing schemes, it is important to know the land tenure system and land management structure. Land is one of the most important aspects in the strengths and weaknesses of farmers' groups.

Land in Tanzania is divided into three categories: Village land (about 67%), reserve land (30%) and general land (about 2%). Reserve land refers to conservation areas, reserves and game control, land which is regulated under the Tanzanian Land Act of 1999. Village land is regulated under the Village Land Act of 1999 and is under the management of approximately 12 000 villages in Tanzania. However, only about 1000 of these villages have village land certificates and village land use plans. Village authorities, on behalf of the government and the Commissioner of Land, are responsible for managing land within village boundaries (Abdallah *et al.*, 2014: 40).

Each village has a village government (council) with 25 members elected by the villagers. Community members also elect a Village Chairman, who is assisted by a Village Executive Officer (VEO) employed by the government to oversee all government activities in the village. The highest leader at the district level is the District Commissioner, who is an important extension of central government in the district. The District Council is formed by elected ward councillors from the wards and is led by the Council Chairman. District and village councils may undertake planning (*e.g.* land use planning), collect taxes and supervise development activities in the villages based on the Local Government Act.

BEE and the outgrower development programme

The planned BEE outgrower (OG) scheme is an essential component of the overall project. EcoEnergy intentionally designed the sugar mill capacity to be 60% greater than required to process sugar cane grown on its own estate, which it claims will provide opportunities for people in surrounding villages to become outgrowers (Bagamoyo EcoEnergy Community and Outgrower Development Programme, version 4, 2013; OG Programme, 2013). The outgrower programme comprises two components: (i) A community outgrower farm project; and (ii) an outgrower infrastructure project. The objective and strategy of the *community outgrower farm project* is to enable smallholder farmers to become commercial farmers through setting up independent companies producing sugar cane for the EE mill (OG Programme, 2013). The *infrastructure* component comprises building roads and flood protection, bringing electricity and bulk water, doing bush clearing and preparing land for irrigation for the communities and farms encompassed by the OG programme. It is understood that the African Development Bank (AfDB) and the International Fund for Agricultural Development (IFAD) have agreed a request from the Tanzanian government to provide a loan for the infrastructure component.

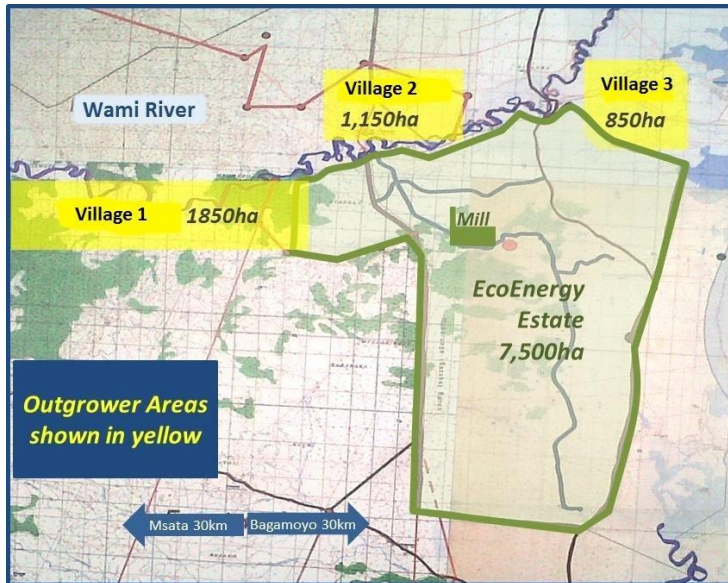


Figure 1. Project area for the Bagamoyo EcoEnergy project, with the targeted outgrower communities marked in yellow. Source: OG Programme (2013).

In order for EE to start the project in Tanzania, financial closure must be reached. EcoEnergy applied for a loan deal with AfDB, but for the application to be granted and the deal to happen, a loan guarantee from Sida had to be applied for and approved. In 2014, Sida decided to grant another, initial, loan guarantee to EE, to enable „early works“ while AfDB was in the assessment process. This guarantee was initially for 120 million SEK, but only parts of it have been distributed and Sida withdrew the guarantee in April 2015.

The current phase of the BEE is to initiate so-called “early works”, which include the targeting of approximately 10 groups of local farmers in irrigated rice schemes that are expected to develop into sugar cane producing companies. At the moment there are two organised groups producing rice in irrigated schemes, in Kakora and Misasi.

Capacity building of the potential outgrower farmers has started. A principle of the capacity building is “empowerment through training”, which is intended to endow the farmers with the right competence, know-how and attitude so that they can run their farms. EcoEnergy’s outgrower team works with outgrower capacity training in different steps and in different teams. General features or expected features of the set-up are described in Figure 3.

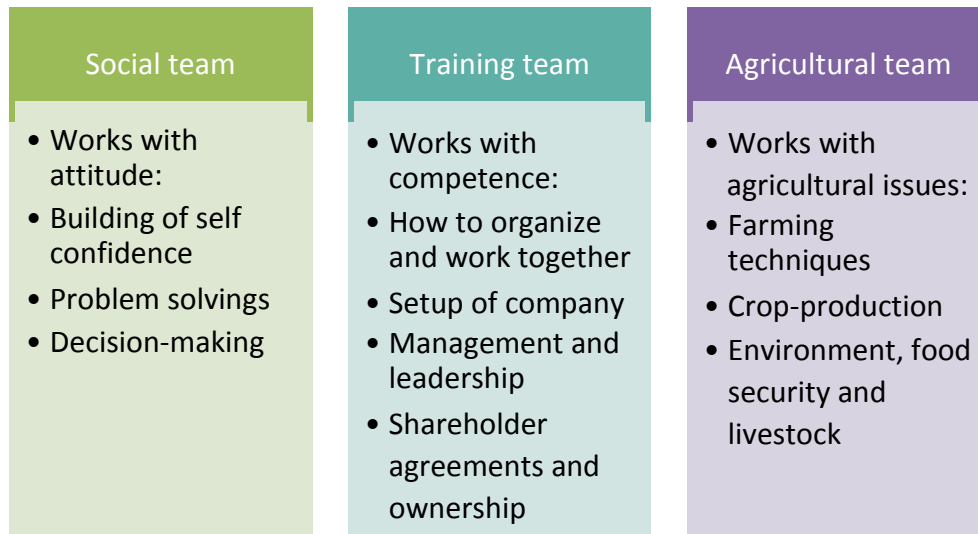


Figure 2. Capacity training. Source: www.ecoenergy.co.tz (2015).

The training provided for the farmers in this capacity building aims to ensure that they can take all decisions by themselves, in other words: decide the size of their farm, number of people in each group, work procedures, marketing, taking and repaying loans and distributing profits. The OG Programme (2013) states that each company (there are estimated to be around 30 companies in total) will farm an area of 75-150 ha. It is also estimated that these companies will supply the EE mill with 300 000-400 000 tonnes sugar cane. The deliverables of the training programme are for the farmers to organise into groups and register their organisations as “companies or cooperatives”, each having a governance structure. The idea is for farmers to organise and set up their own type of organisation/association/company/cooperative, depending on what they deem suitable and applicable. Furthermore, they have to establish a farm management plan, an environmental, health and safety plan, and a business plan, enter into cane supply agreements with EE and apply for commercial loans with banks (*ibid.*). The overall planned development in the transition to commercial farmers is shown in Figure 3.

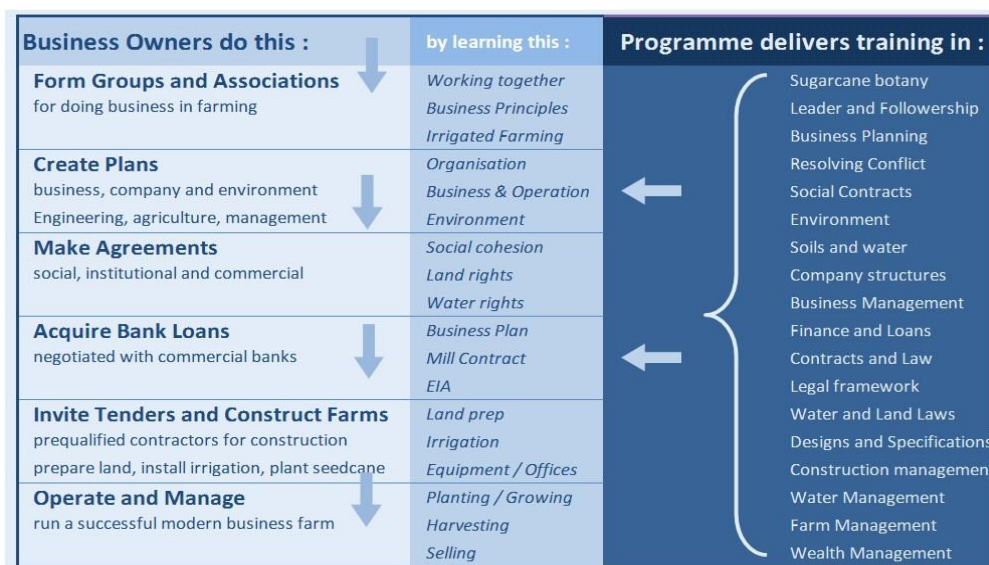


Figure 3. Components of EcoEnergy’s outgrower capacity training set-up in Bagamoyo, Tanzania. Source: OG Programme (2013).

EcoEnergy must follow different requirements, legislation, policies and guidelines that ensure compliance with the national legal framework in Tanzania and international best practice. Regarding capital for the outgrower farms, the companies have to devise and prepare their own business plans to apply for loan deals from agricultural development and commercial banks in Tanzania. The incentive for doing so is based on the calculation that the capital requirement for a 100 ha outgrower farm is an estimated USD 850 000, which has to be obtained through commercial loan deals (OG Programme, 2013, p. 10). Cane Supply Agreements with EE and land title documents are to be the collateral for these applications (*ibid.*). The targeted community outgrower farms of Misasi and Kakora were determined by selection criteria including physical, social and economic factors such as suitability of soils, access to water, distance to mill, financial viability, interest and socio-economic aspects (*ibid.*).

Study area

Misasi

Misasi is a small community/village within the Bagamoyo District, located approximately 60 km north of Bagamoyo main town. The village has a population of around 3000 people. The vast majority are smallholder farmers producing mainly for subsistence, with hand hoeing as the most common way to prepare the land. Other economic activities (apart from agriculture and livestock production) in the village are small shops or businesses, public services and forestry, the latter often connected with charcoal production (OG Programme, 2013). Farmers mainly grow maize and rice, which are the two most popular crops in the village. Other common crops cultivated are cassava, pigeon-peas, different vegetables, mangoes and bananas. Pineapples are grown in a sub-

village of Misasi. Some farmers also grow sugar cane, although on a very small scale and only for chewing.

The village has one primary school, one secondary school and a small hospital (health centre). There is no mains water or power supply and no fixed lines for telecommunication. Road infrastructure into the village is highly inadequate. The poor condition of dirt roads and frequently flooded bridges over the Wami river basically isolate village people during the annual rainy season, which takes place between March-May. Misasi has an old train station built in 1961, only the collapsed sheets of which remain today. The railway, which crosses through the village, was last used in 2007.

Kakora

Kakora is a village located approximately 40 km from Bagamoyo town. Its farmers have a tradition of growing pineapples in the area, and today this is a profitable crop to grow because of high market prices. Kakora is a fast growing community with a current population of 9145 people. Recent development, combined with good market prices for pineapples, have created new business opportunities for people in the village. Proper infrastructure and the relatively short distance to Bagamoyo are factors that increase people's business opportunities. The main road to Kakora is asphalted, and hence transport and access to the village is not dependent on the weather. Although hand hoeing is the most common way to prepare the land, more machinery, such as tractors, trucks and cultivators, is used in Kakora than in Misasi. In the village, apart from the rice growing scheme), there are two other active farmers' organisations („MUVI" and „Dort-Africa"), both of which deal with pineapple production. Examples of other crops grown in Kakora are maize, sweet potato, okra, cassava, watermelon, onions, pigeonpeas, beans and bananas.

The rice schemes

The Tanzanian government has introduced several initiatives aimed at developing the agricultural sector. To modernise and commercialise agriculture in the country, a National policy called *Kilimo Kwanza (Agriculture First)* was introduced in 2009. Continuing in this trajectory, in 2013 Tanzania launched another initiative known as „Big Results Now" with the purpose of accomplishing the vision of becoming a middle-income country by 2015. The plan includes facilitation of a range of projects throughout Tanzania. Larger interventions concerning priority crops such as sugar cane and rice were identified as a means to increase commercial farming.

As part of realising the Big Results Now plan, the Government of Tanzania has promoted commercial farming and irrigation schemes to boost *e.g.* rice production. Increased rice production in recent years has reduced the need for import. Rice is widely grown in the country and the consumption of rice has increased rapidly due to urbanisation and economic development, although the production of rice is dominated by subsistence farmers. It is one of the most important staple foods in Tanzania and increasing the production of rice has become an

important item on the national food security agenda. In order to develop the agricultural sector in Tanzania, a number of measures have been taken and projects, plans and programmes created. One of these is called the District Agriculture Development Plan (DADP). The local authorities are responsible for implementing this plan, which is an essential component under the framework of the Agricultural Sector Development Programme (ASDP), an overarching development programme for the country's agricultural sector (www.allafrica.com).

The rice schemes in Misasi and Kakora were established under the DADP in 2006-2008. However in Misasi, land was allocated through the village government and a rice scheme was introduced already in 1978. This rice scheme came to an end only four years later, in 1982. Corrupt leaders, a shortage of money for funding the scheme and stolen materials are believed to have been some of the reasons why the rice scheme of 1978 suddenly failed (interview with a rice scheme member in Misasi, 26 November 2015). The organisation in Misasi consists of almost 40 smallholders, each one producing rice on 0.5 acres of the land in the scheme. The rice scheme in Kakora is located almost 20 km from Kakora village and occupies 100 acres. Another 400 acres in the same area have been allocated for sugar cane. This rice scheme was established and supported through the DADP in 2007. Farmers using the land in the allocated area were the first to be asked about membership in the rice scheme. The outgrower team from EE has been present in the village since 2012. Today the organisation, which is called CHUHA, consists of 21 members. Further details about the organisations are presented in the empirical chapter.

Methodology

The present study was based on a qualitative research method, with data collected through semi-structured interviews. When using a qualitative research method, the researcher must emphasise and try to understand different interactions and experiences which the respondent expresses. Hence the respondents should have experience and great knowledge about the topic the researcher wants to examine. This is essential when wishing to understand the issue from the perspective and angle of the person interviewed (Kvale & Brinkmann, 2009: 17). The qualitative research method is also about understanding the context related to the human as a rational being and consequently there is a related connection between the context a human lives in and the actions they take within it (Teorell & Svensson, 2007: 89f). A semi-structured interview, which is one of the tools commonly used in studies with a qualitative approach, should address the informants' experience of the issue (research topic) and how the informant understands it, from his or her point of view. Its main feature has more or less the same nature as normal conversation; it can vary widely or take different directions/shapes. The knowledge is ultimately constructed from the interaction between the person being interviewed and the interviewer, and hence the quality of the interview is based on the strength and value of what has been produced (Kvale & Brinkmann, 2009:32f).

Main questions were prepared before every field trip. Research questions were adapted to each informant, depending on the intended focus of the interview and the position of the informant. The adapted questions were carefully chosen before every interview. The questionnaire was relatively structured, consisting of main questions asked of each informant and questions adjusted or adapted to each informant (Teorell & Svensson, 2007: 89). There was a checklist of topics to be covered, as well as an order for the questions, although this could be substantially modified based on the flow of the interview. This type of interview is called a *semi-structured interview* (Robson, 2011: 280). Considering the purpose of the study, my main objective was to interview the farmers in the rice schemes, who are also most likely to be the first participants in the EE outgrower scheme. Together with my colleague Malin Ohlsson, we carried out over 30 interviews, informal talks included, and recorded and analysed 25 of the interviews. In her thesis Malin focuses on the kind of information farmers have received and the expectation created based on that information (Ohlsson, 2015). Together, her thesis and mine provide a good and full understanding of the situation in the villages.

As stated previously, the vast majority of the informants were farmers participating in the rice schemes in Misasi and Kakora and many of these were also members of the board. We also interviewed farmers who had left the organisations and other non-member farmers in the village. Other key informants were representatives from EcoEnergy and consultants responsible for the outgrower development programme, as well as village government leaders.

An important part of the study was analysis of written material in the form of project descriptions, programme plans, assessments and, not least, reports and previous research relating to the topic. General literature largely focusing on organisation of farmers in developing countries, cooperation, land use and rights, rural livelihoods and the concept of outgrower schemes was also reviewed.

Informal talks, recording and interview situation:

Informal talks were not recorded and it is generally difficult to prove whether the interviews performed without recording affected the informant and thereby the conversation or the answers given. However, informal talks were considered important for many reasons. First of all, they provided more information or confirmed information obtained from earlier interviews. Moreover, they were important in terms of reflection and getting ideas about how to approach the thesis work in the field; elevating “new” or other issues which could give new ideas about the topic, generating new or more research/field-orientated questions and eventually providing ideas about other possible informants who could answer them. Ultimately, the informal talks provided a sense of how things work in the village or in the rice scheme.

A total of 25 interviews were recorded. By using a recorder, I was able to concentrate better on asking my scheduled questions and supplementary questions, allowing me to focus on the conversation rather than trying to remember every detail or being too occupied with taking notes during the dialogue. By having two researchers, one of us could take more detailed notes and

make further observations. There were other advantages of having two researchers performing, or at least being present during, the interviews and formal and informal talks. It allowed us to have an interaction between our field work and a more lucid view on various aspects of the project and also to have joint discussions and reflections on the topics and methods, cooperating in the interview situation (when interviewing the informants) with our interpreter and processing the empirical data. The closeness of our topics often allowed us to use more or less the same informants, making the field work more effective. However, having two of us performing the interview required us to divide our time for the interviews and to have more unified planning and communication.

From the first day in the field, I kept a research journal or field diary in which I reflected on interviews and observations, made a record of activities and noted down thoughts relevant to the project.

Pilot study

Our first field trip to the village of Misasi had the purpose of getting a sense and first impression of what was going on there and establishing a view of the village, its people and how they are using the land and working on the rice scheme. We met village leaders and farmers and arranged practicalities. Getting familiar with the area in this way helped focus the research. During this first visit we carried out a pilot study, which was the first stage of the data gathering. A pilot study is mainly a method to help the researcher reflect on some of the inevitable problems of converting design into reality (Robson, 2011: 405). Our pilot study allowed me to test the design of the questionnaire, organise some of my questions, learn how to cooperate with my colleague during interviews (the fact that we decided to divide the interviews between us) and get a first experience of working with an interpreter.

Interpreter and interpretation

The national language in Tanzania is Swahili, but many tribes and indigenous people, particularly in rural areas, have their own language. Knowledge of English is not very widespread in the country. We had to use an interpreter when carrying out our field work. Hence the research involved a process of interpretation/translation from data collection to analysis. An important note, which the reader of this text must be aware of and consider, is that the majority of the quotes and statements made by the informants and presented in the thesis are translated words (from Swahili to English).

There are several aspects to bear in mind when working and carrying out interviews with an interpreter in the field, such as social dynamics between researcher, interpreter and respondents and the fact that it is the interpreter's translation and interpretation of the respondents' answers on which the analysis is ultimately based. It is possible that the interpreter's perception of the answers given by the respondent can affect the correct understanding of these (Holstein & Gubrium, 2003).

Our interpreter was not only involved when carrying out interviews and when making appointments with respondents, but we also integrated him in our planning before and after field trips, in discussions and reflections before and after interviews, and when transcribing the interviews after each field trip. This was essential for enhancing research credibility by correcting misunderstandings and mistranslations, verifying information or picking up aspects we forgot to note. Thus it is important to carefully consider the interpreter's influences on the findings. What was very valuable to us concerning our interpreter was that, apart from knowledge of English, he had local knowledge (of Bagamoyo, Misasi and Kakora), good social ability (with the local community members and informants), good (general) knowledge of the project and previous experience of working as an interpreter with students (in fact with students from Swedish University of Agricultural Sciences in this particular project). The interviews were also much easier to carry out when both sides understood each other and when both researcher and interpreter eventually became more comfortable with the research questions. A pilot study was a good way of correcting misunderstandings between researcher and interpreter.

Recording the interviews allowed me to concentrate on conducting the interview. In the conversion of a verbal conversation into written text, I transcribed all the recorded interviews. High reliability and validity are important for demonstrating the generalisability of the results. It is also important to show that what I intended to examine is relevant in this context and that the survey was conducted in a reliable manner (Kvale & Brinkmann, 2009: 200f). Reliability and validity are also about being able to make connections between theory concepts and material from interviews and being familiar with the kind of knowledge informants have on the subject. At the same time, I tried to be accurate so that the interviews performed (questions asked) fitted with my research topic, *i.e.* so that the material matched the research question. I also had to discuss the different approaches and show how I interpreted the data. In order to reach high creditability, we tried to do all the transcripts together with our interpreter, listening through every interview again and letting our interpreter translate the conversations a second time. This of course took time, but it was essential for double checking the answers, confirming the right interpretation (translation) of the answers and correcting misunderstandings. Furthermore, it was a good way of checking the interpretation and getting more out of the interviews.

Thematic coding analysis

Thematic coding analysis is a generic approach not necessarily linked to any specific theoretical perspective. Here I coded and labelled data and grouped codes with the same label as one theme. The themes were used as a basis for further interpretation and analysis. Themes can be supplemented by network maps, flow charts and diagrams, if wanted. The flexibility of the method allows it to be used within a variety of theoretical frameworks (Robson, 2011: 467).

Theoretical framework

To increase understanding of the social and economic aspects in the rice schemes today and potential social and economic processes involved when peasants develop from smallholders into commercial farmers, I used theories of cooperation and organisation to analyse the data and strengthen the discussion.

Cooperation

To cooperate means to operate or manage jointly. A common definition of cooperation is “working together for the attainment of common or similar objectives” (Smith & Zopf, 1970:419). An assumption in this regard is that all participants involved are equal; no one is dominant over the other. Cooperation is about striving, but striving with others. Cooperation can be viewed as a broad, dynamic and significant feature of social groups, not only as joint purchasing and marketing arrangements, which is a relatively recent form of the general process of cooperation in rural areas (*ibid.*). But what is the motivation that brings about cooperation? What is clear is that the stimuli resulting in two or more persons or groups working together are often many and varied. People everywhere and through all periods have found it necessary to unite for the purpose of hearing, settling disputes and maintaining social control, as well as meeting economic needs (*ibid.*). What produces cooperation can be reflected in personal joint endeavours in small groups or perhaps in more impersonal larger groups. Cooperative activities are taking place all the time and through all degrees, informally and noncontractually or formally through the establishment of a contract. Informal mutual aid is often widespread in smaller social groups (primary groups), which tend to be very personal. However, as human contacts grow less personal or as social differentiation proceeds, the personal informal aid is increasingly replaced by formal cooperative activities (*ibid.*). A good example of non-contractual cooperation, in relation to the topic of this thesis, is mutual aid practices whereby neighbour assists neighbour to accomplish desired objectives without any specific contractual agreements. A frequent common aspect of that kind of cooperation is that a person involved also often expects to contribute his or her services when the need arises. Thus the people cooperating in that way together tend to learn to anticipate a certain level of mutual effort from other „members“ when a particular task is to be done. The latter is one of the challenges I raise later in the discussion of the outgrower rice scheme, mainly in Misasi. Contractual cooperation, on the other hand, may be highly rationalised and sometimes impersonal. This kind of cooperation has specific rules and occurs in formally constituted organisations.

There is, however, a tendency to restrict the use of the word „cooperation“ to the organised formal associations and business cooperative organisations following the Rochdale principles (*ibid.*). The aspects constituting the Rochdale cooperative principles are: “one man one vote”, limited interest on shares, the purpose of efficient service rather than securing of profits, earnings prorated to members, equal share in economic benefits, democratic management and control and open voluntary membership (Wambura, 2010:18). Economic contractual cooperation concerning farming groups has largely been confined to where there are problems of credit, marketing of

their produce or perhaps purchasing different equipment and supplies. Farmers that have joined together can increase their bargaining power and influence over prices for goods they purchase or sell. Credit for production purposes, including the raising of crops, purchase of land, repair or maintenance of constructions, is an example of farmers' needs which can be met by formal contractual cooperation (Smith & Zopf, 1970).

Cooperation can also be perceived as culture pattern, where a number of principles and characteristics of the culture in a certain area play a major role in how the cooperation is diffused, adopted and altered (*ibid.*). Formal types of cooperation can represent a break with traditional culture patterns and create new types of social relationships. Important factors when persuading farmers to create or join cooperative organisations are their individual drive and attitudes toward the farming enterprise (*ibid.*). Participants likely to remain members in a formal cooperative organisation are those who have joined on a strictly voluntary basis and under no coercion. Members should feel that the cooperative or organisation is of importance and believe participation to be profitable, because it is not always the actual experiences themselves that are important for people attaching to the organisation. Formal cooperation established for rural people, without any adaptation to their culture and without having any meaningful sociocultural context, is not likely to succeed. Furthermore, unless the organisation of farming fits harmoniously into the pattern of life in rural areas, it is probably not likely to have much value for the local people (*ibid.*).

Organization of smallholders

In the book *Strengthening Farmers' Organizations in Tanzania*, Wambura (2010) emphasises that rural development strategies have to engage smallholder farmers, since without engaging them development will not occur. He claims that smallholders should be central to any strategy for revitalising the economy as a whole. However, an obstacle facing smallholder-led agricultural growth is often lack of market access. Wambura cites Lundy *et al.* (2002), who emphasise the importance of creating an entrepreneurial culture in order for farmers to thrive in a global economy. The outline is that farmers should "produce for markets rather than trying to market what they produce" (Wambura, 2010: 17).

By using cooperative theory, Wambura points out the values farmers' organisations focus on, their characteristics but also their challenges. The theory shows that social integration in agricultural innovations is one of the best ways to improve rural livelihoods. An underlying concept in cooperative theory is that the organisation should focus on people, not on capital. Self-help by the members must be one of the central features, meaning that the members work together and pool their resources for their own benefit (*ibid.*). Furthermore, such self-help organisations have to be perceived as self-reliantly owned, managed and controlled by their members. Participation in cooperative or similar activities has to be meaningful for the members. If the result of participation leads to tangible advantages, this will motivate the members and intensify active participation.

One frequent common objective with establishment of farmers' associations is „empowerment“. The agenda is to empower or engage people at grassroots level through participatory development that stresses the need for knowledge and capacity building. Thus empowerment of farmers is a precondition to successful partnership between farmers and their organisation (Wambura, 2010). Empowerment in the sense of gaining economic strength and independence can help farmers' organisations avoid being overpowered by external actors. External agencies setting up their own farmers' organisations shaped by their ideas and ideologies can affect the development of farmers' organisations negatively (*ibid.*). Hence the importance of the initiative for forming the organisation coming from the inside is emphasised.

The concept of development can be described in many different ways and there are great disparities in the interpretation of what development is or what it should be about. Similar to the cooperative or organisational theories, a central component of rural development and agricultural development strategies must be the farm family and one of the main objectives must be to widen people's choice (Wambura, 2010). This is also one of the basic faults when implementing such programmes or projects. The poorest segments of the rural population are rarely consulted, because the majority of them have no organisational structure to represent their specific interests. They can be isolated, lack education and access to resources and markets, and are often dependent on rural elites. Wambura (2010) points out is that if the poorest rural people are not given full participation in development, there is a great risk they will continue to be excluded from its benefits. It is through motivation, active involvement and organisation that rural development can harness the full potential of all rural people.

Referring to Oakley and Marsden (1984), Wambura presents some of the most critical issues when approaching groups of farmers. First of all is the formation of the group: is the initiative coming from the outside, imposed on the individuals, or from the inside? How does the practice of membership work? A basic criterion is often common economic interest. An important component is the internal structure of the group, which gives the base of the organisation. A critical benchmark is for members to create the organisation in a way that best suits their needs (*ibid.*).

Presentation of empirical data – Organization of outgrower schemes in Misasi and Kakora

This chapter presents the empirical findings (study findings) of my field work. It consists of a detailed presentation of the rice schemes in Misasi and Kakora, which is later used as a basis for further analysis and a SWOT (strengths, weaknesses, opportunities, threats) analysis. Before introducing my research findings, I point out some key organisational aspects of the OG programme, which the reader should bear in mind when reading about the rice schemes.

The Outgrower (OG) Programme; organising smallholders

First of all, it is clear that the members of the rice schemes in Misasi and Kakora play an essential role for the potential establishment of the first EE sugar cane outgrower farms. It is also clear that the production of rice and other food crops is an important feature of the outgrower scheme plans. Therefore EE has encouraged and promoted other farmers in the villages to cooperate and organise, similarly to the rice schemes, by starting to grow other food crops. It is understood that these „new“ groups will also be targeted to produce sugar cane when/if that time comes. In the outgrower development plan a key objective is that “villages come together to form and own companies”. This will involve about 1500 people, divided into 25-35 companies. Note that the plan says „*companies*“. This is an important way for EE to promote the organisation of smallholders that is very businessorientated. In order to transform smallholders into business men and promote them to become the first commercial sugar cane producers in the BEE project, EE has set up a specific plan and support programme (OG Programme, 2013) for the targeted farmers. This programme delivers capacity building and training for the smallholders (see Figure 3). The outcomes of this programme should be that: (1) Farmers organise themselves into business groups; (2) they register in law; (3) they establish an organisational structure; (4) they create a farm management plan, a business plan and environmental plans; (5) they make agreements; (6) they acquire commercial bank loans; (7) they construct the farms; and (8) they operate and manage those farms. Some key features of the outgrower farms are the use of modern techniques, employment of people from the village and distribution of profits (profit for each shareholding, of 2 ha, is estimated at 2800 USD per year after loan repayment). Another major objective/key feature in the outgrower development programme concerns the commercial bank loan of 800 000 USD per company, which has an estimated loan repayment term of nine years. The desired outcome for EE is “a beneficial relationship with the community and local government” and an assured supply of 300 000/400 000 ton sugar cane per year (OG Programme, 2013).

The rice scheme organization in Misasi

In 2006, Tanzania National Parks (TANAPA) urged people to restart the old rice scheme from 1978 by providing them with a water pump. However, the farmers did not have the necessary water pipes and lacked money to buy them, and did not have the knowledge to use the system, according to several rice scheme members interviewed. The water pump remained unused until 2008, when the District Council gave the farmers in Matiwpili incentives and support through DADP. Money was used to finance the main canal. People interested in joining an organised farmers’ group to grow rice in the scheme signed up and paid a membership fee. Forty people were given membership of the organisation and a half acre of land each in the rice scheme. However, production was still held up due to low financial capability to purchase water pipes, fuel for the water pump and land preparation. 2012 was the first year in which the farmers were

able to start growing rice in the scheme since the support from the District Council in 2008. EcoEnergy came in and started to support the rice scheme farmers in Misasi in 2013.

- **Legal status, membership, geography**

The farmers' group in Misasi consists of 38 members with the common mission to produce rice in an irrigated system. People in the village previously suffered from food shortage/insecurity, which was an important incentive for the District Council to re-establish the rice scheme in 2006/2008. The organisation is yet to be formally registered. Rules and by-laws were formulated by the members of the group in the early years of the organisation. Of the 38 members, 20 are men and 18 are women. There were 40 registered members from the beginning. These members were recruited by public announcements in the village, which were open to everyone interested in participating. Due to various problems, which will be discussed in more detail later, the scheme cannot currently expand, although many are already in line to join the scheme when the issues are resolved and the organisation is ready to extend. To become a member, a membership contract must be signed, which means that the signatory agrees to comply with the rules and by-laws of the organisation. In addition to this, there is a membership fee of 10 000 Tanzanian shillings (Tshs; approx. 5 USD).

Membership issues have not been affected by the outgrower plans, but in the terms of this plan more farmers' groups are to be created in the village of Misasi. During the time of my field work, EE was already planning and holding meetings with other farmers for the purpose of establishing 3-4 more groups to grow food crops and vegetables.

- **Organisational structure and management (leadership, roles and rules)**

The Misasi rice scheme is organised into a board with six board members with the main function of leading the group of farmers participating in the scheme. Concretely, this means orientation of the organisation, arranging meetings, maintaining the rules of the organisation and giving direction to overall policy and decision-making. The board consists of a chairman, vicechairman, secretary, assistant secretary, treasurer and assistant accountant. This structure was established or implemented by representatives of the District Council, by eligibility through the DADP. Having an organisational structure was the main criterion from the District Council for supporting the farmers and helping them establish the rice scheme. Another demand was producing crops in an irrigated system. Complying with the criteria of the District Council, farmers were advised to take/use a certain structure similar to other farmers' groups created under the same programme (interview with EE representative, 20 November 2014). The chairman is responsible for opening and closing meetings, communication with agricultural experts and other actors and supervising all the activities concerning the rice scheme. The secretary keeps minutes and documentation, but is also responsible for writing letters and applications for other actors such as EE and the District

Council. The accountant has the responsibility for bookkeeping and budget. The organisation has two operators with more practical responsibility for handling machinery and all the practical issues concerning irrigation in the scheme.

Leaders and all members of the board are appointed through an election, which is held every third year. Any member is allowed to stand for any position/role in the board and all members have the right to vote. Meetings are held on a weekly basis, where members discuss issues such as work tasks, budget and economy, sharing ideas and planning the activities in the rice scheme. Most of the decisions are taken by all the members together during those meetings. Every member has to follow the rules set up the members in the organisation. These rules mainly concern active participation in the scheme and respecting other members and decisions taken by leaders of the group. All members must produce on the land given to them, deadlines and dates to accomplish different work tasks must be followed and the timetable for irrigation has to be respected. If a member breaks a rule several times, he or she may risk to be fined or replaced, which happened to two former members, according to other farmers in the organisation.

According to the farmers in Misasi rice scheme, the organisational structure and management have not been changed in any way since EE came to the village.

- **Vision, objectives and activities**

The long-term vision of the farmers' group is to develop into sugar caneproducing companies or cooperatives, producing and selling sugar cane to EE, but also growing and selling rice and other food crops to people employed by EE. It should be highlighted that this vision is also in line with the vision and objectives of EE. Farmers are hopeful that participation in the outgrower scheme can help them to improve their living standard, primarily on an economic basis. The vision and objectives have not been written down, however, so the objectives presented here are mainly individual objectives regarding rice production and yield, expressed by our respondents in interviews. A number which recurred in our interviews (when discussing objectives and yield) was 2800 kg rice per person and harvest in one acre. This is a short-term objective. This aim was proposed by agricultural experts from the District Council and/or EE, but is still to be reached. A current objective is to increase the quality of the rice and find a market where the farmers can sell their crops.

Other long-term objectives and visions of the organisation are to expand the rice scheme, both in number of members and number of acres. According to my informants, government representatives plan to support the rice scheme farmers, helping them to expand the rice scheme up to 80 acres more, which would also allow them to have one acre each, instead of the 0.5 acres each they have today. Many farmers in the rice scheme see it as an obligation to produce rice in order to provide more food for their own household and other families in the village. However, many of them also have individual economic objectives for their participation in the scheme, *i.e.*

to increase their income, which could enable them to send their children to school, for instance. Others have joined the scheme to learn more about production of rice or to take the chance to produce crops in irrigated systems.

The common visions and objectives of farmers in the organisation are mainly the result of both DADP and BEE plans, since both have been, or are, responsible for the support given to farmers. As I understand it, farmers have recently been given more support from EE (rather than the District Council) regarding both the production of rice and, moreover, sugar cane training.

- **Financing and economy**

The rice scheme is financially supported by revolving loan deals from EE. In 2008 the District Council provided the organisation with 43 million Tshs (approximately 200 000 SEK) to fund the irrigation system, of which 38 Tshs million was used to build the water canal, according to rice scheme members, and the rest for land preparation and levelling. Despite the funding from the District Council and the loans from EE, the equity in the organisation seems to be low. The loans were intended to help the farmers purchase the necessary assets and materials for the scheme. According to the members, these funds have been used for buying fuel and seeds, preparing land and for maintenance costs. During the initial years of the rice scheme, farmers in the organisation had a formal agreement to pay in 1000 Tshs every week. This contribution could be used for purchasing input materials and land preparation or other corrective (improvement) measures and maintenance. After an absence of the main accountant, along with complaints concerning the amount of money to be paid each week, the members decided not to continue with this payment. This decision has led to decreased equity of the organisation and discontent among some of the farmers. When a decision on various expenses within the organisation or the scheme is taken, each member has to contribute the same amount of money to the group. The financial sustainability of the organisation based on, or related to, the financial position of its members is one of the main subjects raised in the discussion section of this thesis.

The rice scheme organization in Kakora

- **Legal status, membership, geography**

The farmers' group producing rice in Kakora was in the process of registering the association as a company with the name CHUA at the time of our interviews. The organisation consists of 21 members today. Similarly to the rice growing organisation in Misasi, the farmers' group in Kakora was first initiated in 2007 through DADP. Farmers using the land in the allocated rice scheme area were the first to be asked about membership in the organisation. The allocated area is situated almost 20 km from the village of Kakora, which is an advantage (or rather a necessity, to access water from Wami river) as well as a challenge/weakness. During the long rainy season,

there are periods when the rice scheme is inaccessible. Due to the distance, farmers have to collaborate on transport and the transport costs to and from the scheme are one of their largest expenses. The site location also complicates access to and hiring of machinery for the scheme. The farmers were allocated a 100-acre area with the purpose of producing rice in an irrigated system. However, because of different problems and threats such as flooding, the farmers were only able to cultivate 6 acres in the previous season and of these 6 acres the smallholders could only harvest 2 acres with a total yield of 1 ton, which was shared between the 21 members. At the moment they are not ready to expand by taking in more members before registration of the company is accomplished.

- **Organisational structure and management (leadership and rules)**

In a similar process (DADP) as in Misasi, smallholders decided to organise and produce rice. The formation and the initiation of the organisational structure was assisted by the District Council when the scheme started in

2007. EcoEnergy started its support of the farmers' organisation in 2012. During the entry of EE, the organisational structure of CHUA was changed. It is stated in the OG Programme that EE wants to implement a "governance structure" in those farmers' groups which are the potential outgrowers. In the case of Kakora, the establishment of the new organisational structure emphasised leadership and aiming to create a more "functional" structure regarding expenses and purchases and overall management of capital in the organisation. The structure involved various leadership positions and today the association is led by a chairman, operations manager and farm operator. The leaders are elected and other positions are decided by the members together. Other positions and responsibilities in the organisation are vice chairman, secretary, accountant, "plant officer" and "land officer" and an operator managing the water pump. Rules are being strictly followed by the members, concerning *e.g.* attendance and working in the scheme at least 3 days a week.

- **Vision, objectives and activities**

Through interviews with the members of CHUA, it was found that their visions are based on producing both rice and sugar cane. The common vision is to produce rice and other vegetables/food crops on 100 acres and to grow sugar cane on another 400 acres on land located next to the rice scheme. They hope to sell their produce to employees within the BEE project. A current objective is set on registering the association as a company and then arranging shareholding agreements between the members. It was observed that they have already started to hire labour (employing people from the village on a temporary basis), which is something they aim at doing more and on a larger scale in the future. Other objectives stated by the members of CHUA, also relating to the potential development into outgrowers, are to provide salaries for board members, create job opportunities for people in the village and eventually have their own trademark.

Visions and objectives have clearly been influenced by EE and the outgrower plans. The expressed visions are in line with how EE wants the potential outgrower farms to work. It should be stressed that EE have informed and trained the members of the rice scheme about production of sugar cane and about the outgrower scheme plans. The function of producing rice on 100 acres and more vegetable/food crops is also part of EE's strategy for dealing with potential risks such as food insecurity within the BEE project.

- **Financing and economy**

The economy of CHUA is primarily based on membership fees and payments by individual farmers. Each member pays around 15 000 Tshs five times per year as a share to the organisation, meaning 23 000 Tshs (app. 12 USD) more per year is put into the organisation than in the Misasi scheme (where farmers pay in 1000 Tshs every week). According to our informants, all members have managed to contribute that amount. However, we know that there has been a fallout of members (from 35 to 21) because of high costs and production constraints. In a later stage, when registration is accomplished and a company business model is established, the plan is that each member buys and owns shares in the company. The objective is for the organisational form and structure to work based on common company practice. Since EE started to support them, CHUA farmers have been provided with revolving loans from EE. In order for the revolving loans to continue, *i.e.* to take more loans after repayment, the organisation has to show results or to account for purchases and expenses. As stated before, there are so far no economic profits in the organisation.

As understood from formal and informal talks with members, the various functions of the economy in CHUA have changed with the presence and support from EE: The objective of owning shares and distributing potential profits complies with the plans and ideas of EE, the functions of the organisational structure have been changed in order to account for the financing of the organisation, and farmers can now start to take revolving loans as a way of getting experience and knowledge of taking and repaying loans, which according to EE will be important for them if they become outgrowers (informal talk with EE representative, 18 November 2015).

Analysis and SWOT

This section is divided into three themes; (i) a short analysis and discussion of the achievements so far of the rice schemes in Misasi and Kakora; (ii) a presentation of SWOT and analysis through a SWOT; and (iii) a comparative analysis where key differences between the rice schemes in the two villages are identified.

Achievements in the Misasi rice scheme

Since its establishment, the rice scheme in Misasi has arguably had an irregular development trajectory, with various constraints impeding success. The farmers have achieved results in operations such as: creation of one farmers' group with an organisational structure, allocation of land to each member, the building of the main canal with pipes and water pump and increased household food supplies by learning how to produce rice in the irrigated system. Although they have succeeded with those essential factors necessary for establishing the organisation, further development and success have been held back by the different constraints, challenges and risks facing them. In the three past years the farmers have only been able to harvest and cultivate rice in the scheme on two occasions. Of 20 acres allocated for rice, less than 15 acres are under production today. According to the members, the overall yield has been higher in the irrigated scheme than for rice produced in local ways. The production in the scheme has benefited members' supply of rice to their households. Currently the farmers involved perceive no economic profits or other economic benefits, which they mainly attribute to insufficient quality of the rice variety used and thus lack of access to a larger or more profitable market.

Achievements in the Kakora rice scheme

According to our informants in Kakora, the farmers in CHUA have achieved more and quicker results compared with Matiwpli in recent years, which they mainly attribute to support from EE (note that Misasi also gets support from EE). Similarly to the farmers participating in the rice scheme in Misasi, farmers in Kakora have faced many challenges and have struggled with the production in the scheme since start/establishment; during the first years the organisation went from being 35 members to the 21 they are today. They formed the association and got help with establishing the rice scheme (land allocation, water canals, new rice variety) from the District Council. However, according to our informants they did not have the knowledge or the experience to produce rice in an irrigated system. Adding other problematic factors such as the distance to the scheme from the village centre and the different costs (such as membership costs and transport costs) in relation to the insignificant production obtained, it was an obvious choice for many farmers to quit during the first years. The District Council provided them with money, which they used for building the irrigation system at the scheme. The scheme is located 200 m from the Wami river and this distance caused problems regarding both water pump capacity and the main canal.

Several changes have happened in recent years in the organisation in Kakora, which are related to the entrance of EE; the scheme was moved closer to the Wami river (land was already allocated to this scheme) and thus the water pump and pipes could be utilised better. Instead of moving the water pump from time to time they built a floating pump station, preventing it from flooding. The farmers have been starting to do all the work activities together and to use other farming techniques and, as stated in a previous section, they have established another organisational structure. All those measures together, with capacity training, have helped the farmers in Kakora to create better conditions for themselves and conditions to perhaps achieve better results.

However, the expected achievements, such as higher yields and economic profits, have not yet been achieved.

SWOT- Strengths, weaknesses, opportunities and threats

A SWOT is an analytical framework for analysing organisational strengths, weaknesses, opportunities and threats. A SWOT can help organisations to minimise their threats and take advantage of opportunities available to them. The analysis gives another dimension in understanding an organisation or can be used as a strategy tool (Tonnquist, 2012:65). When carrying out the analysis, strengths and weaknesses are considered internal factors and opportunities and threats external factors. Example of organisational strengths can be: the advantages of the organisation, whether the organisation does something better than anyone else and for instance whether the organisation has low-cost resources. The weaknesses can be things the organisation has to improve or factors which reduce the sales. On an external basis, the organisational opportunities often come from events such as change in markets or technology, government policies or local events. Threats are summed up by the obstacles the organisation faces, external aspects threatening the organisation (*ibid.*).

The following SWOT is an analysis of the current rice schemes in Misasi and Kakora. To get a better grasp of the common factors/aspects brought up in each part of the SWOT analysis and to make the comparative section easier to visualise, they are shown in an integrated diagram (Figure 4). It includes the SWOT for both Misasi and Kakora, showing for each category which they share and which are specific to one organisation.

Strengths:



Figure 4.

Farmers are learning new farming techniques, *i.e.* how to produce rice in an irrigated system. It is also a strength that they have the experience of growing rice and puts great value on it, both as a food crop and as cash crop. Both schemes have rules and an organisational structure, but the different ways of constituting their work/cooperating (as discussed in the next section) lead to different strengths and weaknesses for each. For instance, from an organisational point of view and from a risk perspective, it can be seen as a strength that farmers in Misasi can take care of their own plots/land (by having individual plots), but at the same time this is arguably also causing them problems with overall attendance and working their own land instead of scheme land. A strength in Misasi compared with the Kakora rice scheme is the location of the scheme area, which is near the village, so members can more easily control the events in the area throughout the year, but also more easily get help from other villagers. Members of Kakora rice scheme have difficulties in accessing the allocated rice area during the rainy season. Another issue discussed in the next section is that of the irrigation system, which is different between Misasi and Kakora. The character of the irrigation system in Kakora is categorised as a strength, while the character of that in Misasi is categorised as a weakness (see Figure 5). The underlying reasons for this are discussed in the comparative analysis.

Weaknesses:

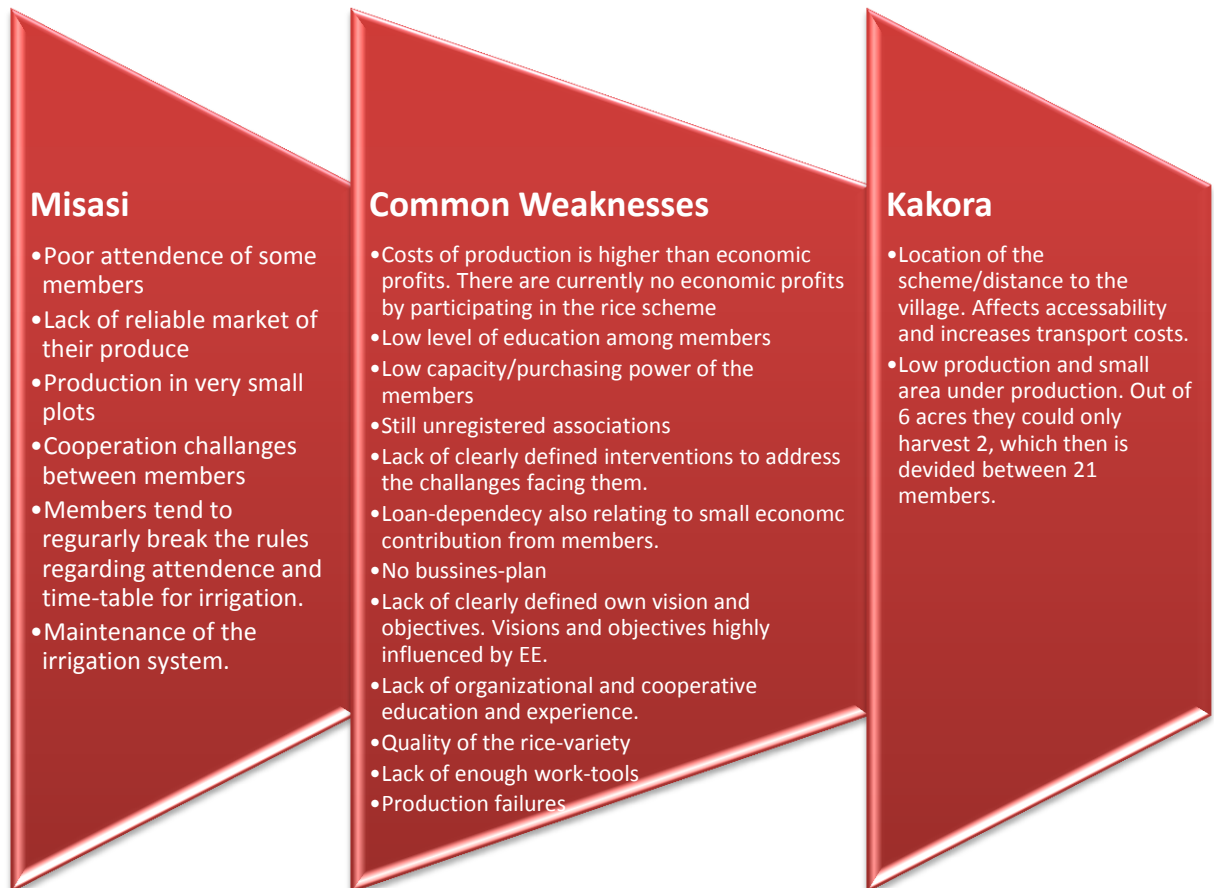


Figure 5.

Not having registered the farmers' group can be perceived both as a strength and weakness. It could make it more difficult for farmers to take loans or make other important agreements. On the other hand, registering the group could mean a greater risk of being subject to a complex set of regulations set by government and other externals, since the group then also has to adapt to special organisational frameworks, national policies and laws. In Kakora, it can be seen as a weakness that the small production area of 6 acres shares the harvest between 21 members, since all the work on the land is done collectively. The difference in Misasi is not only that the rice scheme area is larger, but also that each member can gain more (individually) by having their own plot. However, it can be argued that owning half an acre each is too small for sufficient production and the possibility of good income.

Another major production constraint, especially in Misasi, is the low financial position of some farmers and low willingness or low possibility of paying in a sufficient amount of capital to increase the equity of the organisation. Ultimately, this also explains the lack of means to increase production and the issue of keeping production going in the irrigated system.

Opportunities:

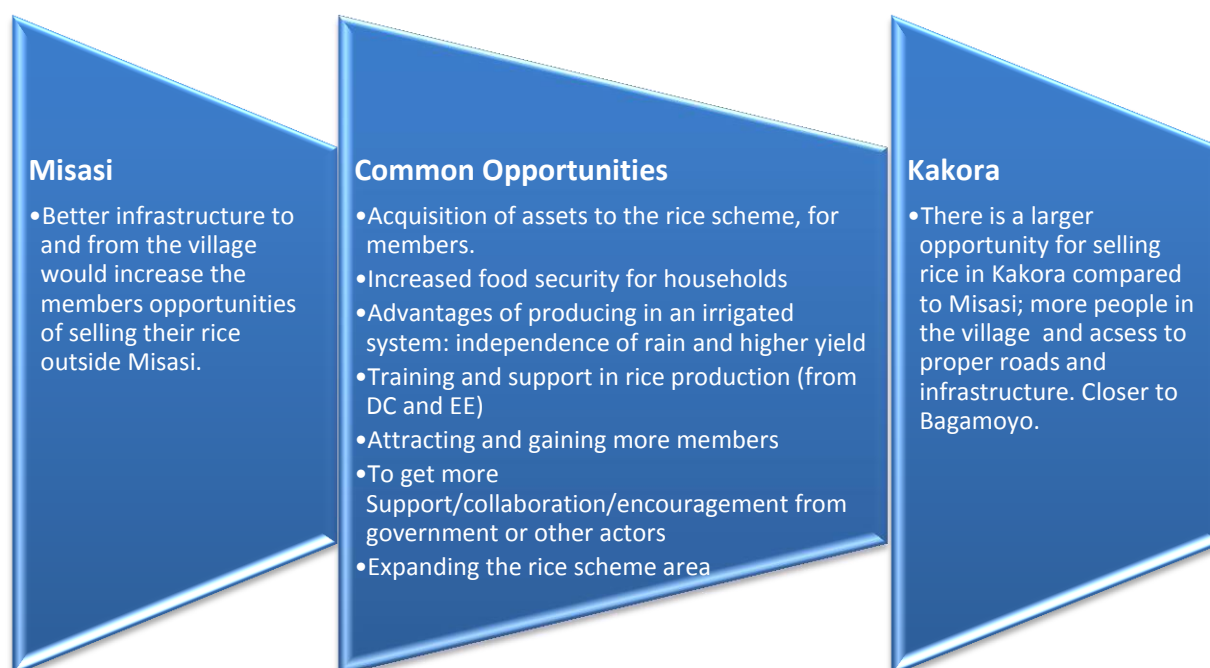


Figure 6.

By organising or joining an organisation members can increase their chances of getting different assets which they otherwise would not have access to, such as different work tools, technology/machinery, labour (or help from other members), land or perhaps also in this case access to training and support (Figure 6). The market situation, mainly due to infrastructure, is different between the villages. Many of our informants highlighted the lack of good infrastructure, which could help them access other larger markets and transport their produce.

As mentioned in the background section, EE has provided members of the rice schemes with training and field visits to areas with rice, but also sugar cane. A majority of the farmers interviewed were satisfied and pleased with the training they had received from EE, but also with the expertise from the District Council. They have utilised the training in different ways, but what seemed to be the most appreciated training activity was learning different farming techniques and issues concerning the production of rice. A common element and perspective for the farmers in the rice schemes in both Misasi and Kakora was the value and importance of rice. Farmers themselves chose to produce rice, both for food security reasons and for the possibility of gaining economic profits. Given the opportunity of producing rice in an irrigated system, many farmers could see the chance of increasing their rice yields and of getting knowledge on how to produce rice in other ways. Through training activities and expert help, they could learn new techniques and methods which they have since employed, not only on the rice scheme area but also on their own land.

“When I was little my family also used to grow rice, but in very small plots, growing rice just for the household. But at that time I didn’t know the methods very well how to grow rice or which different seeds to use. But since participating in the rice scheme my knowledge has increased a lot. Now I know about different types of rice and how to grow it, I’m more advanced in my farming” (interview with member of CHUA in Kakora, 15 November 2014).

Threats:

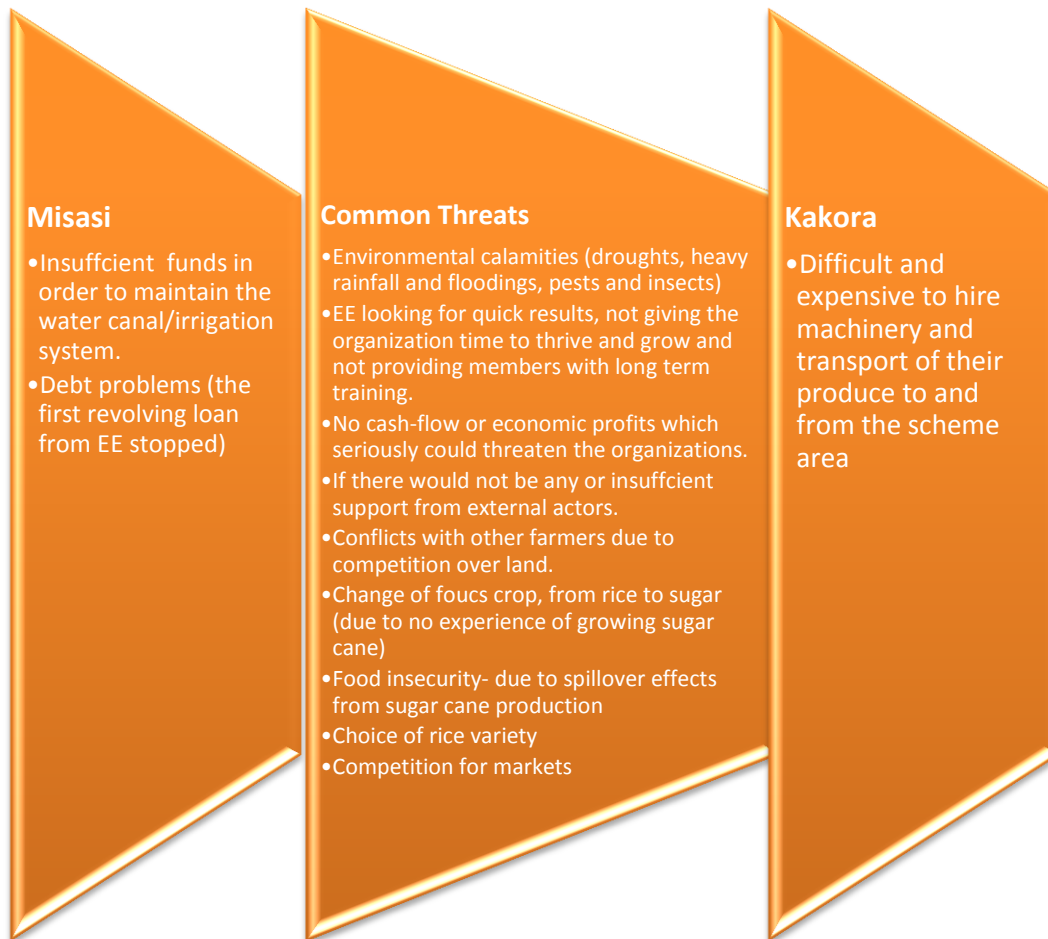


Figure 7.

Environmental calamities and climate change are constant threats, not only to the rice scheme members but also to all farmers in the villages (Figure 7). Drought combined with serious rain and flooding is affecting the production in both schemes.

Coming back to the absence of economic profits and revenues, this is something that we have seen already and is still threatening the schemes. If the scheme is not offering tangible advantages and benefits for farmers in line with their objectives for participation, this might cause more members to quit or not put real effort into the work

in the scheme, as has already happened in both cases studied here. It will also most likely deter others from joining.

Another potential risk addressed here is conflicts occurring as a result of intense land acquisition, mainly experienced in Kakora, but in Misasi as well. Buying and selling land rights/titles has become a normal circumstance in the villages, allowing richer people from other areas (Dar es Salaam mainly) to buy and own land rights in the villages. We understand that EE has tried to persuade farmers in the villages not to sell their land. Furthermore, it should be borne in mind that land is an important aspect of organisational strengths and weaknesses.

One of the greatest challenges for farmers in both organisations is the current rice variety they are growing, introduced by the District Council. Because of the insufficient quality the rice is not sellable in markets, making it almost impossible for farmers to gain economic profits. Rice is a traditional crop produced in coastal areas and the consumption is high and increasing. The rice variety problem facing both organisations is that the variety they produce breaks or splits when it is processed and milled. The rice variety gives good yield, and the rice can still be eaten and stored without any problems. According to the members interviewed, the production has provided many more households with rice and improved their overall food situation. However, because the grain breaks there is a great loss of quantity of their produce. In Misasi the members have often stored several bags, waiting for a moment to sell them. According to the members, people in the coastal area have certain preferences regarding how the rice is cooked, how it smells and how it tastes. Apparently this variety does not have the right smell and taste, making the rice almost impossible to sell.



Figures 8. Left: The rice variety TXD 306 (or Saro). Right: Stored rice bags. (Photo: Agnar Kjeller).

The majority of the farmers had hoped to increase their economic income by participation in the rice schemes, apart from it acting as an intervention against food insecurity problems in the village. The objective for both organisations studied is still to produce rice which can be sold in the market in order to get economic profits, individually as well as for the overall organisation.

“They (the District Council) told us to produce rice in order for us to fight against the poor conditions and food problems we have in the village. But we still have poor conditions here. If

we could produce a good quality rice and sell it, we could solve more problems with those poor conditions. We are only producing rice for our own households now” (interview with a rice scheme member in Misasi, 15 October 2014).

There is an opportunity in finding reliable markets for rice in the area, with an increasing consumption and demand. However, there is also competition. Today the supply of rice in the markets is coming from other riceproducing areas in the country, Mbeya, Iringa and Shinyanga to mention a few. These areas have ecological/environmental advantages, letting farmers harvest and sell their produce earlier in the season. Competing with those large-scale producing areas can be a challenge for the villages studied even with good quality rice.

The change of focus crop from production of rice to production of sugar cane could obviously threaten the existence of both rice scheme organisations as much as it can be an opportunity for them. The costs of establishing and operating an outgrower farm and growing sugar cane are high, and the results clearly show that smallholders already have problems with high costs in rice production. Another important aspect is the lack of experience and knowledge among smallholders in this area of growing sugar cane. Moreover, if the production of sugar cane is successful this can have negative impacts on the production of food crops in the area, including production of rice in the rice scheme.

Sugar cane is today mainly grown in very small plots in this region, often just a few square metres in the back gardens of households. These canes are mainly used for chewing. Farmers’ beliefs and expectations that sugar cane production can be successful are based on field visits, videos, information and training provided by EE. Farmers have been shown a video from sugarcane producing outgrowers in Swaziland. Members of the rice schemes have been taken to Jeica, an area where sugar cane is produced on trial and some members have been on a field visit to Kilombero, where there are other sugar cane outgrowers. According to EE, the soil in the area is suited for sugar cane production. One main difference compared with other areas is the farmers’ lack of previous experience and history of producing sugar cane. In Swaziland, sugar cane has been grown for generations and the industry dates back to the 1950s, while the nucleus outgrower business in Kilombero was established in 1960 (Smalley *et al.*, 2014). However, before the establishment in Kilombero, sugar cane was cultivated only marginally in this area (*ibid.*). It is clear that a majority of the members in the rice schemes do not know how the production of sugar cane works in practice. As mentioned before, changing from rice to sugar, which is a key change EE has planned since the start of the BEE project, should be seen as a factor of great uncertainty, as well as a potential risk to the organisations.

Comparative analysis and discussion

Based on this background, the information on how the current farmers’ groups are organised and the SWOT analysis, a comparative analysis and discussion can now be made. This section

summarises key differences identified between the two rice schemes. Aspects addressed in this section feed into the main discussion on how the existing organisations match the outgrower scheme plans.

First of all, there are major differences between the village of Kakora and the village of Misasi in terms of size, population, infrastructure, recent development, institutions, history and ecological, economic and social aspects. All those factors create a certain context in a community and provide different conditions for the farmers living within it. The farmers have to adopt their strategies to the given context and to the conditions which surround them.

Physical differences/aspects: The allocated rice producing area is larger in Misasi and the irrigation system is built of cement, while in Kakora the main canal is formed by tillage of the soil, as can be seen in Figure 9.



Figure 9. Left: Concrete irrigation canal in the rice scheme in Misasi. Right: Soil irrigation channel in the rice scheme in Kakora. (Photo: Agnar Kjeller).

A disadvantage with the irrigation system constructed with cement is higher maintenance costs, as pointed out by the farmers in both Misasi and Kakora. Maintenance and repair of the main canal is one of the greatest challenges and issues for the farmers in Misasi. Due to the unmaintained water canal in Misasi, the distribution of water to the farmers' individual plots is insufficient and ineffective, causing major loss of water and irregular quantity of water provided to the plots. Farmers told us that they have started to repair the canal, but much still remains to be done. Another issue relating to the irrigation system in Misasi is the capacity of the water pump, which apparently is low and unreliable. Money was provided from the District Council to solve those problems, but most of that money was used to repair parts of the main canal and the overall problems with the irrigation system remained.

“The irrigation system only has capacity to transport the water 200 metres. But the distance of the scheme is 480 metres, so a lot of people can't get water to their plots” (interview with a member in Misasi rice scheme, 24 October 2014).

This has also meant that the organisation cannot expand with more members. Land preparation is another reason why the organisation currently cannot allow more members to join. According to rice scheme members interviewed in both Kakora and Misasi, other villagers are already keen to join. Land levelling of the plots is important when producing rice, because water has to be evenly distributed in the plots or otherwise some plants may dry out, which is a problem in Misasi. In Kakora, farmers have managed to build a floating pump station (Figure 10), which was inspired by the EE training team. This prevents the pump from being flooded with water from the river and farmers do not have to keep moving the pump. The water pump capacity was increased when the scheme was moved 100-200 m closer to the river.



Figure 10. A good example of a solution to a problem – the floating pump station in Kakora. (Photo: Agnar Kjeller).

Cooperative and organisational differences: Figure 9 shows an outcome of the different ways in which work is being organised in practice. In Kakora farmers have started working together, doing different tasks together and collectively on the land. The scheme area is not divided into individual plots as in Misasi. In Misasi, however, members of the rice scheme are doing the practical work individually in their own plots, but have specific deadlines for all members by when a certain task has to be accomplished. The major outcome of this is since the farmers in Kakora are doing the work at the same time, the whole scheme area is also cultivated, while in Misasi farmers are in different stages of production, with some plots cultivated and some not. Both systems have their advantages and disadvantages. The system in Kakora demands a more solid teamwork performance and organisational strategies. It also demands that members follow the rules of attendance and have good cooperation, as well as ways to handle potential conflicts. It must be emphasised that farmers in the Bagamoyo area do not have a tradition of working together and being organised in such ways, so such strategies can face social challenges.

It became clear that members of the rice scheme in Misasi are not convinced about working together. According to EE (informal talk, 18 November 2014), farmers in Kakora are now starting to see the benefits of working together, but in Misasi they are “struggling” to make the

farmers realise these benefits, which is a “frustrating situation” for the outgrower team. The EE outgrower team has previous experience of supposedly successful sugar cane outgrower projects in Swaziland, where farmers were organised to work together in groups and start companies. There are several reasons why EE would prefer to see farmers working together in a form based on a company model. One reason mentioned is the costs of production, which EE argues are higher if work is done individually. Another reason is that irrigation and management of water cannot be done individually, and hence it takes an organised collective group to cooperate and work effectively in handling the water. The organisational idea for the outgrower farms (from EE) is to implement farmers’ groups operating as companies. A cooperative model is not likely or desirable, according to EE, which believes that a company model where farmers work together would function more effectively in practice than a cooperative model where farmers grow individually.

“It’s not just about marketing or selling, through a cooperative, it’s about the whole collaboration parts. A company is about establishing an identity” (interview with EE outgrower team representative, 18 November 2014).

Members of the rice scheme in Misasi informed us that when they received support for the scheme and participated in training activities held by the District Council or EE, they were trained to cooperate and work together. According to some members they also tried to do this in their scheme, but it failed, which made them decide to keep growing individually, having their own plots. They are very well aware of the cooperation system used in Kakora, but they were also careful to emphasise that such a system would probably not work in Misasi, even if they were to start producing sugar cane for the EE processing plant. They believe that another cooperation/organisation model is preferable in Misasi. Sometimes, according to the farmers, when there is a special work task such as harvesting, planting or cultivation and when other farmers are “available” and have time, they form smaller groups that work together with those tasks. It is also common for people “outside” the scheme to help members. This may be family members, relatives or friends. Hence being a rice scheme member in Misasi can also mean that other family members can engage in and access the land and production in the scheme.

There are several reasons why the members of the rice scheme in Misasi simply do not believe a company model would work efficiently there. One aspect highlighted, when talking to the farmers, is the difficulties in cooperating with each other. They often argued that it is better that each one has their own land and their own responsibility in taking care of that land, as otherwise problems and conflicts can occur when a member does not take their responsibility or does not attend meetings or important work tasks. Most of the farmers have land in other areas, so it is not obvious that a member can attend or work in the rice scheme all the time.

“If we say that we have to work together there are always people not showing up or not taking responsibility to do the work, that’s why we decided to work in much smaller groups. People

have much do at home and this is sometimes a problem when it's plantation time or harvest time" (interview with a member in Misasi rice scheme, 23 October 2014).

Some of the members interviewed complained that rules and instructions are not always followed and highlighted that not all members are putting the same effort into the work in the rice scheme. They pointed out that conflicts can occur when they decide to work together, but then a member does not show up or the timetable for irrigation is broken. They also pointed out that cooperation and relationships between the members of the scheme are generally good. Farmers are aware how EE would prefer them to work, but they are not convinced that it would work in practice or that everyone would be able to cooperate collectively. Having your own land/plot means that you are "free" (to some extent) to work as it suits you and after your own capability and willingness. There are choices of which days to work, the hours to put in or whether to work by yourself or with help from others. Decision making is eased when there is an organisation that can "help" facilitate the farmers in the rice scheme. The organisation is also a tool for empowerment and to influence other actors or institutions. Furthermore, many farmers use the organisation as a way to get new ideas or to share their own ideas, so it becomes an important meeting point where discussions can be held. They also emphasise that it is easy to get help through the organisation and from other farmers within the organisation. The feeling of not being alone is important.

The rice schemes are essential platforms for the BEE outgrower project.

EcoEnergy uses the rice schemes as a "model" or sources from which other similar farmers' groups in the villages can be implemented. Through the rice schemes, EE can help people understand more about the plans and encourage more people to participate. Through the rice schemes, EE can train and transform farmers and help them understand the complexities (informal talk with EE outgrower officials, 13 November 2014). By doing all this, EE hopes to provide farmers with the right knowhow and conditions to give them a good start when/if they become commercial outgrowers. The EE outgrower team is open about having succeeded more with this plan in Kakora than in Misasi. One reason cited was different mindsets and attitudes between the farmers in Kakora and the farmers in Misasi. Convincing and making farmers cooperate collectively is one of the most challenging tasks they have, since farmers are accustomed to working individually. As stated previously, farmers in Misasi are not keen on working together, for many reasons, and this affects the BEE outgrower plans and how the outgrower farms will be organised. During interviews with rice scheme members in Misasi, I asked if they had any ideas on how they would organise if/when they start producing sugar cane for EE. A difficult question, but this is what one stated:

"I think the best way is that everyone owns their own farm but maybe tends to work together as a group. And maybe some of the profits gained can be put in the organisation and some amount for the members themselves. I think this would be the best" (26 November 2014).

Economic differences: Being part of the rice scheme and producing rice in an irrigated system demands well-functioning cooperation between members and work being organised and accomplished in time. If one member delays a task that should have been done by all members, or misses the timetable for irrigation, this affects the whole group. Different work tasks have different costs, and this explains many of the delays in Misasi. The individual's financial position suddenly becomes very important and even within the scheme there are great economic differences between the members. A majority of the farmers interviewed in Misasi argued that the overall low financial position/capability of farmers was the main reason why the rice scheme was delayed in the first place and why work and problem solving are delayed today. The greatest expenditure they have today is on fuel for the machinery and the running costs of the irrigation system, as well as maintenance and preparation costs.

It should also be borne in mind that the rice scheme has so far not provided members with any economic profits. Added to this, EE provided the farmers in the rice scheme with a small loan which the farmers were unable to pay back within the loan period and are still not able to repay. According to the members of the scheme, EE stopped the funding (the revolving loan deal), which was a major blow for them. As we understand it, EE recently agreed to provide the scheme with new loan, although the old loans have still not been paid back (although they have not been written off). Farmers have been well aware of those loans and told us that they struggled to pay them back. For most of the members the loans were another cost in production, but at the same time a necessary fund to keep production going in the scheme. With only small economic contributions from its members, the organisation has become more or less dependent on external funding and loan dependency, which makes the farmers vulnerable at the same time as it is helping them forward. In parallel with production failure and the absence of marketability and economic benefits, the economic losses have been even larger to some already indebted farmers.

The low financial position of some members was cited by the majority of the members interviewed as the largest challenge and most problematic factor for the sustainability and development of the rice scheme. An interesting perspective highlighted by some informants was when they referred to themselves (members in the rice scheme) as the smallholders in the village of Misasi, compared with other land owners in the village. Many of our informants pointed out that the farmers not participating in the rice scheme do not have to, since they already have enough land, food and income. They argued that the farmers outside the scheme have managed to develop more rapidly due to economic profits, which the farmers in the rice scheme have been unable to obtain. The explanations they gave for the absence of economic profits were basically: insufficient quality of the rice variety they are producing, high costs of maintenance and production (including repayment of loans) and production failure due to delays in essential tasks as a result of economic inequality and effort. These are some examples of reflections expressed by the rice scheme (RS) members in Misasi:

“We who are part of the RS organization are so because we don’t have the same access to different things like water pump, input, labour and so on. We are small-scale farmers” (25 October 2014).

“If we are all to start the water pump together but your fellow doesn’t have any money, the work will be left behind. So what we want is to have money within the organisation so that we together, when harvest season begins, can plough at the same time and do everything at the same time and plant at the same time. Nowadays everyone is using money from their own pockets. That’s why you can see that there are big differences in the rice scheme” (26 November 2014).

And this is what a rice expert employed by EE informed me:

“It is a very big problem that the financial positions of many farmers are very low. In irrigation schemes you have to borrow money, you have to keep up to every activity and follow up. You cannot be left behind. Planting, levelling of the land, weeding and everything you have to do at the same time and have money ready for it, for every operation” (informal talk, Misasi; 26 November 2014).

Obviously there is a clear linkage between the challenges/weaknesses of the organisation, the aspects of cooperation between farmers with economic constraints, and the low financial position of the farmers. However, within the organisation the individual’s financial positions can be very different and vary from farmer to farmer. Some members have larger land areas outside the scheme and others only have the small plot in the scheme. Some farmers in Misasi stated that it is not expensive to participate in the rice scheme, while some members claimed that the costs are too high and they can barely afford them when there are no economic profits gained. Some farmers interviewed, who say that they are active in the scheme, also expressed their frustration and feeling of being “held back” by those who do not have the money to keep the production in the scheme going.

“Some people have money so that we could buy fuel, seeds and fertilizers, but because other people don’t have any money we have to wait. Now we are supposed to have crops in the scheme but the problem is that the majority don’t have any money. So we have to wait until they have money so that we can start to grow together. You can’t farm by yourself in the rice scheme, because of the high costs of operating the machinery for irrigation and everything. So that’s why we have to start together.”(member of the rice scheme in Misasi, 6 November 2014).

The inequalities/differences in financial positions between farmers in the rice scheme entail several challenges and constraints for farmers: the fact that some farmers do not/cannot make regular payments also means that common measures such as maintenance of machinery and the main canal, irrigation and land preparation (levelling) are being left behind. Hence the overall production in the rice scheme becomes delayed. Members claim that it is often the case that joint

investments cannot be made or made in time, e.g. purchase of important assets and tools for production, or fuel to run the irrigation system.

“A big issue is that we have problems with money. Most of the members have no money and then we can't repair or buy things to the scheme, for instant most of time we have problems with the fuel for the machinery.

Sometimes we can't buy any fuel to operate the machinery” (member of the rice scheme in Misasi, 23 October 2014).

These cooperation challenges, as I would like to call it, may give some farmers in Misasi more incentives to work on their own land rather than the commonly „owned“ land in the rice scheme. This would also mean that farmers are keen on working and taking care of their own plots, trying to avoid joint member cooperation practices such as collective farming, based on their own experiences.

Discussion

The main discussion below considers the functions of outgrower schemes and organisation of smallholders, with the focus on the case of BEE. Based on the empirical data describing how the rice schemes are being organised/work with respect to legal status, membership, structure, economy and objectives; their achievements or lack of achievements; the results of the SWOT analysis and a comparison between the two villages with rice schemes, the discussion can now address how these organisations fit with BEE's plans, visions and ways to promote their organisation and the use of land. In light of the EE plans and outgrower scheme objectives, what is the potential of the envisaged transition to commercial farming for the targeted smallholders? and What type of organisational risks and opportunities can be anticipated from the outgrower schemes based on the information and understanding of the existing rice schemes?

From rice to sugar

The interviewed farmers within the rice schemes (perhaps more significantly in Misasi) are finding themselves in a phase where they have no idea when, how or whether the outgrower scheme plans will actually will be realised. The capacity building, training activities, excursions and other information they have been provided with by EE have led to major expectations (Ohlsson, 2015). Nevertheless, many of the interviewed farmers, especially in Misasi, felt insecure about the current situation (what was going on) and thus could or would not answer questions about how they believed a potential outgrower farm could be organised or work in practice in terms of production and cooperation between farmers.

However, a major aspect coming with the outgrower scheme plan, affecting farmers' organisational strengths and weaknesses, as well as their opportunities and risks, is the change of

land use by the introduction of sugar cane production. The change of focus crop from production of rice and other food crops grown in the village to commercial production of sugar cane is a key change in BEE. Although EE have conducted tests showing that soil, environment, water availability and climate in the area are suited for sugar cane production, it can be discussed how well suited the smallholders in the area are for commercial production of this crop. Unlike the outgrower projects in Swaziland and Kilombero, the farmers here have no previous experience of growing sugar cane. None of the farmers interviewed was certain about the practical production methods associated with growing sugar cane, *i.e.* in terms of yield or time until harvest. The majority stated that the outcomes in production of sugar cane will be seen when the production starts. Judging by their experiences, knowledge and traditions, it can be argued that the conditions of producing sugar cane are not nearly the same as for the current production of rice. Rice, as the farmers told us, is what they chose and prefer to grow, and what they have experience and knowledge about. However, production of rice and other food crops is an important component of BEE, mainly for handling risks of food insecurity issues that may arise from production of sugar cane. Production of sugar cane may lead to a reduction in area under other crops, resulting in reduced access to food, as an example from an outgrower scheme in Kenya shows (Appraisal, 2013). Furthermore, the process of commercialisation involving non-food cash crops is impeded by risks and high costs in the food marketing system (Govere *et al.*, 1999: 8). Govere *et al.* (1999) points out that the discussion of cash cropping has generally been based on the direct contribution these crops make to farm incomes, rather than how they affect the productivity of other household activities by reducing the productivity of other crops.

The achievements accomplished so far in the rice schemes have not yet included overall economic benefits for its members and only modest/moderate results in production of rice. It is thus arguably the case that creating a successful business (which is the end product EE are promoting for) with farmers working together with others to establish a commercial outgrower farm and producing a total of 300 000-400 000 ton sugar cane annually (around 15 000 ton per company) is a step currently too far. As can be seen in the SWOT analysis, there are a number of weaknesses and threats of the organisations that have to be addressed in order for them to achieve more successful results. One conclusion reached by Wambura (2010) is to allow farmers' groups to take their time in establishing their organisations. In the Appraisal of the BEE reported to Sida, it is also emphasised that capacity training takes (and should take) time.

There are several arguments why the outgrower plans would benefit from letting farmers establish and develop their current organisations in order to achieve successful results in their rice schemes, including reaching their objective of making an economic profit. This encompasses their organisational structure, cooperation between members, increasing the total production or earning income from selling rice for instance, *i.e.* basically getting more knowledge and experience from running their organisation. The weaknesses and threats are not only constraining tangible results of the rice schemes, but are also aspects that would potentially

affect the outcomes of an outgrower scheme. Therefore we can argue that the potential transformation of smallholders to commercial outgrowers is very uncertain relative to the results and achievements made so far in terms of organisation, production and profits in the rice schemes. Furthermore, the change of crop is another factor of great uncertainty and a potential risk to the organisations.

Independence of organisations

An urgent and essential aspect emphasised in the theory of formal cooperation and in the literature about smallholder cooperation is that the initiative and formation of the organisation must come from the inside (*e.g.* Wambura, 2010). Furthermore, it is central that the purpose and objectives of organising/cooperating suits members' needs and is adapted to their culture and context (Smith & Zopf, 1970). The organisations should be perceived as self-reliant in the sense that they are owned, managed and controlled by their members. Helping smallholders to organise and establish their own formal cooperatives/organisations can serve as a way of empowering them and/or not being overpowered or dependent on external actors. This is a very interesting paradox in the present case and in many outgrower schemes: at the same time that the outgrower programme is emphasising the freedom farmers have in establishing their organisations, it is EE that has initiated, encouraged and pursued the idea. The rice schemes are today theoretically owned, managed and controlled by their members, but the BEE outgrower scheme project is owned, managed and controlled by EE. Moreover, EE is already controlling many of the events inside the rice schemes through: capacity building (which includes sugar cane training), changing organisational structures, changing ways to work/cooperate, facilitating revolving loans, clearly influencing visions and objectives and essentially also changing the focus crop and land use. So it is rather questionable whether farmers are more or less independent now under EE. The theory of cooperation highlights a development risk in external agencies shaping farmers' organisations by their ideas and ideologies.

A key purpose of outgrower schemes is to combat market obstacles by providing/ensuring smallholders with a "secure" market for their produce (Winter & Hamp, 2011). This is potentially also something that smallholders in Misasi and Kakora would benefit greatly from, given their situation as regards market access today. Thus cooperation and contract farming can be an effective way of delivering agricultural services to smallholders, enabling intensification of production and diversification into potentially more profitable cash crops (Coulter *et al.*, 1999). At the same time, the company does not have to invest in land, hire labour or manage large-scale farming operations (Glover, 1984). On the other hand, Levin (1988) states that: Outgrower schemes transfer the major investment burden and risk to the producers, who may be the prime sufferers when world market prices fluctuate. The independence of companies (as stated in the BEE outgrower programme) with respect to outgrower schemes and contract farming is debatable, because it is still the buyers who set the terms, including price. This is a main reason why it is critical to increase farmers' capacity for taking farming as a business, as urged in a report from 2006 commissioned by the Ministry of Agriculture Food and Cooperatives (MAFC)

in Tanzania. It is important to highlight the fact that on the contrary, schemes may risk depending solely on EE. In fact, how can dependence be avoided if EE initiates the organisation, gives the members capacity training and financing and at the same time controls all the terms? It was observed in the present study that the objectives of the organisations in Misasi and Kakora are clearly being influenced by EE. During many interviews, it appeared that the farmers were just copying the vision of BEE and expressing it as their own. From an organisational perspective, it could be problematic if the objectives and visions of a group are governed by someone else, with their own agenda. The individual objectives of farmer members were often to get food and revenue from the rice production and to get money with the purpose of enhancing their life and the life of their family, *e.g.* by paying school fees and costs for the children, which was the most common statement made by our informants. However, it was observed that several measures must be accomplished or clarified before registration of the current rice scheme can take place, such as implementing clear/specific common visions and objectives that also assist in the articulation of their current activities.

Cooperation and outgrower schemes

Nevertheless, organisation/cooperation of farmers is more or less a necessity when it comes to outgrower schemes. It is one of the key features of outgrower schemes and what promotes their increased uptake. The study by MAFC (2006) indicated that where farmers are more organised and financially stable, they do not have to rely solely on inputs from the buyers. Outgrower schemes can also be an important tool/method to increase the power of farmers' organisations, as in the case of the sugar cane outgrower project in Mtibwa Morogoro. Mtibwa outgrowers are smallholders organised into production groups, together constituting the Mtibwa Outgrower Association, MOA (MMA Final Report, 2006). Furthermore, development of groups can enable smallholders to more easily access advisory services, inputs, improve the quality and quantity of their produce, increase their bargaining power with buyers and other actors in society and improve economies of scale (*ibid.*). The organisation of the commercial outgrower farms was one of the questions raised in the Final Appraisal Report to Sida. The Outgrower Programme (2013) states that "smallholders come together and form companies or cooperatives", although companies is the word frequently used throughout the programme to explain the formation of smallholders. Even though EE in theory expresses options for the farmers, it became clear during this study that the company is the preferred organisational structure/form/model when it comes to the formation of the outgrower farms. EcoEnergy's way of promoting and expressing the organisation of smallholders, in the OG Programme and in interviews, is very business minded – a perspective which is far from smallholders' own way of perceiving their work and method of organising. EcoEnergy also encourages farmers to work together in a collective way, rather than having their own plots/land farming individually. It was observed that the independent consultancy firm, in place to assist the outgrowers through capacity development, also strongly emphasised this way of organising farmers, based on its experiences from outgrower projects in Swaziland. In Kakora, it has managed to convince farmers about the benefits of working together, so they are now aiming to register their association as a company, all in line with the

outgrower programme. However, in Misasi this way of organising and working practically does not suit the needs of the smallholders and is now causing concerns and issues for the EE outgrower team. Farmers in Misasi are uncertain and most doubtful that working together, collectively as in Kakora, would benefit them or even function in practice and they have good reason for this. Although they are not sure about the collective farming cooperation (which EE promotes), they still emphasised the importance of having some kind of fully functioning organisation behind them, where common decisions are taken and where they can have a united voice and be empowered.

It can be argued that Misasi uses more non-contractual cooperation, by getting informal mutual aid (*i.e.* from friends, family members or other members in the rice scheme). Kakora, on the other hand, uses contractual cooperation, where only members and hired labour work in the scheme (Smith & Zopf, 1970). The plan for registering the organisations on the basis of a company model, owning and buying shares in the organisation on which profits are distributed, collectively cultivating the land and employing workers is obviously not suited to the social system/organisation in Misasi. The organisational aspects of the outgrower programme should probably be implemented to suit the smallholders, rather than shaping the smallholders to fit into the plan. The current situation features the difficulty of applying a general model of organisation to farmers. Instead, formation of farmers' organisations must adhere to the national legislation, adapted to the local context and to farmers' different perspectives (Wambura, 2010).

Beyond the narrative of turning smallholders into business men

However, a conclusion based on the present SWOT analysis is that the members within the current rice scheme in Misasi struggle with cooperative challenges. Members tend to break rules of attendance, the timetable for irrigation and "deadlines" for work tasks. Ultimately this makes the whole organisation weak. We heard explanations such as "it's because of the mindset of people in Misasi" or "it's because some members are lazy". Some of the members of the Misasi scheme feel that the overall lack of results is because of other members being "lazy", not attending due to personal issues or not having any capital to keep up the activities in the scheme. Those aspects are also their main reasons/arguments for working "individually" or having their own land plot, instead of doing all work tasks together. A problem occurring in collective farming systems can be explained by giving an example of why communal farming did not work out in another case Tanzania. This was because the hardest working and most creative individuals felt their labour was being averaged against that of the laziest and least creative. They ultimately felt exploited and put less effort into the communal enterprise (Maghimbi *et al.*, 2011). There is no doubt that farmers in both Misasi and Kakora see the land in the rice scheme as being government land allocated to them for a collective/communal purpose. This may affect the efforts farmers put into this land. We discovered that the majority of the rice scheme members have land in other areas. We also discovered that some members simply choose to put more effort into their own land that they have outside the scheme. Other disincentives to members putting the required effort or participation into the rice scheme are high costs,

insufficient results and no economic benefits here. From EE's point of view, it is important to control who is participating in the production and the commitment towards the required quality of the produce. In a cooperative scheme or in a scheme using informal cooperative strategies (*i.e.* mutual aid), however, members must be allowed to enter or withdraw from the production, which adds other problems for the „main farm“ (EE in this case) such as assuring the quantities and quality of the produce. The required guaranteed supply of 300 000-400 000 ton sugar cane per year may in that case be highly uncertain to be reached. Another reason for the cooperative issues constraining development of an effective organisation and more tangible results is economic differences/positions between members within the organisation. Some farmers may have much more external land and thus earn more than other members. We interviewed farmers who felt that it was very expensive to participate in the rice scheme and farmers who told us that it was not expensive at all, but that work and investments are not being done in time because of other members not having enough money. This is a reality on the ground, beyond the narrative of transforming farmers into business men. Other examples of outgrower schemes show that contract farming has benefited certain smallholders, generated rural differentiation and in cases enabled local capital accumulation to take place in a variety of ways (Levin, 1988). Evidence from Kenya shows that outgrower schemes there led to significant levels of capital accumulation, benefited sections of the peasantry and led to increased social differentiation (*ibid.*).

Knowing that a majority of smallholders struggle with capital and credit and at the same time have struggled with loan repayments to EE, concerns should be raised regarding whether the commercial loan of approximately 800 000 USD per „company“/outgrower farm planned in the outgrower programme for investments and initial operation costs is realistic. Again, based on the achievements/results so far in the rice schemes and on the risks and weaknesses of the current schemes as presented in this thesis, it can be argued that such a large sum is out of proportion to the present turnover of the rice scheme farmers and their management capacity.

Conclusions

- The outgrower development programme for the EcoEnergy project in Bagamoyo should emphasise the establishment/organisation of farmers in relation to the context of the given place. It is difficult to use a generalised development model that will fit each case. If the project is to have value for the rural people in the region, the plans must be meaningful *to them* and fit harmoniously into their pattern of life. We found that there are several aspects of the current outgrower plans that do not fit easily into the rice schemes and the life of the smallholders: *i.e.* farming cooperation/collaboration or collective farming (Misasi), change of crop to one of which the farmers have no previous experience and disproportionately huge loans for investment and initial operation of the outgrower farm.
- Education and training (capacity building) have been valuable for the farmers. They are using many of the skills gained through participation in training activities; solving problems and rethinking strategies, rice production and farming techniques, and management and leadership.
- Differences in access to economic resources (social differentiation) between farmers within the rice scheme in Misasi result in loss of production because of inadequate funds for operating and maintenance costs and tensions between the farmers. This undermines the cooperation between farmers in the scheme. It also indicates that it may be more difficult to include farmers in lower economic strata in the scheme, which thus mainly has the potential to benefit the more well-off farmers. This is a commonly found aspect of agricultural development interventions.
- As the results in this thesis show, there are striking differences between Misasi and Kakora with respect to village size, infrastructure, environment, history, traditions and possibly also smallholders' attitudes. Therefore it is important that the potential organisation of smallholders is flexible and adjusted so that the scheme fits into their context.
- The change of focus crop initiated by BEE is a factor of uncertainty and potential risk (weakness/threat) for the existing rice schemes. Examples from other sugar cane projects show that sugar cane production may have spill-over effects, resulting in lower production/productivity of food crops. Lack of experience or knowledge of sugar cane production among the smallholders is another major uncertainty in this respect.
- A key outcome of the present analysis is the risk of dependence on EE; rather than promoting independent farmers' organisations that are self-reliant by being owned, managed and controlled by their members, the visions and objectives of the planned outgrowers

organisations are today already being heavily influenced and determined based on the plans of EE. To avoid dependence, members should be allowed to fashion the organisation that best suits their needs.

- The theory of cooperation and rural development often emphasises the issue of group formation, whether the initiative of forming the group comes from the inside or outside. However, in the case of the rice schemes in Misasi and Kakora, it is not clear where the initiative actually came from and where decisions and other cooperative initiatives come from today. What is clear is that the groups have been, or are being, affected by outside actors such as Tanapa (in Misasi), the DADP/District Council and EE. However the reality is complex; some of the external factors function well (training for instance) and some do not (the rice variety grown, for instance). The same applies for internal factors. Overall, however, members must accept the organisation and its regulations if it is to succeed.

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