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Johanna Myllyniemi

MONITORING AND EVALUATION OF SUSTAINABLE FOREST USE AND FOOD SECURITY PROJECT IN ZANZIBAR

TURUN AMMATTIKORKEAKOULU
TURKU UNIVERSITY OF APPLIED SCIENCES

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Instructors: Sirpa Halonen, Jari Hietaranta

Author: Johanna Myllyniemi

TURUN AMMATTIKORKEAKOULU THESIS

This thesis concerns monitoring and evaluation of Sustainable Forest Use and Food Security (SUFO) project in Zanzibar, Tanzania. The project promotes protection and sustainable use of Kiwengwa-Pongwe Forest Reserve and improves food security in the area by supporting and developing livelihoods of production groups from surrounding villages, and by organizing training and initial investments for starting with new livelihoods. The aim is also to improve the capacity of a local community forest conservation network. The thesis also examines the effects of project-associated agroforestry training on the beneficiaries' farming practices and environment.

Agroforestry refers to cultivation of trees and food crops and livestock breeding in the same land area simultaneously or sequential. A well-implemented agroforestry system is beneficial not only for the environment and biodiversity, but also for the economy of the implementing farmer, also taking the social and cultural dimensions of sustainable development into account. Monitoring and evaluation are essential tools especially in development cooperation projects. Continuous monitoring is implemented to keep up with progress of a project and the execution of its activities, while evaluations are performed less frequently and by analyzing the outputs, achievements and problems more thoroughly. Appropriately implemented monitoring and evaluation allow for a successful and effective implementation of a project.

Monitoring of SUFO project was conducted by interviewing the 27 livelihood groups in Zanzibar in December 2014 – January 2015. The semi-structured interviews aimed at examining the situations of the groups, the volume of their production and income, and their opinions concerning for instance the trainings, environmental protection and the groups' future. In addition, the local community forest conservation network was interviewed. The interview material was analyzed for this thesis using a qualitative method: data-based theme identification. Empirical data of the agroforestry study was collected in the same interviews, and also analyzed by using theme identification.

As a result, the implementation of the project's outputs and achieving of the objectives in 2014 are evaluated, and suggestions for corrective measures presented. The outputs have mostly been executed according to the project plan, but full achievement of some broader goals is still halfway. The final project year 2015 should further strengthen the success and sustainability of SUFO project.

KEYWORDS:

Development cooperation, agroforestry, project, monitoring, evaluation

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METSÄNSUOJELU- JA RUOKATURVAPROJEKTIN SEURANTA JA ARVIOINTI SANSIBARILLA

Tämä opinnäytetyö käsittelee Sustainable Forest Use and Food Security (SUFO) -kehitysyhteistyöprojektin seurannan ja arvioinnin toteuttamista Sansibarilla, Tansaniassa. Projekti edistää Kiwengwa-Pongwen metsäalueen suojelua ja kestävää käyttöä sekä parantaa ruokaturvaa tukemalla ja kehittämällä metsää ympäröivien kylien asukkaiden elinkeinoja sekä järjestämällä koulutusta ja investointeja uusien elinkeinojen aloittamista varten. Myös paikallisen metsänsuojeluyhteistyöverkoston kapasiteettia pyritään vahvistamaan. Opinnäytetyössä tutkitaan myös hankkeeseen liittyvän peltometsäviljelykoulutuksen vaikutuksia hyödynsaajien viljelykäytäntöihin ja -ympäristöön.

Peltometsäviljely, jolla tarkoitetaan puiden, ruokakasvien ja karjan kasvattamista samalla maa-alalla samanaikaisesti tai peräkkäin, on hyvin toteutettuna niin ympäristön ja biodiversiteetin kuin toteuttajansa taloudenkin kannalta edullinen viljelytekniikka, joka ottaa huomioon myös kestävän kehityksen sosiaalisen ja kulttuurisen ulottuvuuden. Seuranta ja arviointi puolestaan ovat keskeisiä työkaluja etenkin kehitysyhteistyöprojekteissa. Jatkuvan seurannan avulla pysytään selvillä projektin kulusta ja sen aktiviteettien toteuttamisesta, kun taas arvioinnit suoritetaan harvemmin ja niiden avulla pureudutaan syvemmin projektin toimintaan, saavutuksiin ja ongelmiin. Tarkoituksenmukaisesti toteutetut seuranta ja arviointi mahdollistavat onnistuneen ja vaikutuksiltaan tehokkaan projektin.

SUFO-projektin seuranta toteutettiin haastattelemalla hyödynsaajiin kuuluvat 27 elinkeinoryhmää Sansibarilla vuodenvaihteessa 2014-2015. Puolistrukturoiduilla haastatteluilla selvitettiin ryhmien tilannetta, tuotanto- ja tulomääriä, mielipiteitä mm. koulutuksiin, ympäristönsuojeluun ja tulevaisuuteen liittyen. Myös paikallinen metsänsuojeluyhteistyöverkosto haastateltiin. Opinnäytetyötä varten haastatteluaineisto analysoitiin kvalitatiivista menetelmää käyttäen: aineistolähtöisesti teemoittelemalla. Peltometsäviljelytutkimuksen empiirinen aineisto kerättiin samoissa haastatteluissa, ja sekin analysoitiin teemoittelemalla. Tuloksissa arvioidaan projektin aktiviteettien toteutumista ja päämäärien saavuttamista vuonna 2014 sekä esitetään korjausehdotuksia. Pääsääntöisesti aktiviteetit on järjestetty suunnitelman mukaan, mutta laajempien päämäärien täydellinen toteutuminen on vielä suunnilleen puolitiessä. Viimeinen projektivuosi 2015 vahvistanee SUFO-projektin onnistumisen ja kestävyyden.

ASIASANAT:

Kehitysyhteistyö, peltometsäviljely, projekti, seuranta, arviointi

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All photographs in this thesis are taken by the author.

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LIST OF ABBREVIATIONS AND SYMBOLS

BS	Baseline survey
CO_2	Carbon dioxide
CoFMA	Community Forest Management Agreement
DFNR	Department of Forestry and Non-Renewable Natural Resources
FAO	Food and Agriculture Organization of the United Nations
FCC	Forest Conservation Committee
GAP	Good Agricultural Practice
GDP	Gross Domestic Product
K-P CFCN	Kiwengwa-Pongwe Community Forest Conservation Network
MDG	Millennium Development Goal
MFA	Ministry for Foreign Affairs of Finland
MfDR	Monitoring for Development Results
NGO	Non-governmental organization
RBM	Results-Based Management
REDD	Reducing Emissions from Deforestation and forest Degradation
RGoZ	Revolutionary Government of Zanzibar
SUFO	Sustainable Forest Use and Food Security project
TGS	The Geographical Society of Turku
UN	United Nations
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNEG	United Nations Evaluation Group
UNEP	United Nations Environmental Programme
ZGPRS	Zanzibar Growth and Poverty Reduction Strategy

1 INTRODUCTION

Sustainable Forest Use and Food Security (SUFO) project is a development cooperation project working in Zanzibar, Tanzania. Twice every year two project volunteers from The Geographical Society of Turku travel to Zanzibar in order to conduct the monitoring of the project. The author of this thesis has been volunteering for the project for over two years, since the beginning of the project, however not taking part to the planning phase of the project. Carrying out the project monitoring and evaluation together with the various tasks linked to them was an opportunity that did not have to be thought about for long. Writing a bachelor's thesis about the volunteer work carried out in Zanzibar proved to be possible if a small, separate study would also be produced, since the monitoring was carried out by two volunteers instead of the author alone. As a result, this thesis also includes research on project-linked agroforestry practices and their impacts, an appropriate topic that was chosen following the lack of studies about the topic located in Zanzibar, and the personal interests of the author.

The monitoring of SUFO project took place during December 2014 and January 2015 in Zanzibar, Tanzania. It included reviewing the activities executed in 2014 with the project partner, Department of Forestry and Non-Renewable Natural Resources, and interviewing the project's beneficiaries. The so-far state of achieving the project objectives was evaluated, based mostly on the information gathered in the interviews. Also the corrective measures that are needed in order to fulfill the objectives were discussed. The results were written into a monitoring report shortly after the monitoring trip. This thesis naturally deals with the same questions, but complements the report by scientifically analyzing the data and evaluating the agroforestry practices. Thus, this thesis is a work of its own despite the results including similar elements as the monitoring report, and it aims at fully reporting and clarifying the project outputs and objectives chosen to be concerned in this thesis.

Four research questions were determined in order to help with structuring and effectively processing the collected information, the last one concerning the additional agroforestry study, and these questions will be answered in this thesis. The research questions were following:

1. *How have the project activities planned for the year 2014 been executed?*
2. *How have the project objectives mentioned in the SUFO project application been achieved so far?*
3. *What kind of corrective measures are needed to achieve the objectives?*
4. *How has the organized agroforestry training affected the farming methods of the groups who attended the training, and have the possibly changed farming methods affected the water and/or soil conditions on the plot?*

Working with this thesis has been rewarding. It has opened a view into the previously hidden world of research and taught a great deal about development cooperation, agroforestry and the other topics included. The path may have seemed never-ending from time to time, but it is only at the end of the road when one can turn around and, in retrospect, see how fulfilling it actually was. Writing this thesis has been a useful and interesting way to have a broad look back at all the things learned during these four years of studying in Turku University of Applied Sciences and volunteering for SUFO project, but it is now time to turn onto a different road and continue towards new challenges with international development cooperation.

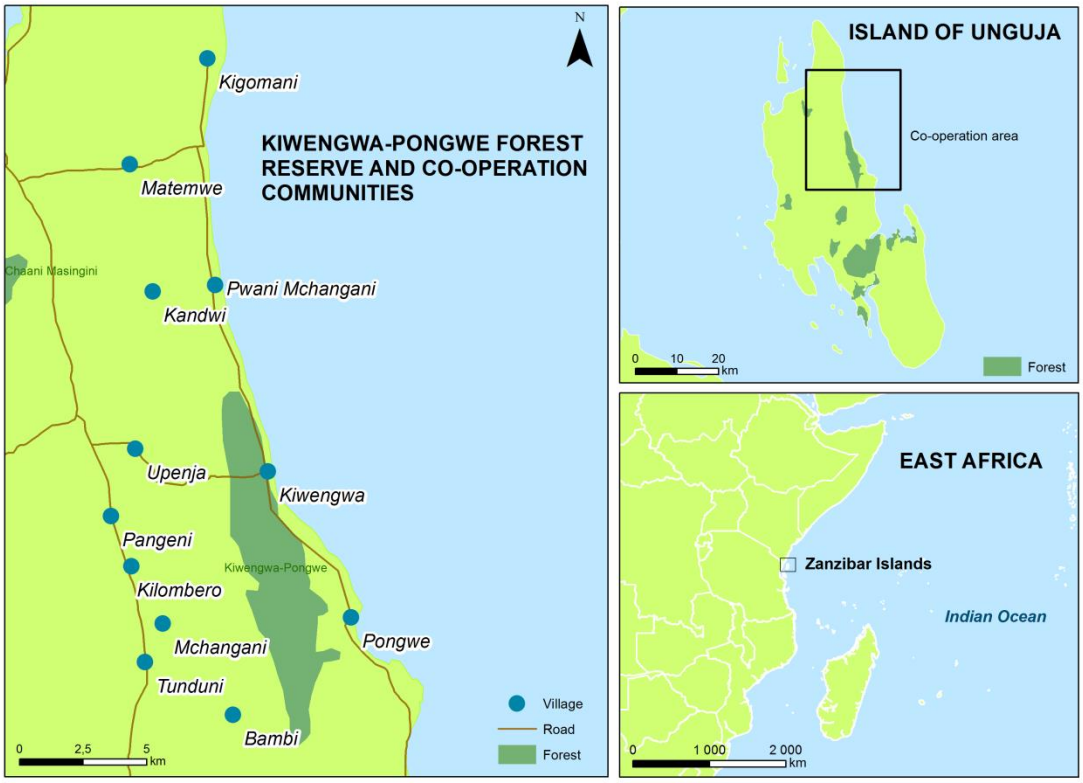
2 SUFO PROJECT

Sustainable Forest Use and Food Security (SUFO) project is a development cooperation project between a governmental department – Department of Forestry and Non-Renewable Natural Resources (abbreviated as DFNR) in Zanzibar, Tanzania, and a Finnish non-governmental organization – The Geographical Society of Turku (abbreviated as TGS). The project is running for three years during 2013-2015. Ministry of Foreign Affairs of Finland is the prime financier of the project. (TGS 2015.)

SUFO project is working in 11 village communities surrounding the Kiwengwa-Pongwe Forest Reserve on the northern part of the Unguja island in Zanzibar. Picture 1. shows a map of the area. The aim of the project is tackling the unsustainable forest use and food insecurity troubling the area through livelihood development and diversification, and increasing the production and income of the 27 livelihood groups supported by the project, who are its main beneficiaries. These livelihood groups are a kind of unofficial cooperatives founded by the villagers for working together and sharing the responsibilities and yields of their production. Most of the livelihood groups consist of both women and men, but some have solely women as members. A few have been working together for decades while others are newly established. They are participating in SUFO project in order to develop and diversify their respective livelihoods which vary from farming, agroforestry and tree nurseries to dairy goat breeding, seashell farming, beekeeping and restaurant business. (TGS 2015.)

The project is organizing trainings and giving advice, but also helping with initial investments and offering materials such as farming tools for the groups that are hoping to develop their livelihoods. The project is also building fuel wood saving stoves, raising environmental awareness and supporting tree planting activities and establishment of tree nurseries (Karppinen & Viitaniemi 2014, 2). The project's underlying intention is to diminish the villagers' dependency on the protected and degrading forest resources and to strengthen alternative and sustainable means of generating income in order to conserve the forest. The 11

communities are the end users of the livelihood groups' products and provide unofficial but important approval and support for the implementation of SUFO project. (TGS 2015.)



Picture 1. Kiwengwa-Pongwe Forest Reserve and the cooperation villages. (tms.utu.fi/sufo.)

2.1 SUFO cooperation partners

The Department of Forestry and Non-Renewable Natural Resources (DFNR) is working under the Ministry of Agriculture and Natural Resources of the Revolutionary Government of Zanzibar (DFNR 2015). The project coordinator from DFNR has the topmost responsibility and decision power for the project activities in Zanzibar. The aims of DFNR are to conserve, protect and develop forest resources for the present and future generations of people of Zanzibar according to the principles of sustainable development, simultaneously working to secure the market supply of wood and other forest resources. DFNR and its staff are experts in the protection guidelines and best practices in forestry,

conservation and rural conditions in Zanzibar. They are organizing activities concerning forest use, management, protection and ecotourism. DFNR collaborates with local NGOs and establishes Community Forest Management Agreements (CoFMAs) with local communities. Furthermore, the organization has an own team for the Kiwengwa-Pongwe Forest Reserve area and they are working in close cooperation with the local communities. (TGS 2012, 11.) Departments of Agriculture and Food Security can also provide technical assistance and trainings, and expertise on for instance crop or pest management, whereas district forest and agricultural officers facilitate meetings and provide assistance for agroforestry and tree planting activities (TGS 2015).

Other cooperation parties and project stakeholders in Zanzibar include the Forest Conservation Committees (abbreviated as FCC's) and their young umbrella organization Kiwengwa-Pongwe Community Forest Conservation Network (abbreviated as K-P CFCN) which was registered in 2013 as a non-governmental organization. The FCC's consist of community members and they work on grassroot level in the villages surrounding the Kiwengwa-Pongwe Forest Reserve. The tasks of the FCC's are planning, implementing and managing the actions concerning community forests and reporting to DFNR about tree planting activities. In addition, they contribute as a link between DFNR and the villagers and take their opinions to national level. FCC's also organize environmental awareness-raising in the communities. K-P CFCN was established to enhance the collaboration between the FCC's and other actors and to make the planning and management of community forests more comprehensive. Capacity building of K-P CFCN belongs to SUFO project's goals. (TGS 2015.)

In Finland, the members of TGS contribute to the project on a voluntary basis. The volunteers monitor the project in Zanzibar two times per year and work with fundraising and publicity mainly through different events in Finland. The project coordinator from TGS is responsible for these and the activities of monitoring and reporting in Finland. TGS is an independent scientific association that is promoting geographical research and bonding researchers of Turku region. It

works in close collaboration with the Department of Geography and Geology at the University of Turku, where the activities are mostly arranged. The department has a long history of research cooperation in Zanzibar, SUFO being the third development cooperation project between TGS and a partner from Zanzibar. (ibid.)

2.2 Zanzibar, Tanzania

Zanzibar is an archipelago in East Africa, located on the southern side of equator in the Indian Ocean, some 40 kilometers from the coast of Tanzania. The Zanzibar archipelago includes two main islands, Unguja (also referred to as Zanzibar) and Pemba, together with 14 smaller islets. The capital Zanzibar Town is located on the west coast of Unguja. Climate is humid and tropical year round, and affected by the monsoon system. Zanzibar has two rainy seasons annually, the longer one, *masika*, usually taking place from March to June. (Himberg 2010, 5-7.) Farming is prominently dependent on rains and concentrates around these two seasons, but only every third household is cultivating during the shorter period of rains (TGS 2012, 9). The western side of Unguja island is mostly deep soil area dominated by agroforestry systems, cultivated open fields and village settlements, whereas northern, southern and eastern parts of the island are mostly covered by indigenous coral rag forests, scrublands and rural village settlements where shifting cultivation is a common form of farming (Käyhkö et al. 2011, 28).

The archipelago has a colorful history of trading spices and ivory, and it has been affected by sultans, slaves and pirates. International trade is also the reason for the current population of approximately 1 303 000 being ethnically diverse – it is a mixture of not only peoples of African mainland origin, but also Arabs, Indians, Persians and Europeans have settled on the islands (TGS 2015). 69 percent of the population lives in Unguja and the remaining 31 percent in Pemba (Karppinen & Viitaniemi 2014, 8). The main languages include Swahili, English and Arabian, of which Swahili is the most used language whereas English is mainly spoken in urban areas. Arabic is used in

religious contexts: over 99 percent of Zanzibaris are Muslims (CIA 2015). Zanzibar was an independent state in 1963 and the next year it united with Tanganjika, forming the state of Tanzania. Today Zanzibar is a semi-autonomous part of Tanzania with its own government deciding about Zanzibar's affairs with the exceptions of defense and foreign policy. (Siitonen 2010, 36.)

Zanzibar is amongst the most densely populated rural areas in the world with an average population density of 382 inhabitants per square kilometer (Himberg 2010, 11). The population is also growing at an annual rate of 3,1 percent, and these aspects have significant impact on the islands (TGS 2015) together with the history of wide changes in land use (Käyhkö et al. 2008). The landscape has transformed from one occupied by tropical forests and woodlands into a predominantly agricultural landscape (TGS 2015). Picture 2. presents a typical view from a rural village in Zanzibar.

Picture 2. A typical view from one of the project villages.

Tanzania is one of the poorest countries in the world with a GDP of 1900 USD per capita (2014 estimate) (CIA 2015). On the other hand, the nation's economy is growing at a speed of 7 % per year (2013 estimate) (ibid), which is faster than

the growth rate of India's economy (UNECA 2014, 13). Despite this growth, 50,5 % of Zanzibar's population is living below the basic needs poverty line, which means not being able to meet one's basic needs while living on less than 20 185 TZS (approximately 9 EUR) per a 28 day period (ILO 2010 in Karppinen & Viitaniemi 2014, 8). Tanzania is the oldest development cooperation partner of Finland and the greatest receiver of overall development aid. Forest management was the first area of development cooperation and the beginning of environmental cooperation. The focus has later shifted towards developing land and environmental management (Sitari 2010, 43).

The economy of Zanzibar is dominated by primary production: subsistence farming and livestock keeping together form over a half of the archipelago's GDP. Farming is the main livelihood for 70 percent of rural dwellers and fishing for 25 percent, since employment is limited. Few products are being sold and income is often spent on food. A great share of studied households in the Kiwengwa-Pongwe area are living significantly below the poverty line: in 2011 they estimated their annual monetary income being 28-166 EUR per year, but most are practicing subsistence farming. Approximately half of Zanzibar's population use wells while the other half has access to piped water. (TGS 2012, 9.)

Clove and coconut products have traditionally been the most prolific export crops of Zanzibar, but the production of cloves has diminished prominently. The significance of tourism for the economy is increasing (TGS 2015). Traditional food crops include cassava, sweet potato, cooking banana and rice, the latter being mostly exported abroad (Himberg 2010, 12). In contradiction, the food production covers only 50,1 percent of Zanzibar's food supply, the other half being imported (TGS 2012, 9). Rising prices limit access to food and as a result, 16 percent of the rural population lives below the food poverty line (TGS 2012, 9; Karppinen & Viitaniemi 2014, 8). This means living a 28 day period with less than 12 573 TZS (approximately 5,60 EUR) (ibid). Moreover, 16 percent of Tanzanian children are underweight, which on its part indicates malnutrition being common (CIA 2015).

2.3 Zanzibar's forests

Zanzibar's forests can be divided into five main forest land use classes: coral rag forests, agroforestry systems, mangrove forests, mixed woody vegetation and government plantations, but valuable tree species are found also around settlements and on agricultural lands (MFA 2010, 3-4). Wood for cooking fuel and building material are the most demanded forms of forest resources, but clearing forest for shifting cultivation, other agricultural use or for mining are also common (TGS 2015). In addition, Zanzibar's forest resources contribute towards tourism, fodder, water catchments, shelters for wildlife, and estuaries for fish breeding areas (MFA 2010, 4). Pressure on the forest resources is high due to the dense population and will increase with the growing number of inhabitants that lack opportunities for sustainable livelihoods and the growing number of tourists. Food insecurity is also an issue threatening the people's right to food for the same reasons: scarce land, population density and growth (Karppinen & Viitaniemi 2014, 9). Agroforestry and slash and burn farming operated by the local communities create "a complex and dynamic land cover mosaic of indigenous scrub and forests, settlement, cultivation and fruit tree plantations" (Commission for Land and Environment, 1995; Krain, 1998 in Käyhkö et al. 2011, 28).

The forests of Zanzibar are diminishing at a rate of 1 % per year, and the remaining forests are more or less fragmented (TGS 2015). Forest degradation is not the only issue, since uncertainty of forest land tenure and ownership is also common. Coral rag areas and mangrove forests are the most substantial forest types and accordingly they are facing the widest deforestation and forest degradation (MFA 2010, 4). Almost 12 000 hectares of Zanzibar's forests are protected, but illegal cutting and poaching are still commonly existing problems (TGS 2015).

The government of Zanzibar has tried to tackle the problems also by tree plantation campaigns starting from the 1980's. *Acacia auriculiformis* and *Casuarina equisetifolia* are among the exotic tree species recently introduced to the islands (ZFDP 1997 in Käyhkö et al. 2011, 28), and they are the most

common farmed tree species amongst the livelihood groups involved in SUFO project as well. Acacia is a drought tolerant and multipurpose but invasive species native to Oceania, and it is farmed widely in the tropics. Acacia grows in most habitats but prefers deep soils over the coral rag. A 2008 study suggests that it is starting to invade ecosystems in Zanzibar (Kotiluoto et al. 2008, 77). However, it is a productive and nitrogen-fixing tree species thus providing many benefits. In forest areas the invasion rate was lower than in other ecosystems, but in the future it could cause harm to the island's indigenous ecosystems. (ibid.)

2.4 The project area

Kiwengwa-Pongwe Forest Reserve is the last remaining high-growth forest area in the northern part of Unguja island, and SUFO project is operating in 11 villages surrounding it. The reserve has been conserved since 2002, and it, together with uncontrolled tourism, limits the local communities' access to forest resources and land without offering substantial benefits. CoFMAs exist in many villages, but the implementation level varies. (TGS 2012, 9.) Zanzibar's governmental Department of Commercial Crops, Fruits and Forestry has established a Long Term Forest Master Plan in order to improve the situation (MFA 2010, 4).

Agricultural machinery is scarce and work is for the most part done by hand tools. Soil conditions are different on the eastern and western sides of the Kiwengwa-Pongwe Forest Reserve. On the eastern side the soil is predominantly coral rag with little rainfall and nutrients. Farming is difficult and mostly done by fast-rotating shifting cultivation, which is a threat for the existence of high forest. (TGS 2012, 9.) Due to the scarce land, most forestry activities are carried out on coral rag regions. Coral rag is characterized by thin layers of soil in coral outcrops and a low production rate. (MFA 2010, 3.) On the other hand, the western side of the Forest Reserve is a deep soil area thus being more suitable for farming with abundance on nutrients and rainfall. The cultivation is rotating on the already established farm lands. (TGS 2012, 9.)

The village communities are Islamic and patriarchal with the daily activities being highly gender-divided. The status of women and girls is rather low, but the ownership of resources is more or less balanced between sexes. Education level is low and especially older women are often illiterate. It is common that youth migrate to the town in search of education and work. Zanzibar Town is relatively close and the main roads are good, but the communities lack means of transport. (ibid.)

2.5 Development strategies in the project area

2.5.1 Millennium Development Goals

Finland is committed to the Millennium Development Goals of the UN that work as a base of Finland's development policy. SUFO project supports the following three MDG's, listed by the UN (UN 2015):

1 – Eradicate extreme poverty and hunger

3 – Promote gender equality and empower women

7 – Ensure environmental sustainability

MDG number one, "Eradicate extreme poverty and hunger", has globally been already met (UN 2015), but in Africa, excluding North Africa, the target of halving the number of people living on less than 1,25 USD per day will most probably not be met by 2015. The total number of Africans (excluding North Africans) living below the poverty line is increasing despite the decrease in percentage: in 1990 there were 290 million living below the poverty line and by 2010 the amount had risen to 414 million. Over the same time, the extreme poverty rates dropped by 8 percentage points. Tanzania is one of the four countries that together account for 52 percent of the poor people of Sub-Saharan Africa. The rapid economic growth of the nation has failed to enhance the living conditions of its people. (UNECA 2014, 12.)

SUFO project promotes the third MDG of gender equality and empowering of women by supporting livelihood groups that have women as active members

and facilitators. Most of the supported groups have female majority with only a few groups having more men than women, and five groups consisting solely of female members (Karppinen & Viitaniemi 2014). The employment of women in non-agricultural sectors is lower in Africa than in the rest of the world, however there is lack of recent data from Tanzania. The society forms restrictions of women's opportunities and salary thus limiting the number of women partaking in the labour market. This affects the economy and its productivity in a negative way. According to UNECA, "women's labour market participation and access to particular jobs are constrained and shaped by patriarchal power" in many African countries. (UNECA 2014, 48.) SUFO project is educating women on topics related to their daily economy and income generating activities, and supporting them with their livelihoods. The beneficiaries include unmarried, widowed, divorced and disabled women, and the majority of them are 31 to 50 years old. 18,5 percent are 19 to 30 years old and 12 percent over 51 years old. The project's stakeholder organization K-P CFCN has only one woman in its leader board. (Karppinen & Viitaniemi 2014.)

The project is also promoting the seventh MDG, "Ensure environmental sustainability". Tanzania has increased its protected terrestrial and marine areas from 26,4 % of total territorial area in 1990 to 31,66 % of total territorial area in 2012, and has on its part achieved the goal of having at least 10 percent of total territorial area protected. Africa produces only a small fraction of the greenhouse gas emissions of the world, but it is responsible for 20 percent of global net CO_2 emission land use, which means the emissions that are a result of changes in land use. In Tanzania, the total CO_2 emissions have doubled from 1990 to 2010 even though they still are marginal. (UNECA 2014, 76.)

2.5.2 Zanzibar Strategy for Growth and Reduction of Poverty

The Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP II) 2010-2015 is supported by SUFO project on behalf of growth and reduction of income poverty, social services and well-being together with improved food and nutritional security (RGoZ 2010). The ZSGRP was launched after the Zanzibar

Development Vision 2020 was created by the Revolutionary Government of Zanzibar (RGoZ) in the year 2000. Overall the Vision 2020 focuses on achieving human development that is sustainable, through increased agricultural productivity. It also aims at improving food security and export of agricultural products and thus farmer income (RGoZ 2008, 16).

The ZSGRP lists issues that act as restrictions for reducing poverty and food insecurity. These matters are the cause of low capacity for implementing the policies and programmes that have been designed for improving the situation in Zanzibar, and include ”inadequate technical expertise, low capacity for financial planning, inadequate management skills, insufficient financial resources and lack of adequate tools to manage and control the development process”. SUFO project is tackling these issues on the village level thus increasing the capacity for agricultural and social development. (RGoZ 2010, 24.)

The ZSGRP emphasized the relation between the improvement of food security and nutrition with the reduction of poverty and suggested generating a policy for food security and quality (RGoZ 2010, 19, 57). In 2008 the RGoZ launched the Zanzibar Food Security and Nutrition Policy, which aims at highlighting the problems in food security and nutrition and at identifying and prioritizing the population groups that suffer from food insecurity and are the most vulnerable (RGoZ 2008, 19). However, the ZSGRP does not sufficiently take into account environmental issues and natural resource use. SUFO project is improving the food production of its stakeholders and promoting dynamic cultivation techniques such as agroforestry together with Good Agricultural Practices (GAPs).

2.5.3 UN REDD Programme

The United Nations REDD Programme is a collaborative initiative on Reducing Emissions from Deforestation and forest Degradation (REDD) in developing countries. It is based on three parts of the UN: the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP).

The programme includes 56 partner countries and supports the nationally led REDD+ readiness measures by directly supporting the planning and implementation of the UN REDD National Programmes and by supporting the national REDD+ actions. These include common approaches, analyses, methodologies, tools, data and best practices for reducing emissions from deforestation and forest degradation. Tanzania is one of the countries with a REDD National Programme and SUFO project is supporting the programme's objectives. (UN-REDD Programme 2015.)

3 MONITORING AND EVALUATION

Achieving global development is a multi-faceted and complicated task, and it is commonly seen that it needs a variety of different plans, programmes, strategies and projects to happen. The quality and effectiveness of these development initiatives is as important, if not more important than the scale and financial matters, for the success of these initiatives. The UNDP suggests that more attention should be paid to four areas in order to enhance performance of development projects and programmes, and one of them is monitoring and evaluation (UNDP 2009, 7). This chapter provides a brief introduction into the topic that is covered in dozens of publications several hundred pages long, concentrating on the most relevant forms of monitoring and evaluation.

3.1 Defining monitoring and evaluation

Monitoring and evaluation of the effectiveness of a development initiative such as a cooperation project is an integral part of its successful implementation. It is the starting point of needed mid-course corrections in a project (Kusek & Rist 2004, 12) or future planning of a program (UNDP 2009, 5). Monitoring and evaluation enable the involved actors to check if the work is going in the right direction, to assess the made progress and to improve the performance in the future. Monitoring and evaluation should always be integrated in the project design process and planned simultaneously (UNDP 2009, 83). The term ’monitoring and evaluation’ is widely used to describe a whole host of different measuring methods or assessment strategies of learning from many kinds of development actions. There are three terms that can be separated from each other by their purpose, level of analysis and timing: ‘monitoring’, ‘evaluation’ and ‘impact assessment’. The differences are presented in the following Table 1. (Pasteur 2014, 1.)

The UNDP (2009) defines monitoring as ”the ongoing process by which stakeholders obtain regular feedback on the progress being made towards achieving their goals and objectives.” Similarly, Table 1. by Pasteur (2014, 1) suggests monitoring to be ”continuous assessment for determining the progress

to goal". Also a Finnish development association, Kehitysyhteistyön palvelukeskus Kepa ry, defines monitoring as continuous and systematic data collection and analysis of a project and its environment (Kepa ry 2015). Monitoring focuses on targeted inputs and outputs, and the planned activities in between them on a practical level (Pasteur 2014, 1). The follow-up is done to assess and evaluate if the goals of the project will be achieved, and to be aware if the development is happening in the intended direction. Monitoring also reaveals which components of the project are working and which are not (Kepa ry 2015). It is extremely important to review the actions and strategies done by partners and other actors, and to figure out which of them are needed in order to achieve the objectives, thus not only concentrating on the use of resources and immediate outputs (UNDP 2009, 134).

	Monitoring	Evaluation	Impact assessment
Purpose	Systematic / continuous assessment to determine progress to goal	To review extent to which objectives achieved as anticipated. Supply lessons learned to improve future actions, planning and decision making.	Systematic analysis of significant change (positive or negative) lasting or not, brought about by a given action or series of actions
Timing	Systematic / continuous	Periodic. Often mid-way or at end of an initiative	After a considerable period of time when lasting change is expected. Often following completion of initiative – could be post-hoc
Analytical Level	Mainly descriptive, regarding progress – mainly focusing on inputs, activities and outputs	More analytical than monitoring. Examines processes and outcomes. Explores issues of sustainability, effectiveness, efficiency, impact and relevance of design.	Mainly analytical and concerned with analysing and understanding lasting change – at outcome / goal level Can raise large scale strategic issues for organisation

Table 1. Comparing Monitoring, Evaluation and Impact Assessment. Adapted from Turrall and Studd 2009 in Pasteur 2014, 1.

Evaluation on its part is assessment of ongoing or already completed activities in order to find out how they support decision making and how the objectives are being met. Evaluation can be applied to many initiatives, including projects. (UNDP 2009, 8.) The OECD/DAC defines evaluation as "systematic and objective assessment of either an ongoing or already completed development programme" (MFA 2013, 14). Evaluation is done in the mid-way or at the end of

an initiative, and it is periodical by nature. The evaluation process takes into consideration the wider image and the objectives, which are not as concrete as the outputs, reviewing how successfully the objectives have been achieved (Pasteur 2014, 1). Hence, evaluation is proportional to the project's pre-identified objectives, activities and results (Hintsanen 2010, 12). It includes analyzing the processes and their outcomes more profoundly than monitoring, and it takes into consideration matters such as the initiative's effectiveness, impact, and sustainability (Pasteur 2014, 1). After evaluation, the implementing partners and other interested parties can propose amendments to achieve the targeted goals (Hintsanen 2010, 12). According to UNDP (2009, 8), monitoring and evaluation have similar aims, but the main difference between them is "that evaluations are done independently to provide managers and staff with an objective assessment of whether or not they are on track." Monitoring can arouse questions that can be answered by evaluation, and evaluation is based on the information that is gathered during monitoring and the whole project cycle (UNDP 2009, 9).

Evaluation of Finland's development cooperation is based on human rights and regulated by Ministry for Foreign Affairs' internal norm of development evaluation. The OECD/DAC evaluation norms and standards form a base for the evaluation conducted by Finland and the European Union. The evaluations thus follow the principles and criteria of them. (MFA 2013, 15.)

Impact assessment sometimes follows a project and takes place after a period of time has passed to assess the long-term effects. It is also systematic by nature but not continuous such as monitoring, and it concentrates on analyzing the effects of the project measures and the change that happened. Impact assessment can include information about the change being positive or negative, intended or not, long-term or short-term. It aims at understanding the reasons behind the change at output or goal level. Impact assessment can also bring up general strategic matters that can be applied in the future. (Pasteur 2014, 1.)

3.2 Methods of monitoring and evaluation for development

The development cooperation field has over time shifted from implementation-based methods into results-based approaches (Kusek & Rist 2004, 11) that are commonly used in development work by different actors (UNDP 2009, 14). Figure 1. by the UNDP shows the Results-Based Management life-cycle approach that is defined as “a broad management strategy aimed at achieving improved performance and demonstrable results” (UNEG 2007 in UNDP 2009, 10). Results-based monitoring and evaluation is a management tool that should help to monitor the made progress and indicate the effects of projects or other initiatives such as programmes. It enables the organizations to gather evidence about not only completing the initiative as planned, but also succeeding in a way that has the intended effect. Examining outcomes and impacts is a crucial part of this, and it provides answers for the stakeholders’ and other interested parties’ demand of results and accountability (Kusek & Rist 2004, 1). RBM is a continuous process with learning and improvements from ongoing feedback. Some actors prefer to use the term ’Managing for Development Results’ (MfDR) to emphasize the development instead of only organizational achievements (UNDP 2009, 6).

Monitoring can be implemented in various different ways, since multiple different activities and instruments can be included in it. It depends on what is monitored, who monitors, for whom, and for which purpose. According to Seufert & Suárez (2012, 7), monitoring initiatives can be divided into two general groups focusing the assessment either towards 1) quality of the resources or 2) towards governance aspects. The first one puts its focus on evaluation and classification of resources, the collected information thus regarding natural resources. This kind of monitoring is technical by nature. The latter group on its part aims at monitoring of governance, including participation of citizens and accountability of institutions, processes and policies. (Seufert & Suárez 2012, 4-7.)

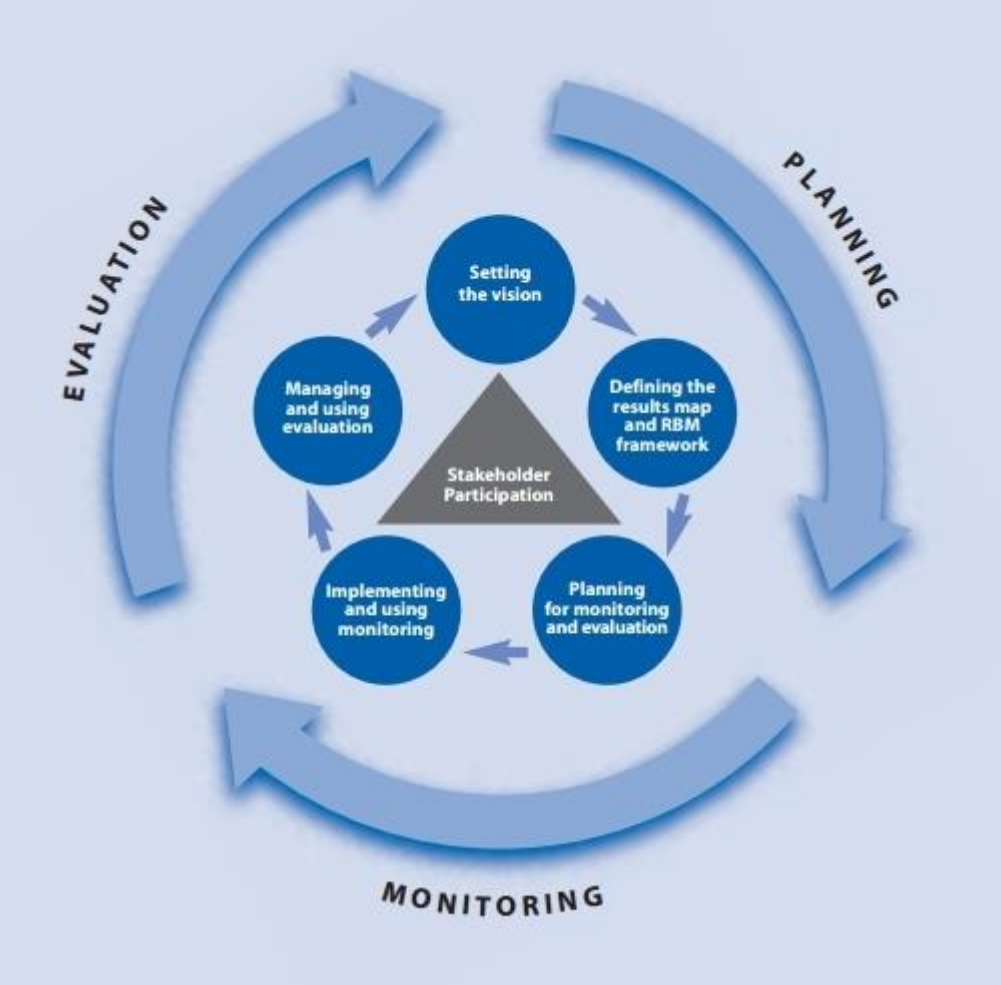


Figure 1. The Results-Based Management life-cycle approach. (Adapted from UNDP 2009, 10.)

Monitoring can be done by institutional or non-institutional actors, the first group including governments, international or intergovernmental organizations, and the latter including organizations of civil society, such as NGO's, social movements and communities. There are almost as many motives for monitoring as there are initiatives, but Seufert & Suárez (2012, 8) lists following as purposes of monitoring: "to compare countries' performances (e.g. by establishing rankings); decide on the allocation of funds; inform, design and evaluate policies; administration and management of natural resources, including land use planning; design and strengthen advocacy; facilitate an informed public debate; empower communities; hold decision makers accountable." The data collection method depends on the scale, however, this

is relative. Monitoring can take place on any level: local, regional, national, or international, but for example household surveys can in the end become a part of wider, international image, and the levels can also overlap each other. (Seufert & Suárez 2012, 17.)

How is the monitoring carried out is a question that links the other variables together, but the selection and the way of gathering data and its analysis differs vastly between initiatives. The monitoring methodology covers mainly the topics of creation cycle of information, and its use. The data, either quantitative or qualitative, can be gathered for instance through official records, survey methods or interviews. Institutions, researchers, civil society organizations and journalists are important creators of data together with states and local authorities, and this already existing data can also be used. The final users of monitoring results are generally government authorities or other decision makers with the aim of providing guidance for administration and policies, even if the results could be freely used by anyone. (Seufert & Suárez 2012, 11-14.)

Methodological approaches widely used in livelihoods monitoring and evaluation include collation of existing data sources, quantitative, qualitative, mixed and innovative methods, as listed by Pasteur (2014). The most used methods are either experimental or qualitative, while quantitative methods often supplement the first ones (Pasteur 2014, 3).

The results of monitoring and evaluation process are often written into a progress report, which describes the achieved progress comparing to the objectives stated in the project planning stage. The progress report also includes assessment concerning the project's future, presented suggestions and lessons learned (Project Institute Finland Ltd. 2015). The Ministry for Foreign Affairs of Finland requires an annual progress report from the projects it has granted funding to, including SUFO project (Kepa ry 2015).

4 AGROFORESTRY

Agroforestry is an ancient form of land use that has been practiced in different, mainly tropical, parts of the world for centuries. Agroforestry is a sustainable, profitable and dynamic form of farming, which improves yields due to the diversity of the crops cultivated for the production of food, wood, and other raw materials. (Koivula 2012, 6.) Agroforestry is cultivation of woody perennials, for instance trees, shrubs, palms or bamboo, on the same piece of land with herbaceous plants such as food crops or forest plants, and/or animals, either simultaneously or sequentially (Beets 1989 in Kimaro et al. 2013, 8). It is in accord with the local culture (Bene et al. 1977 in Koivula 2012, 12). A traditional agroforestry system has a high degree of plant diversity within the species of trees, crops and fodder plants (Kimaro et al. 2013, 9). The agroforestry training organized by SUFO project has been based on an approximately similar definition of agroforestry as specified in this chapter (SUFO 2013).

4.1 Defining agroforestry

‘Agroforestry’ as a term and concept is of modern invention despite the long history of the method. The designation is used for a practice of land use in which 1) tree growing is combined with agricultural crops, 2) trees form a significant share of the farm’s production, and 3) trees are a significant part of the farm landscape (Wojtkowski 1998 in Koivula 2012, 12). Furthermore, agroforestry meets the following three conditions concerning the cultivated crops: 1) at least two biologically interactive plant species, 2) at least one ligneous and perennial plant species, and 3) at least one plant species for fodder use are cultivated together (Somarriba 1992 in Koivula 2012, 12). Oxford Dictionaries defines agroforestry as “farming that includes growing trees to produce wood” (Oxford University Press 2015).

Agroforestry as a branch of science does not seek to be defined very accurately, but illustrative defining of the term is however needed. There are multiple definitions for the term agroforestry, but currently the most topical is the following: "Agroforestry is a dynamic and ecological resource recovery method,

where the growing of trees on a farm or pasture land creates socially, economically and environmentally sustainable and diverse agricultural production" (Young 1997 in Koivula 2012, 12). In other words, agroforestry is farming that takes all dimensions of sustainable development into consideration. Farm forestry and landcare plantings are similar measures to agroforestry, but they differ in objectives. However, the terms are often overlapping and used simultaneously, strict separation thus not being necessary. (Koivula 2012, 13.)

Agroforestry combines methods of usually separated monocultures of forestry and agriculture with elements from natural ecosystems and intercropping cultivation (Wojtkowski 1998 in Koivula 2012, 14). Many traditional, small-scale forms of land use include elements of agroforestry while separating agriculture and forestry is mainly serving the modern, industrial agricultural and forest production (Young 1997 in Koivula 2012, 14). There are various different types of agroforestry which are divided into 20 main categories and even more sub-groups. The type depends on cultivated trees and other crops, qualities of the soil and the possible pasture and cattle. (Young 1997 in Koivula 2012, 15.) The agroforestry types used in Zanzibar are clarified in chapter 4.3. Agroforestry systems are unique, thus varying in characteristics and requiring specific interventions (Kimaro et al. 2013, 9).

4.2 Agroforestry and sustainable development

According to Kimaro et al. (2013, 8), an agroforestry system is “a unit of interdependence between a community and its environment, where social and spatial boundaries ideally coincide”. The benefits and values of a versatile agroforestry system can be categorized in four groups: it improves food security and income of the household practicing it, and helps to sustain agricultural production, but it also improves socio-cultural and environmental values. (ibid.)

The designed agroforestry systems include various plant species arranged in vertical layers to optimize productivity of the land and to minimize competition between the species (Kimaro et al. 2013, 9). The main idea is simple: choosing the right plant for the right place and production. Cultivating plants for different

uses together can produce more wood, grain, fodder, fruits and vegetables and livestock products from the same area than the same plants cultivated separately in monocultures. (Koivula 2012, 6.) The objective is the long-term stabilizing and maximizing of yields even with limited technology and resources, at the same time minimizing the risks in farming and promoting variety in diets (Harwood 1979 in Kimaro et al. 2013, 9). Through agroforestry, it is possible to create sustainable, diverse, profitable and healthy land use systems (Jain & Umrani 2010, 6). The risks of agroforestry are more spread and the benefits are higher than in alternative systems. Food security is enhanced since the household has sufficient variety of different food products to use throughout the year. It protects the community against the fluctuations of markets and production and broadens and stabilizes the income base. An agroforestry system can also prevent agricultural devastation in case of a drought, if drought tolerant crops such as millet, sorghum, cassava or yams are grown in the system. (Kimaro et al. 2013, 57-58.)

From a cultural point of view, indigenous practices and even taboos have over times sustained the productivity of the land and the conservation of natural resources such as rare species. The survival has depended on the inherited know-how of appropriate and efficient management of the ecosystem which is integrated in the community's way of life. An agroforestry system provides numerous products thus making it more trouble-free for the farmer to gather the products. It also diminishes the pressure on the biodiversity in the natural system by providing for instance fuel wood, construction materials, herbal medicine, fodder, bee forage and fruits. (Kimaro et al. 2013, 59.)

Agroforestry systems are environmentally sustainable and on their part support biodiversity. They can provide most of a household's needed products and at the same time contain up to 80 percent of the plant species diversity found in the natural forests of the area (Huang et al. 2002 in Kimaro et al. 2013, 8). The trees enrich the farmland by providing a shelter from wind, dust and noise pollution, at the same time creating habitats for animals (Koivula 2012, 6).

Picture 3. An agroforestry system of a household in Zanzibar.

With an appropriate and well-designed agroforestry system it is possible to control water run-offs and erosion, thus protecting the watershed, organic matter and physical qualities of the soil. Indigenous tree species are conserved which further enhances water infiltration, flood control and protection of water channels. Organic matter from the vegetation layers increases soil fertility and the deep root systems contribute to circulation and effective utilization of nutrients. Deep roots of the trees also control erosion and pose little competition to food crops growing on the surface. Leguminous plants and nitrogen-fixing trees are used to add nitrogen into the soil. Agroforestry also contributes to mitigation of and adaptation to climate change through carbon sequestration and greenhouse gas absorption through the system's trees and other perennial plants which are encouraged to be preserved. (Kimaro et al. 2013, 9.)

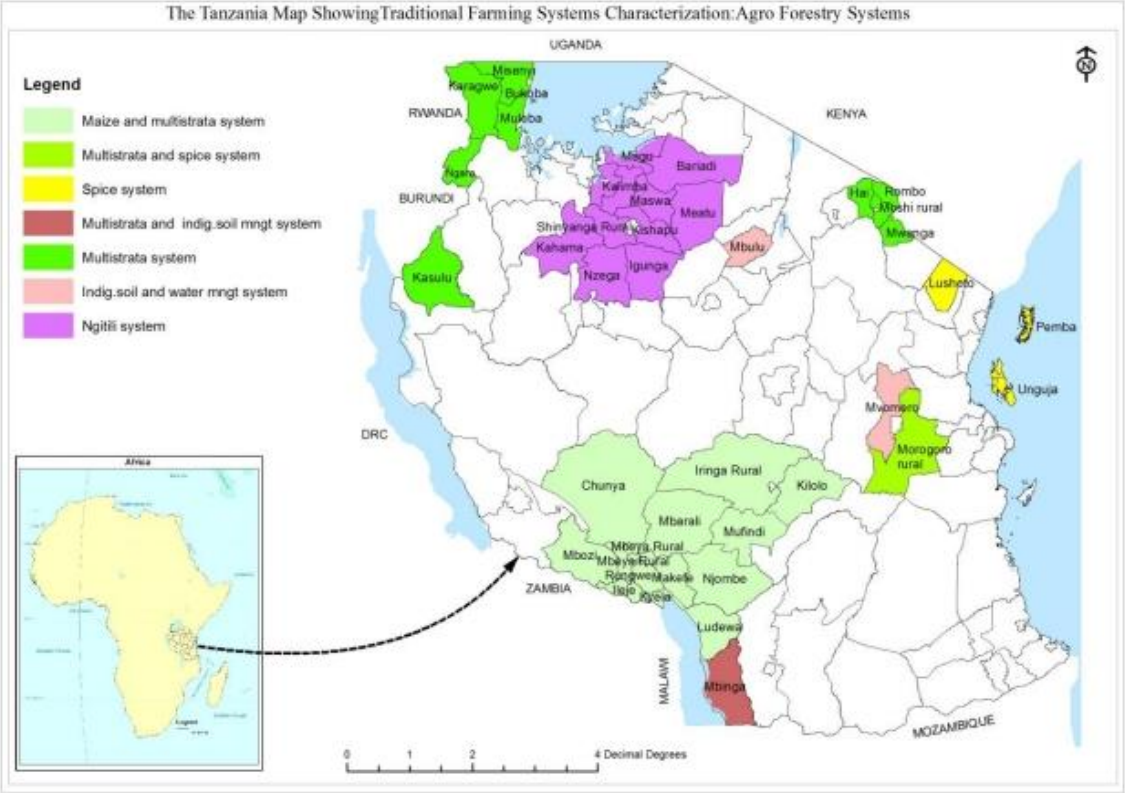
Over times, agroforestry systems have added variety of livelihoods for not only the communities practicing agroforestry but also to the people linked to the value chains of the generated products and services. Thus, agroforestry systems contribute significantly to the national economies. (ibid.) The international trade of agroforestry products was estimated to be as high as 140 billion USD in 2009, this figure being cautious (Place et al. 2009 in Kimaro et al.

2013, 9). The economic aspect also impacts the environmental protection: when the land's economic value is simultaneously increased, the land owner may be more willing to protect the environment (Young 1997 in Koivula 2012, 6). The adoption of agroforestry practices is usually simple, but Kimaro et al. (2013, 60) suggest that external interventions may be needed "especially in provision of planting materials and managerial skills to catalyse the adoption process".

4.3 Agroforestry in Tanzania and Zanzibar

Traditional practicing of agroforestry is very common in East Africa, also in Tanzania (Kimaro et al. 2013, 9). Zanzibar is widely known as spice islands due the spice cultivation that has been practiced there for centuries. According to Kimaro et al. (2013, 12), the most common agroforestry system in Zanzibar is spice agroforestry system, which is also widely practiced in Eastern Arc Mountains in mainland Tanzania, especially in East Usambara and Uluguru Mountains. Picture 4. shows a map of different agroforestry regions of Tanzania. (Kimaro et al. 2013, 12.) According to the Woody biomass inventory (1997) carried out in Zanzibar, agroforestry systems covered almost 28 000 hectares, forming 23,9 % of the land use on Unguja island (MFA 2010, 9). Agroforestry is practiced especially on the Western side of Unguja where the dominant soil type is deep and nutritious (Käyhkö et al. 2011, 28). Picture 3. presents an agroforestry system of a household in Zanzibar, where coconut, papaya and mango trees are grown together with banana, beans and other food crops.

Agroforestry supports the production of spices and thus the two practices are often integrated. Forest degradation can be effectively tackled through farming spices in an agroforestry system instead of cutting natural forests in order to establish spice farms. The layered structure of an agroforestry farm enhances the growth of spice plants and the production can grow significantly. Spices are important for the economy and tourism of Zanzibar. Kimaro et al. (2013, 48) suggest spice agroforestry to have a growing potential in protecting natural forests and supporting communities living next to them.



Picture 4. Agroforestry systems in Tanzania. (Kimaro et al. 2013, 12.)

The focus on sustainable agriculture and topics related to it was growing in the 1980's. At the time, several organizations and associations started being involved and many are still promoting organic farming. These included NGO's, governmental institutions and farmer's associations (Bakewell-Stone 2006 in Mikidadi 2011, 36). Mikidadi (2011, 84) presents an important example of an organic tourist enterprise, which supports organic agroforestry and has a showcase farm in Jambiani village in Zanzibar. Local farmers can go there to learn about agroforestry and harvest from the field. The owner and director believes agroforestry to be the cheapest form of farming, simultaneously contributing towards tackling droughts that the owner believes are the consequence of climate change, shifting cultivation and deforestation (ibid).

The Agroforestry training plan used in the trainings organized by SUFO project presents multiple types of agroforestry that can be used in Zanzibar. The types include agrosilviculture, silvopasture, agrosilvopasture, aquosilvoculture and aposilvoculture. Agrosilviculture mixes trees and crops based on spatial and

temporal arrangements. This type of agroforestry is practiced widely in areas whose economy is based on agricultural products, such as Zanzibar. Shifting cultivation, home gardens, Taungya systems, which is a sort of rental cultivation, and alley farming or hedgerow intercropping, where trees are growing in lines over the field and the food crops in the middle, belong to this category. (SUFO 2013.)

Silvopasture and agrosilvopasture are agroforestry systems where livestock is simultaneously raised. Silvopasture emphasizes the cattle over the trees, but the animal manure is improving infertile soils. On the other hand, agrosilvopasture puts similar weight to the animal husbandry and the crop cultivation, and a planting layout has to be designed carefully in order to avoid damaging of the crops. Aquosilvoculture on the other hand means simultaneous growing of trees and sea animals, where the fish manure acts as a fertilizer, whereas aposilvoculture is tree growing mixed with insect keeping. Besides bees, the grown insects can be for example butterflies, grasshoppers or ants. (ibid.)

A study conducted by Faße & Grote (2013, 86) suggests that between 14 to 41 percent of Tanzanian households are practicing agroforestry where firewood is harvested in sustainable manner. The percentage depends on the rudimentary rate of tree growth, while the sustainability of practiced agroforestry is impacted by land use rights, environmental awareness and age of the persons involved. The study suggests that firewood is most likely harvested sustainably from the agroforestry system, if the property rights and ownership of the land are clear, and when environmental awareness rate is high.

Households with similar or higher per capita (probably daily) income than 524 TZS (0,23 EUR) harvest their resources on a sustainable basis and gain highest profits while doing so, but controversially, the poorest households generate highest income by harvesting wood unsustainably. The study suggests that poor households are likely to fall into the poverty-environment trap which is a vicious circle: they are causing environmental degradation by harvesting their agroforestry wood stocks unsustainably, and in the long run this is also affecting

their income. (Faße & Grote 2013, 86.) This is why SUFO project is simultaneously training the involved livelihood groups about not only agroforestry or other practiced livelihood, but also in economic management and environmental awareness.

The land ownership and property rights are an issue that would need to be developed in Zanzibar in order to protect the forests and wood stocks, and enhance social and economical development. Majority of the poor Tanzanians own and use their property outside the legal framework, which constraints them from economically benefitting from their assets. Their ownership is mostly based on informal community systems, and therefore their access to capital is limited and they “cannot realize their potential for economic empowerment and self improvement”. (MKURABITA 2013.)

5 MONITORING SUFO PROJECT

This chapter provides a thorough explanation on the conducted project monitoring process into which the author participated in Zanzibar. It presents SUFO project's activities planned for 2014 and the aimed project objectives, as well as the methods of the monitoring process and analysis of the collected information. It also discusses the reliability of the information and challenges that occurred.

According to SUFO project's Civil Society Organisation project support application, the tasks of the TGS members monitoring the project are: verifying reported activities, interviewing village and district level beneficiaries on project progress, impact and needed adjustments, and crosschecking project budget and use of funds in Zanzibar. The monitoring visits are conducted in order to "develop, observe and conclude activities reported to be done in the project and (to) discuss with community members engaged in various project activities to understand and evaluate impacts of the project and to estimate approach and activities of DFNR". Project budget and DFNR's use of funds are crosschecked on a half-year basis. The outputs and immediate objective indicators are evaluated and reported after the half-yearly field visits and the annual monitoring visits. (TGS 2012, 13.)

These tasks and aims were converted into three simple but comprehensive research questions:

1. *How have the project activities planned for the year 2014 been executed?*
2. *How have the project objectives mentioned in the SUFO project application been achieved so far?*
3. *What kind of corrective measures are needed to achieve the objectives?*

The aim of this thesis is to answer these three research questions, and to discuss the present and future of the project together with the livelihood group's and other beneficiaries' situations, in order to ensure the sustainability of the project and effective realization of its objectives. In addition to these three

questions, a fourth question concerning agroforestry was determined and it is discussed in chapter 6.

5.1 Project activities planned for the year 2014

During the monitoring of SUFO project taking place in Zanzibar, the practical level activities implemented during the year 2014 were monitored and crosschecked together with DFNR staff. This was done in the first meeting of the monitoring trip at DFNR headquarters in Zanzibar Town. Matters regarding the livelihood groups and their situations were covered but the generally well-managed administrative matters were left outside of this thesis.

Ten direct outputs had been planned to be implemented during 2014:

1. Planting 5000 trees at community woodlots/farms
2. Organizing training on cost and benefit analysis
3. Distributing materials for beekeeping groups
4. Organizing training on beekeeping
5. Distributing tools for two tree nurseries
6. Distributing materials for two tree nurseries
7. Organizing training for tree nursery keeping
8. Distributing new goats for livestock groups
9. Organizing training on livestock keeping
10. Organizing annual K-P CFCN capacity building training

The first two of these outputs, tree plantings and training on cost and benefit analysis, had been originally planned to be carried out in 2013 but were decided to be postponed for 2014, but additional cost and benefit analysis training was also organized since it was seen as beneficial and there was surplus in the project budget. DFNR was responsible for planning, organizing and implementing every listed activity which were taking place in the cooperation villages. (SUFO 2014.)

Activity number one means purchasing seedlings of casuarina and agroforestry tree species from village or government nurseries and distributing them to five

target groups in four villages of Pongwe, Kandwi, Upenja and Matemwe. The groups were supposed to plant them on their plots in April – June 2014. A total of 2725 seedlings were the remaining seedlings from the annual plan of 2013. These were moved for 2014 since during the original plantation time weather conditions were unfavourable or the groups had other priorities at the time. The second output concerned training on cost and benefit analysis for the production groups and it was also moved from the 2013 plan. The aim was to conduct the training of production groups practicing agroforestry, seashell farming and restaurant keeping in June – September 2014. Expected deliverables included improved skills in bookkeeping, production inputs and income earned by the production groups. (ibid.)

The third planned activity concerned distribution of materials for the new beekeeping group Uvivu Sikazi in Pangeni. Equipment for beekeeping included six modern beehives, a smoker, 2 kg of beeswax, three containers and a clothing set. These were supposed to be distributed between October and December 2014. The aimed activity number 4 was to conduct training on beekeeping activities for production of honey and other by-products in two villages of Pangeni and Kilombero in July – September 2014. Training materials, refreshment, transport allowance and facilitation cost had to be taken into account. Expected deliverables were improved skills in modern beekeeping and production of honey and by-products and harvesting techniques. (ibid.)

Outputs 5 and 6 concerned the coastal villages of Pongwe Pwani and Pongwe Ndudu. The output number 5 was purchasing of tools for tree nurseries (Picture 5): watering cans, wheelbarrows, shovels, rakes and hoes, taking place in April – June 2014. The latter's aim was to purchase materials for two nurseries, including nine loads of nursery soil, 1 kg of casuarina, citrus and neem seeds, two 2000 l water tanks, 63 kg of polyethene tube and 80 m of water pipe between April and September 2014. Also training on tree nursery establishment and management was planned. Eight members from two groups practicing tree nursery keeping were supposed to be trained in April – June 2014. Expenses of training materials, refreshment and facilitation allowance had to be taken into

account. The aims were improved skills of the target groups in nursery keeping and seedling production. (ibid.)

Project activity number 8 was distribution of new goats for livestock groups in Pongwe Pwani and Pongwe Ndudu. The aim was to purchase and deliver eight dairy goats for the two groups. The plan also included conducting training on livestock keeping techniques for these same two groups having dairy goats (output number 9). Expenses included facilitator meals, training materials, supervision and participants' allowance. Both activities were planned to be implemented in April – September 2014. (ibid.)

Picture 5. The newly established tree nursery of Tuondowe Lawama in Pongwe.

The last, 10th, planned activity was facilitating the annual capacity building training of K-P CFCN on participatory forest management, leadership and facilitation skills and planning. The aim was to enhance the capacity of the organization's members in conservation practices. The expenses of training materials, meals, transport, supervision and facilitation allowance had to be taken into account. The activity was planned to be conducted between July and December 2014.

5.2 Project objectives and indicators

Besides the practical outputs, SUFO project has a main objective: tackling of development problems through enhancing sustainable forest management including both conservation and sustainable use of forest resources and improving food security of 11 communities surrounding the Kiwengwa-Pongwe Forest Reserve (DFNR 2014). Also nine immediate project objectives have been shaped, of which seven are evaluated in this thesis:

1. Livelihoods and additional income sources of the stakeholder livelihood groups are increased and diversified
2. Productivity of agricultural land per unit area is improved
3. Knowledge and skills in agroforestry and other good agricultural practices (GAPs) are increased
4. Amount of trees in community forests and agroforestry systems is increased
5. Environmental awareness and understanding of REDD processes are spread in the project area communities
6. K-P CFCN's capacity in management of the community forests and its role as a regional forest actor is strengthened
7. Women's role in communities and in forest administration is strengthened

Project objectives include increased use of fuel wood saving stoves and reduced need of fuel wood, but the distribution of stoves or training on building them is planned for the year 2015, and at such the objective is irrelevant for this evaluation. Also the objective about improving capacity of the partner organization and project members of TGS was left outside this evaluation and thesis, because it was not included in this monitoring taking place in the middle of the project, and evaluation of the matter is more topical at the end of the project. (TGS 2012, 8.)

The first objective is to increase and diversify livelihoods and additional income sources of the stakeholder livelihood groups. Indicators listed in Civil Society

Organisation project support application (TGS 2012) are distributed means of production and number of beneficiaries attending the training sessions on livelihood skills and know-how, and cost and benefit analysis. Thus, the success of new livelihoods, other livelihood-related issues and sharing of the attained knowledge were evaluated to estimate the fulfillment of this objective. (ibid.)

The second objective concerns improving productivity of agricultural land per unit area. Indicators are annual weightings of beneficiaries' crops and tree products together with annual crop sales. Source of this data is the bookkeeping of livelihood groups, which was investigated also during the project monitoring: the groups' production and income were reported in the monitoring report. (ibid.)

Knowledge and skills in agroforestry and other good agricultural practices (GAPs) should also be increased during the project. Indicators are number of beneficiaries attending agricultural training sessions, and opinion on one's skills and knowledge. The information concerning this and the latter objective was gathered during the interviews, together with the information about the distribution of knowledge attained in the trainings. Other sources are training diaries such as the agroforestry training diary, which has provided material for the evaluation of that objective. (ibid.)

The fourth objective is following: the amount of trees in community forests and agroforestry systems is increased. Indicators are number of distributed seedlings and number of established tree nurseries. This and the previous objective were monitored in the discussions with the DFNR and in the interviews, where livelihood group's estimates on the planted seedlings were written down. Other information source is the project's activity plan of 2014. (ibid.)

Also spreading of environmental awareness and understanding of REDD processes in the project area communities belongs to the project objectives. Indicators include number of people attending meetings, in which the issues are

presented, and opinion of one's level of understanding. Especially the latter one was studied in the monitoring interview sessions. (ibid.)

The sixth objective evaluated in this thesis is the strengthening of K-P CFCN's capacity in management of the community forests and its role as a regional forest actor. Indicators are number of K-P CFCN members attending capacity training sessions and number of members attending in liaising meetings with district level. Sources include training diaries and K-P CFCN minutes/reports. However, in the monitoring interview, only the opinion of the organization's members on their capacity and role could be documented, mainly through their problems. (ibid.)

The last studied objective is strengthening women's role in communities and in forest administration. Indicators are number of women attending in and facilitating training sessions and meetings and number of female members in the livelihood groups. During the monitoring interviews, the attending members were calculated and the number and gender of the not-attending members was reported in a gender disaggregated manner. Other sources to support the evaluation include the previous project reports. (ibid.)

5.3 Methodology

5.3.1 Literary review of previous SUFO reports

A literary review was conducted before starting to plan the monitoring in a detailed manner. Previous SUFO reports were carefully read through, including the Civil Society Organisation project support application (TGS 2012), the Baseline survey (Karppinen & Viitaniemi 2013), the previous monitoring report (Salmela & Sirkiä 2013) and the report of the field trip (Karppinen & Ojala 2014). These provided a thorough overview of the project, its objectives and the already carried out actions together with the last reported situations of the stakeholders. Some information was highlighted for future use and some comments and questions arouse. These were discussed in the meetings where monitoring was being planned and the volunteers prepared.

Before each interview day in Zanzibar, the relevant chapters of the Baseline survey, the monitoring report and the report of the field trip regarding next day's interviewed livelihood groups were again read through, and brief notes were made to help with presenting additional questions in order to find out the groups' actual and detailed situation during the interviews. This was noticed to be a good approach. Furthermore, the information gathered in the interviews was compared to the information in the previous reports, especially the Baseline survey.

5.3.2 Group interviews

The monitoring of SUFO project was carried out in Zanzibar during December 2014 and January 2015. Project monitoring was implemented on 27 semi-structured group interviews by two project volunteers from TGS, and DFNR experts from Zanzibar. The author of this thesis carried out and reported half of these interviews by herself, and hence the thesis is focused on these 13 interviewed livelihood groups interviewed by the author. The leader board of K-P CFCN network was interviewed as well, in conjunction with another SUFO volunteer and the translating officers of DFNR. DFNR was responsible for arranging the interview sessions, but responsibility on planning, implementing and reporting the interviews was shared between the two TGS volunteers.

All 27 livelihood group interviews were semi-structured, meaning that they were conducted using interview forms (Appendix 1), but additional questions were asked when necessary. The interviewees could also present questions and comments, in which case the conversation was allowed to flow freely. The interview form was based on the questionnaires used in the previous monitoring interviews (Salmela & Sirkiä 2013; Karppinen & Ojala 2014), in order to ensure that the information would concern the same matters annually. However, questions were modified in order to update the information, and some were added to improve monitoring of the fulfillment of the project goals and outcomes.

Issues covered in the monitoring interviews concerned the livelihood groups' current situation, their latest production and their level of benefiting from the project. In addition, the group members' opinions about sharing the knowledge attained in the trainings in a way that benefits the group as a whole was studied, since in most cases only a few members from a livelihood group have been able to attend the trainings. Apart from current situation, livelihood groups were asked about their plans for post-project future and their wishes for the last year of SUFO project. One aim of the project is to ensure that the beneficiaries are able to carry on with their livelihoods or invest into new ones in a profitable way, even when support from project's behalf is over at the end of 2015.

Picture 6. A monitoring interview taking place in Tunduni village.

The group interviews were organized close to the home villages of the stakeholders, in places agreed in advance. This varied from an elementary school to a livelihood group's office and to a carpet under a mango tree, as seen in Picture 6. Every field day included three to five interview sessions in two to three villages, each interview lasting approximately from half an hour to one hour. The monitoring team traveled to the villages with a car arranged by DFNR. Hand-written notes were made during the interviews, based on which

the information was transcribed on the same day after the interviews to prevent any loss of information.

Besides the livelihood groups, K-P CFCN was also interviewed at Kiwengwa ecotourism centre. The semi-structured interview was the last one to be conducted and had its own question draft (Appendix 2) which was similarly based on the previous questionnaires but updated and modified to further monitor the project's goals and objectives. The interview form provided only a base for the conversations and the discussion was flowing in a rather free order. The interview included questions about K-P CFCN's current state, actions, challenges and future plans.

The monitoring and evaluation results are reflected with the information gathered in the previous SUFO project reports: the Baseline survey in June - July 2013, the previous monitoring interviews in December 2013 and the field trip interviews conducted in June - July 2014. The overall development of the groups' situation was also evaluated with a scale varying from negative to positive in order to provide a quick picture of the groups' recent development.

5.3.3 Direct observation and discussions with SUFO team

After some monitoring interviews it was possible to visually observe the livelihood groups' plantations or other facilities. Because of the long interviews and strict timetable, the monitoring team did not have sufficient time to visit every group's facilities. In addition, some of them were situated further away from the villages which made the transportation difficult. The conducted field visits were recorded by photographing to enhance memorizing of important details. Also, it is widely known that a picture is worth a thousand words. The visits were usually short, lasting from five to ten minutes.

The inspected facilities included two tree nurseries of the livelihood group called Tuondowe Lawama and dairy goats of the group Mulizani Hatuwezi in Pongwe, as well as banana plantation of Umoja ni Nguvu in Tunduni and a cassava field of Kazi Mpya in Mchangani. In addition, the new beehives of Uvivu Sikazi in

Pangeni, a tree plantation of Hatuyumbishwi and a coral rag agroforestry field of a member of the group in Matemwe, and the restaurant of Hatujali Maneno in Pwani Mchangani were visited during the monitoring field trip. The restaurant's food was tried out and noted as delicious. Also some living fences established close to Kandwi village were inspected.

During the monitoring trip to Zanzibar, two official meetings were held with the SUFO project monitoring team: one before starting the monitoring interviews and a final monitoring meeting after them. Two volunteers from TGS and staff from DFNR attended these meetings which were organized at DFNR headquarters in Zanzibar Town. In the first meeting the monitoring team crosschecked the implementation of the planned activities for the year 2014, the project budget, the plan for next year and the form of conducting the interview sessions. In the latter meeting the results of monitoring were summarized and aroused issues and problems were discussed. Also some changes were proposed to the action plan of the next year 2015. There were a couple more DFNR officers present in the final meeting than in the starting meeting, and the volunteers also attended two short meetings with the director of the department. In addition to these SUFO team meetings, project related matters were often discussed before, during or shortly after the interview sessions.

5.4 Reporting and analyzing

The monitoring results were written into a report after the Zanzibar monitoring trip. The monitoring report describes the situation of all 27 livelihood groups involved in SUFO project together with their products, product amounts and income over the year 2014. The current situation of K-P CFCN and their future prospects were also reviewed. In the report it was also briefly reviewed if the project plan was carried out as planned in 2014 and if some of the project objectives are met so far. Project development proposals and amendments to the action plan for 2015 were suggested as well, and possible new cooperation project was discussed. The report was written in English by the author and another project volunteer, and it was published on the project's website and

delivered to SUFO project's implementing parties. It was used as a base for preparing an annual report for the Ministry for Foreign Affairs of Finland, which is the main funder of SUFO project, and also as a support for reporting changes in project budget. The report is also providing some information for this thesis.

The data of the thesis is for the most part qualitative, and thus the information was analyzed using qualitative research method, namely data-driven theme identification. Themes, the key issues of the text, are most often formed by data-driven analysis. It means searching the issues that are combining, or dividing, the different interviews, answers or essays from the texts that form the analyzed data of the study. For example coding and quantification can be used in formation of the themes. (Saaranen-Kauppinen & Puusniekka, 2006.)

In this thesis, the interview answers were transcribed, after which color codes based on the three plus one research questions were created on separate Excel sheets. According to this color coding, the appropriate paragraphs of the empirical data were tabulated in these Excel sheets, after which relevant themes could be found in the interview answers and written open into this thesis report. The thesis is written in English in order to enable the use of it in SUFO and other projects as widely as possible.

5.5 Challenges and reliability

The monitoring interviews were translated by officers from the DFNR, since majority of SUFO project's stakeholders did not speak English and the interviewers did not speak the local language Swahili. Thus, the officers translated the answers and discussion between English and Swahili. Some misinformation may have also occurred because of the lack of common language between the interviewer and the interviewees together with the use of unprofessional yet skilled translators, whose own points of view could have mixed with the interviewees' opinions. None of the monitoring team members was a native English speaker which further might have caused misunderstandings. Cultural differences may have also been a reason for some possible misinformation. During the interviews, phrasing was kept rather simple

and when needed, multiple additional questions were asked to ensure as high level of mutual understanding as possible.

Composition of the two interview teams was regularly altered to avoid a situation where one team produces material that varies significantly from another team's material due to the different interviewing and translation styles of the team members. However, same teams conducted many interviews because of the limited availability of the translating DFNR officers. The livelihood group members may have embellished the information regarding the project or their production. The numeral figures in particular are taken as estimates, also because the yields can vary greatly depending on the weather and under which rainy season the crops are cultivated. It was not always clear how many times the products are annually harvested, and thus the annual production figures are numbers estimated by the interviewees. The estimates are based on the group’s answers or the reported half-yearly production doubled.

Also the presence of DFNR officers might have affected the beneficiaries’ answers. For instance, they most probably would not confess if they were involved in illegal cuttings in the forest while DFNR officers are translating their answers.

6 EVALUATING AGROFORESTRY PRACTICES

This thesis also seeks to briefly evaluate the extent, form and impact of agroforestry practices implemented during SUFO project. A fourth research question was determined in order to help investigating this:

4. *How has the organized agroforestry training affected the farming methods of the groups who attended the training, and have the possibly changed farming methods affected the water and/or soil conditions on the plot?*

The empirical data concerning agroforestry activities carried out by the livelihood groups and their impact on the local environment was gathered in the same semi-structured interviews as the other project monitoring information, during December 2014 – January 2015 in Zanzibar. An officer from DFNR was always present, translating the interviews between English and Swahili and assisting the groups in case they had some concerns with their production.

Four interview questions regarding agroforestry were prepared in advance and presented in the interviews to those livelihood groups whose members had participated to agroforestry training conducted by SUFO project. These were:

1. Has agroforestry training changed your farming methods?
   If yes, how? If not, why?
2. Has agroforestry practicing improved your yields? How much?
3. Has agroforestry practicing affected the water conditions on your plot? How?
4. Has agroforestry practicing affected the soil quality on your plot? How?

Within some interviews the agroforestry questions were presented in the middle of the other questions and in others they were left for the end, depending on the course of the interview. Additional questions were asked as needed. The aim was to interview as many agroforestry practicing groups as possible, but this depended largely on the interview schedules planned by the DFNR. Most of these groups could be interviewed. They were six in total, the gathered material

being limited as a result, but providing an overview of the direction of agroforestry practices' development.

The author received the agroforestry training material only in the end of the monitoring trip and because of that, the interviews had to be carried out without yet knowing what the groups have exactly been taught. Hence, the questions were on very general level. In addition, the agroforestry training material is in Swahili, and no willing Swahili speakers were found to translate the material properly. Despite the surprisingly good translation into English by an internet translator machine, some information may remain unclear since not all words could be translated. Another challenge is the assessment of local environmental impact of agroforestry, since no physical measurements could be made within the schedule of the monitoring trip.

The empirical data was analyzed in the same manner as the other information: the interview answers were transcribed and coded according to color codes which were based on the interview questions. The relevant paragraphs of the coded data were then tabulated into an Excel sheet and relevant themes were identified amongst it. The resulting picture is an estimate based on the interviewees' opinions and the author's assessment, which on its part is largely based on the only conducted visit to an agroforestry field. This field was a private farm of a member from a tree planting group, thus not actually belonging to SUFO project but providing an example of the agroforestry practices on coral rag regions of Zanzibar.

7 RESULTS

7.1 Execution of project activities in 2014

As mentioned in chapter 5, there were ten direct outputs that had been planned to be implemented by SUFO project during the year 2014.

1. Planting 5000 trees at community woodlots/farms
2. Organizing training on cost and benefit analysis
3. Distributing materials for beekeeping groups
4. Organizing training on beekeeping
5. Distributing tools for two tree nurseries
6. Distributing materials for two tree nurseries
7. Organizing training for tree nursery keeping
8. Distributing new goats for livestock groups
9. Organizing training on livestock keeping
10. Organizing annual K-P CFCN capacity building training

Project's 2014 activity number one, planting 5000 trees at community woodlots/farms, was successfully executed. A total of 6225 tree seedlings were bought and distributed to the eight production groups in villages of Matemwe, Upenja, Mchangani, Kandwi and Pongwe by the DFNR. The tree seedling species included neem, casuarina, senna and citrus trees. 2725 trees were the remaining seedlings from the year 2013's annual plan. Seedlings were successfully planted in the villages. According to the revised activity plan, 30 community members were involved in tree planting activities, 22 of these being female and 8 male. Two officers from DFNR were assisting the planting sessions. They reported that the price of the seedlings had increased, and because of that, the planned 5000 trees together with the surplus from last year could not be planted, but the total amount was lower. The production groups in Pongwe, Kandwi and Matemwe were reported to have requested for more seedlings for the next planting season in spring 2015. Despite this, it is important to inspect the tending of the already planted seedlings, especially

when during the interviews many groups reported that some of their young trees had died due to different reasons. The DFNR is expected to inspect the situation of the plantations. (SUFO 2014.)

Output number 2 concerned the organized cost and benefit training for agroforestry, seashell farming and restaurant keeping groups, and it was moved from the plan of 2013. According to the Annual progress report of the SUFO project (DFNR, 2014, 7), the training was further postponed to be implemented in December 2014. During the monitoring interviews, majority of the interviewed livelihood groups reported that they had received training on cost and benefit analysis from SUFO project, but none of the groups reported it had been very recently. In some interviews, the matter did not rise up at all. During the monitoring trip it was decided that the training will not be held at all, but instead training on pest and disease control will be organized for the farming groups. It was prioritized since it was requested several times by different group and in addition, majority of the livelihood groups' literate members already were able to analyze the costs and benefits and keep records of their production.

Project activity number 3 was carried out without problems. The materials for the new beekeeping group Uvivu Sikazi in Pangeni were purchased and distributed to the group by the DFNR as planned. The materials included six modern beehives, a smoker, 2 kg of beeswax, three containers, and a clothing set. (DFNR 2014, 3.) The beehives were inspected during the monitoring trip and they seemed to be well maintained (Picture 7). The livelihood group had not finished building a shelter for the beehives but they were encouraged to do so as a priority. The next monitoring group should check the situation with the shelter.

The output number 4, organizing training on beekeeping, was also successful. Instead of the planned six members, it is reported that a total of 12 members from two groups were trained in beekeeping management, with aim to improve their knowledge and skills on production and harvesting of honey and other by-products. (DFNR 2014, 4.) However, there is currently only one beekeeping group involved in SUFO project, which was originally left out from the project by

mistake and joined during the second project year. Because of this, the project coordinators had agreed that a group interested in or practicing beekeeping can attend the training. It is however not clear from which group the other trained members were, but according to the project plan, they may have been from Kilombero, or from K-P CFCN. This should be checked, and it also should be monitored if they are applying this knowledge into practice.

Picture 7. Inspecting the new beehives of Uvivu Sikazi.

Activities number 5, 6 and 7 were taking place in villages of Pongwe Pwani and Pongwe Ndudu. First aim of these activities was to provide materials and tools for establishment and maintenance of two small-scale tree nurseries. Nine loads of soil, 1 kg of seeds, 63 kg of polyethene tubes, 80 meters of water pipes and two water tanks were purchased and distributed to the groups as planned by the DFNR. Also the tools (watering cans, wheelbarrows, shovels, rakes and hoes) were distributed accordingly. (DFNR 2014, 3.) A field visit to the nurseries was conducted and the nurseries seemed to be in good order. The seedling bags seemed a little dry but some plants were growing in them. However, existence of the 2000 l water tanks and other provided facilities were not checked.

The training on tree nursery establishment and management, resulting in improved skills of targeted two groups from Pongwe and Pongwe Ndudu in nursery keeping and seedling production, was a success, and almost all members of the group Tuondowe Lawama had attended the training voluntarily (DFNR 2014, 4). The training was held in the village so the extra members did not have to pay for their transportation to the training. They also shared the offered lunch. The other trained group was Umoja ni Nguvu from Pongwe, who had also started a tree nursery. According to the monitoring report, the nursery was inspected, but seemingly suffered from drought (Myllyniemi & Viitamaa 2015, 53).

Outputs 8 and 9 regarded the distributing of dairy goats and organizing training on livestock keeping for the two goat keeping groups Mulizani Hatuwezi and Umoja ni Nguvu in Pongwe Pwani and Pongwe Ndudu. As a result, eight dairy goats were purchased and distributed to the two groups by the DFNR officers as planned. Also eight members of these two livestock groups attended the organized training and improved their knowledge and skills in dairy goat keeping. (DFNR 2014, 4.)

The capacity building training of the non-governmental organization K-P CFCN in order to enhance the capacity of its members in conservation practices was planned to be organized between July and December 2014. According to the Annual progress report of the SUFO project, the training was postponed a little and planned to be conducted in December 2014 (DFNR 2014, 7). In the interview of the K-P CFCN in the beginning of January 2015 this capacity building training was not discussed due to limited time for the interview, but it later became clear that the training was successfully organized during the planned period in late 2014. As a result, K-P CFCN members' skills on participatory forest management, leadership and facilitation skills, and planning should have been improved, but in the interview their capacity did not seem to be on a very convincing level (see chapter 7.2.6).

7.2 Project objectives

7.2.1 Increased and diversified livelihoods

SUFO project aims to increase and diversify livelihoods and additional income sources of the livelihood groups. The indicators are distributed means of production, in other words success of new livelihoods, and number of members attending trainings. This thesis concentrates on the livelihoods of agriculture, tree planting, seashell farming and agroforestry.

7.2.1.1 Agriculture

There were eight groups interviewed by the author practicing agriculture as their main livelihood involved in SUFO project. The group Ubaguzi Hatutaki from the village of Bambi was cultivating mostly maize, but they were also supposed to start with sweet potato cultivation. They had planted the sweet potato seedlings received from SUFO project, and tomatoes of their own purchase, but both of these had failed because of pests and unfavorable water conditions. The group was going to cultivate banana as well, but ended up planting just a few crops. They lack official land lease, and could lose the land. They did not want to risk having to give up the banana plants and the work done for them. According to the Baseline survey (BS), the group was cultivating sweet potato and maize at the beginning of the project (Karppinen & Viitaniemi 2014, 19). Thus, it cannot be said that their livelihoods would have been diversified, but there is potential for it to happen.

Hatuyumbishwi from Tunduni planted maize on their field as well, but the conditions were unfavorable and the plants did not survive because of drought, pests and diseases. Other groups were facing similar problems, one of the themes thus being drought and problems with water sources, and one being pests and diseases. Many groups were also hoping to get training on these issues, and the training was decided to be organized. Formerly, Hatuyumbishwi was raising chickens and they still have a few of them, but poultry is not one of their main livelihoods anymore. Neither their former salt and soap resale

business mentioned in the BS nor their tomato production were discussed during the interview, but they had decided to start growing pigeon peas instead (Karppinen & Viitaniemi 2014, 21). Hatuyumbishwi is planning to develop their livelihoods by expanding their fields and becoming more sustainable. Currently, it can be said that the group's livelihoods have been diversified.

Hatutaki Fitina (Tunduni) has also been unlucky with their cassava production that did not succeed because of drought, and was planning to shift their cultivation to a new, better area, where they were starting to prepare the soil. After SUFO project they are planning to increase their cultivation on larger fields to be able to grow more crops, but they did not seem to have an actual plan on how to implement this. Though, there was only one respondent in the interview, the sample thus being small. He stated that his group has been feeling better about their cassava livelihood after joining SUFO project, even though the members have own, more important livelihoods such as banana and rice cultivation as well. Their soap making livelihood mentioned in the BS was not discussed (Karppinen & Viitaniemi 2014, 24). As a result it seems that they show potential to strengthen their cassava livelihood, but their livelihoods have not been increased.

Nasisi Tunaweza was cultivating multiple different plants in the previous years (Karppinen & Viitaniemi 2014, 30), but now the group is growing only okra and hot pepper, their livelihoods thus have decreased. They have been planting eucalyptus trees on the boundaries of their field, which is positive development. The group is also facing some troubles in organizing itself, but tries to solve it, since it hampers their effectiveness.

Faida ya Mchangani was producing vegetables, maize and cassava during the BS (Karppinen & Viitaniemi 2014, 27). They have continued with their maize and cassava production. Vegetable cultivation was not mentioned during the interview but most probably they are also continuing it. Thus, their livelihoods have not been diversified but it seems that they have developed and improved. However, there were members from only one of the five sub-groups in the interview and thus only this sub-groups' situation could be monitored. The

respondents did not know about the other sub-groups production, and as a result 80 % of the groups' business remained unclear.

The main livelihood of Tusaidiane from Kilombero is rice cultivation, but their livelihoods have been well distributed to start with (Karppinen & Viitaniemi 2014, 25). SUFO project has been supporting their cassava cultivation. The group is planning to increase and expand their production to more vegetables and tree planting, but problems with firewood and the farming site are hindering them. Their latest cassava harvest did not succeed, and their plan is to invest some of the profits from rice production to buying new cassava seeds. According to the interview, Tusaidiane sees the project as beneficial since they are having an opportunity to produce and generate more income. They have a strong will to develop their production, but an effective way should still be found.

Bora Imani from Pangeni was supposed to start with beekeeping, but for an unknown reason, the group refused to have training and start with the bees. As a result, they are only producing cassava now, but it is going well. However, they are planning to start cultivating groundnuts instead, since they are more profitable. The group states they do not need to expand their production, since their 1,2 hectares is enough for the five of them. During the BS they were also cultivating only cassava, so if they will start with groundnuts, their production will be diversified (Karppinen & Viitaniemi 2014, 32).

Nyuma Mwiko from Kandwi is cultivating green gram, maize, cow peas and beans. In the previous reports other vegetables such as cassava and pigeon peas were mentioned (Karppinen & Viitaniemi 2014, 36), but according to the interview they are not cultivating these anymore. In other words they have switched cassava to beans and pigeon peas to cow peas, livelihoods thus have been diversified.

Overall it seems that many groups working with agriculture are facing problems with their livelihoods. Droughts and lack of water sources are one issue, limited knowledge on effective, inexpensive and environmentally friendly pest and disease control being another. These are affecting the increase and

diversification of the groups' livelihoods negatively, and should be tackled. One interviewed group even said that a well would solve all their problems, since they could cultivate year round. SUFO project has limited funds to develop the first issue more than what has already been done, but the groups were given advice on contacting the NGO K-P CFCN to try and find solutions with their help, contacts and tips for unionizing. What comes to the latter issue, the project has decided to organize training on pest and disease control instead of cost and benefit training, since it seems to be a justified priority.

Livelihoods have been increased or diversified in three out of eight groups practicing agriculture. Four groups out of seven had not diversified their livelihoods but some of these have improved and developed their current livelihoods, and are thus producing more than before and gaining more profits. In addition, the groups have increased their knowledge on different livelihoods and changed their old livelihoods into new ones, which gives them more skills and know-how that they can use in the future to start with more livelihoods.

7.2.1.2 Tree planting and agroforestry

Tuondowe Lawama from Pongwe is growing casuarina trees. They expect approximately 4000 out of the 5000 planted trees to survive. They would gain 16 million TZS, this estimate being 8 times bigger than at the time of the previous interview. The price of a tree varies between 2000 – 6000 TZS (0,89 – 2,66 EUR). This amount of production is a significant improvement when comparing to their production of 200 trees at the time of the BS (Karppinen & Viitaniemi 2014, 40). The group also started a small tree nursery of 4000 seedlings after the nursery training from SUFO, in order to sustain this scale of tree planting. They feel they could have even more seedlings and the training has made them more efficient. The group is producing maize and millet between their casuarina trees according to agroforestry principles. During the time of the BS they were not producing agricultural products at all, but concentrated on tree planting, thus it their production has diversified and increased (Karppinen & Viitaniemi 2014, 40).

The group Kadeo from Kandwi had to use most of their income for health care of one member, and little was left for investing and sharing. During the BS the group was cultivating maize, tomato, amaranth, sweet potato leaves, and cassava (Karppinen & Viitaniemi 2014, 37). At the time of the interview Kadeo was cultivating maize, tomato, spinach and hot peppers. Thus, their agricultural product variety has diminished a little, but instead they now have casuarina and senna trees growing on one of their fields, which can be counted as diversifying their livelihoods.

Nguvu Jembe from Upenja is cultivating lemon trees, sweet potato and maize. Formerly they have been cultivating tomato and some pigeon peas instead of the lemon trees, but their production and income has increased (Karppinen & Viitaniemi 2014, 33). It can be said that they have been developed their livelihoods through centralization. According to the group, in this soil type only certain plants do well, but if they find some new suitable crops they are willing to expand their selection. According to Nguvu Jembe, a permanent water source would "solve all of their problems", allowing them to cultivate throughout the year and generate more income. The group, whose members are all elder women, wants to keep their land productive and recruit family members to continue their work. They share their harvest and income with all family, their livelihood thus benefiting the whole community.

Hatuyumbishwi from Matemwe has acacia and neem trees growing on their plot. As can be seen in Picture 8, they planted the trees close to each other to get variety in their products, since some are supposed to be harvested young for poles and others later for firewood. They have estimated the total income to be almost double compared to their income during the BS (Karppinen & Viitaniemi 2014, 39). In the future the group would want to start raising poultry since it could further improve their livelihoods, but they are facing commitment problems and did not start yet. They have also been planning to start beekeeping and buying a sewing machine mainly for the group's women to start a sewing business. Hatuyumbishwi clearly does not lack ideas for diversifying

their livelihoods, but they should get their group to work effectively together. So far they have concentrated on developing their tree planting livelihood.

Picture 8. The tree plantation of Hatuyumbishwi in Matemwe.

All four groups practicing tree planting or agroforestry had been improving their livelihoods, and some had also diversified their production. This can be counted as one theme. It seems that tree planting is a beneficial livelihood that should be considered by the agricultural groups as well. In addition, it produces the needed wood resources that enhance the protection of the Kiwengwa-Pongwe Forest Reserve.

7.2.1.3 Seashell farming

Zina Mola from Pwani Mchangani is facing serious problems with children from the village stealing their sticks and clams. The group does not want to invest much in their seashell farm because of the disturbance, but they would need to replace the stolen and rotten sticks with new ones. Because of the Kiwengwa-Pongwe Forest Reserve, they cannot cut the wood from the forest for making the sticks anymore, but should buy the expensive sticks. The group has received training for pearl farming and jewellery making from SUFO project in

order to diversify their livelihoods, but during the interview it was clarified that in Pwani Mchangani, like elsewhere in Zanzibar, the sea conditions are not suitable for pearl farming, since the beach is shallow and clams would need deep water even during low tide to produce pearls. Not checking beforehand if the environment was suitable for this livelihood was a great mistake, and DFNR is already aware of it.

According to Zina Mola, their livelihood is “going slow”. Nevertheless, they are earning at least five times more income than at the time of the BS by selling their clams (Karppinen & Viitaniemi 2014, 42). The respondents state they want to empower their livelihood group and increase their production. The group has planned to switch their livelihood into raising poultry or goats of local species, but the best case scenario could be to try and solve the problems with the child thieves, and maybe to start a small tree plantation for the sticks or a profitable deal with the salesperson. The other seashell farming group Subira Yavuta Kheri was facing similar problems with replacing the sticks, but they could not start a tree plantation and were concentrating on seaweed farming, but also planning to start raising goats instead (Myllyniemi & Viitamaa 2015, 57). Thus, a theme found in the interviews is the difficulty of seashell farming.

7.2.2 Productivity of agricultural land

Besides diversifying livelihoods, SUFO project aims at improving productivity of agricultural land per unit area, the indicators being product amounts and sales. Overall picture in December 2014 – January 2015 was that half of the livelihood groups involved in SUFO project and practicing some sort of agriculture, have improved their production rates and are able to generate more income than before the project, but the remaining half has yet failed to increase their production due to different difficulties they are facing. Four out of eight groups interviewed by the author have increased their productivity of agricultural land and income, when comparing to the situation during the Baseline survey in 2013. The last project year will show if this development is on a sustainable basis. Despite the improvement, it is not always sure if this is due to increased

land area in cultivation, intensification of land use, or good luck with weather and other conditions. Agriculture in Zanzibar is highly dependent on rainfall and the occurrence of pests and plant diseases. Production also varies over the seasons and years, and according to the interviews, especially on the coral rag areas.

The income of the group Ubaguzi Hatutaki could not be compared to the BS because their annual income could not be counted back then. Instead, the group's income was compared to the latest information from the field trip of June 2014 (Karppinen & Ojala 2014, 5). Their income from maize production had increased since then: the group had recently sold 3,5 bags of 50 kg of maize and earned 168 000 TZS (approximately 75 EUR), which is 100 000 TZS (approximately 44 EUR) more than in June 2014. This is probably because the group has recently been concentrating on maize farming. However, it seems that their overall production has diminished significantly since the BS, when they were producing 15 bags of 80 kg of maize per year (Karppinen & Viitaniemi 2014, 19).

Another group, Hatuyumbishwi (Tunduni), would most probably have increased their income if their maize harvest would have succeeded. It did not, and hence their annual income was a little less than at the time of the BS (Karppinen & Viitaniemi 2014, 21). 67 kg of pigeon peas gained them a total of 125 000 TZS (approximately 56 EUR) (1500 TZS (0,67 EUR)/1 kg of peas). Their livelihoods have changed so their pigeon pea production cannot be compared to anything, but the group says they are able to buy more food with the profits from the peas than before. Another group from Tunduni, Hatutaki Fitina, was also unsuccessful with their production and as a result harvested cassava only for their own use, the total yield being 1,5 bags. The group did not generate any income, but in the interview the group stated that they are now having some more money because of this livelihood. However, their cassava production was rather small to start with, since at the time of the BS they were producing 2,5 bags of cassava annually. One of the themes that rose up from the interviews

was the problematic situations of the groups located in Tunduni. Some were facing lack of commitment and some suffered with production problems.

The group Nasisi Tunaweza from Mchangani village had harvested a 50 kg bag of hot pepper, which they stated was a good harvest. Their okra yield was two bags of 50 kg (a total of 100 kg). By selling these they earned 67 000 TZS (approximately 30 EUR) in total, which is significantly less than at the time of the BS (Karppinen & Viitaniemi 2014, 30). It is, however, not clear if they were still producing cucumbers which had been their main income source. The group also stated that their yields were not sufficient compared to their needs. This was an important theme as well, since they were not the only group stating this. Even one of the best-off groups described the income from their main livelihood to be less than half of what they would need.

Faida ya Mchangani sold their maize yield in April – May 2014 with a profit of 150 000 TZS (approximately 67 EUR). They also harvested 10 bags of cassava in April 2014, of which 8 bags were sold. 120 000 TZS (approximately 53 EUR) was gained, the price for a bag being 15 000 TZS (6,70 EUR). The group says their production has increased, and if the profits listed above concern the sub-group's income only, it is true when compared to the BS (Karppinen & Viitaniemi 2014, 27). However, it is not reliable to estimate the whole group's situation based on the income of one fifth of the members.

Tusaidiane from Kilombero had their cassava yield rotten at the time of starting to harvest it in July 2014. As a result, the group has produced nothing, but at least is aware of the reason for their lost harvest: there had been thieves in their field, which is located far and is thus difficult to supervise, so they had decided to cut the cassava stems earlier than they should have, and according to the interview this was the reason for the lost harvest. Apparently, their production has not increased since the BS (Karppinen & Viitaniemi 2014, 25).

Bora Imani has succeeded in their farming. In 2014 they cultivated two types of cassava, big and small, which is represented in Picture 9. Both were waiting to be harvested during the interview, the big ones for sale and the small ones for

own use. The group estimated the yield to be approximately 20 bags and their profit 300 000 TZS (approximately 133 EUR). This would have been more than double compared to their annual income during the BS, which means a significant increase in production (Karppinen & Viitaniemi 2014, 32).

Picture 9. A farmer on his livelihood group's cassava field.

The 2014 harvest of Nyuma Mwiko from Kandwi was 10 bags of maize, most of which they used themselves. This is approximately three times more maize than during the BS, meaning that the productivity of their land has increased. The group also sold a couple of their maize bags and gained 150 000 TZS (approximately 67 EUR), which however seems a lot for a few bags of maize. Their green gram yield got destroyed by insects. The group's estimated income was roughly half of that at the time of BS (Karppinen & Viitaniemi 2014, 36). According to the interview, the success of cultivation on coral rag is varying each ear, and this year was not the best one.

Kadeo from Kandwi harvested 8 bags of maize and sold it for 160 000 TZS (approximately 71 EUR) in 2014. Before the project started, they were producing 7 bags annually, so their maize production has increased a little (Karppinen & Viitaniemi 2014, 37). Kadeo got much less income per bag of maize than the other group in their village, but the reason remains unclear.

Season of selling and business skills affect the price greatly. Apart from SUFO crops Kadeo harvested spinach, tomatoes and hot peppers, and gained 50 000 TZS (approximately 22 EUR) from them. This amount is so small that it probably concerns only one product and total is estimated to be three times this. Despite this, their overall income has diminished by nearly 100 000 TZS (approximately 44 EUR) since their income was 385 000 TZS (approximately 171 EUR) at the time of BS (ibid).

Nguvu Jembe from Upenja harvested a good yield of sweet potato in October 2014: 6 bags per person. They sold it in their village where the price is quite low, 10 000 TZS per bag (4,40 EUR). Total income was 1 380 000 TZS (approximately 613 EUR). This was over nine times more than the value of their sweet potato production at the time of the BS (150 000 TZS / 67 EUR), even though the selling price is lower nowadays (Karppinen & Viitaniemi 2014, 33). Six members were also growing maize on their field shares and earned 30 000 TZS (approximately 13 EUR) per person from it, total being 180 000 TZS (approximately 80 EUR). In 2013 their total income from maize was 50 000 TZS (approximately 22 EUR), their production thus having more than tripled.

7.2.3 Increased amount of trees in community forests and agroforestry systems

SUFO project is aiming to increase the amount of trees in community forest and agroforestry areas, number of seedlings and tree nurseries indicating the progress. Also the livelihood groups' estimates on their planted seedling amounts should be taken into account. Nasisi Tunaweza from Mchangani has planted eucalyptus trees on the boundaries of their field in agroforestry style. However, they did not describe the amount of the trees during the interview, but the number is probably some dozens. Tusaidiane from Kilombero was planning to expand their production in tree planting in the future. Problems with firewood and the farming site are hindering them, but hopefully they can sort them out. Bora Imani from Pangeni on its part is planning to invest some of the money

they will generate from their cassava yield into tree seedlings and plant them. Next monitoring will show if they did this or not.

The group Nyuma Mwiko from Kandwi has planted senna trees on one of their fields, but most of the trees died because of drought, and only a few are still alive. After harvesting the survived trees they are going to plant more. Tuondowe Lawama from Pongwe planted 5000 casuarina tree seedlings during the first half of 2014 and they have been growing without problems. The group expects 4000 of them to survive. They have also established two tree nurseries and are continuously producing more seedlings for planting and selling. Kadeo from Kandwi has also planted casuarina and senna trees on one of their fields, but the number stays unclear. The group possesses a piece of uncultivated land and is expecting to plant more trees there next year. This year they did not have enough seeds to do it.

Nguvu Jembe from Upenja has planted citrus trees on their field, but there has been a pest problem with ants. The trees are growing in rows over the field. The group has also planted casuarina trees close to the village. Some of the trees have died because the group was not able to weed the field early enough, and some have been eaten by goats. Some are still growing but differ in height. Hatuyumbishwi from Matemwe on its part has planted approximately 1200 acacia and neem tree seedlings. They were going to plant 1000 trees more before the next rainy season. Zina Mola from Pwani Mchangani has not planted any trees, but the group states that in general, the people who are aware of forest protection are having their own casuarina tree farms in the village.

As a result, six groups have planted tree seedlings. The confirmed amount during the monitoring was 6225 trees, but the actual number must be higher than this, since two groups alone have planted 6200 seedlings. It would be useful if the planted amounts would be clarified during the next monitoring. Furthermore, two groups have been planning to start with tree planting activities and it would be interesting to monitor their progress.

7.2.4 Environmental awareness

SUFO project also aims to spread environmental awareness and understanding of Reducing Emissions from Deforestation and forest Degradation (REDD) processes in the project area communities, indicators being stakeholder's opinions on their level of understanding these, and the number of people attending meetings concerning these matters. There were several themes arousing from the interviews concerning environmental awareness, which in this context is largely considered as understanding issues related to forest protection, forest degradation and deforestation. Forest protection is the most important and influential form of environmental protection in the project area. The found themes were dependency on the forest resources, ignorance, fear of penalties, respecting the guidelines and requesting for more training. It should be noted that the interview was done with DFNR officers, and in this situation the groups most probably would not confess if they were involved in illegal cuttings in the forest.

Only one group responded that they were unaware of the issues concerning forest protection. This and three other groups requested to get more training on environmental issues. Hence, it can be deduced that forest protection is not an awareness problem, but rather a livelihood problem: according to the interviews, most people committing illegal cuttings only do so because their daily survival depends on it and they do not have other choice.

Ubaguzi Hatutaki thinks that people in their region are well aware of issues related to forest protection. However, they feel that the protection has created some tendency in the villages – if people are not involved in the protection measures, they "pretend that it is not their business" and continue acting as always. Faida ya Mchangani has a similar view to the issue: the villagers know about forest conservation but do not follow the guidelines and continue cutting wood. The group feels they would need more training on conservation aspects. Tusaidiane also thinks people are acting like they should not: in their opinion the understanding of forest conservation issues was first increasing, but some people are still stuck with their "old beliefs of God growing the forest", this

apparently being a reason for people to neglect the protection. According to Tusaidiane, those who understand the need for protection are also respecting the guidelines of forest use. More training “with extra effort” would be needed to change people's beliefs. The group is taking part in forestry meetings every now and then.

Hatuyumbishwi (from Tunduni, since there are two groups with the same name) stated that they are not cutting the trees from the forest because they are afraid of penalties and because of respect towards the protective measures. They think some people in need of firewood are still continuing that despite the attempts to protect the forest. The group has got training on forest conservation issues. Nguvu Jembe also approached the matter via fear of penalties: they stated that people are aware of forest protection issues and know very well that there can be problematic consequences if they go and cut firewood in the forest reserve. According to the group, only a few people are known to go there and they also know they are making a mistake.

Hatutaki Fitina replied that people in their village are aware of the benefits of forest protection, but some are still continuing to cut down the trees since their daily survival depends on it. Nasisi Tunaweza had similar idea: people in general are aware of forest protection, but sometimes they still need to harvest wood from the forest reserve. The group stated that they themselves are only using the parts they are allowed to use. Hatuyumbishwi (from Matemwe) also thinks that many people know about the importance of forest conservation and some also respect the guidelines, but others need income so desperately that they have to get it by cutting wood from the forest reserve. Zina Mola agrees with the previous groups: some people are said to be aware of forest protection and they can for instance have their own casuarina tree farms, but some are still going to the forest to cut the trees, especially women who need firewood for cooking to their families. Zina Mola thinks a lot more education would be needed on the issue.

Tuondowe Lawama had thought about the causes and effects. They responded that most villagers in Pongwe know about the protection issues concerning

Kiwengwa-Pongwe Forest Reserve, but the conservation has both positive and negative sides. The people used to cultivate in the now-protected parts of the forest, so short-time crop production has been affected negatively, and these people now have to buy the food crops they consume. According to the group, the positive side is that most people know the value of the forest existing.

Only one group was unaware of the principles behind forest protection. Kadeo members responded they do not understand forest protection issues and are not aware of the Kiwengwa-Pongwe Forest Reserve since it is far away from their village and very few people go there. The people who go to the forest also know the need for conservation, but in Kandwi village they would need more training on this issue.

The members of Bora Imani were aware of issues related to forest conservation, since one member of the group was also a member of the local FCC. They thought that people in their village in general understand the principles of forest conservation, visit the FCC member for consultation, and stay away from cutting the trees without permit. Nyuma Mwiko stated that their fellow villagers know about forest protection issues and guidelines, and respect them.

7.2.5 Strengthened role of women

Strengthening women's role in communities and in forest administration is one of the objectives of the project, number of female members in livelihood groups and number of women attending and facilitating trainings and meetings indicating the progress. Most of the livelihood groups supported by SUFO project have female majority with only a few groups having more men than women. Five groups consist solely of female members. During the BS, 370 livelihood group members out of the total 511 involved in SUFO project were women (Karppinen & Viitaniemi 2014, 45). The BS report also presents the tasks inside the groups, but it is hard to assess the proportion of females being for example spokerpersons, unless one is familiar with local names (ibid).

During the monitoring interviews, four groups out of the thirteen concerned groups interviewed by the author had no female members as representatives in the interviews, such as shown in Picture 10. Three of these groups have less female members than male members, and the remaining group only had one (male) respondent in the interview. In addition, two groups had only one female representative in the interview, despite females formed a majority in these groups. This could have been a coincidence, but in the longer run this kind of behavior is problematic within a project promoting gender equality.

Picture 10. An interview with no female respondents.

During the interviews it was observed that while men were present, one or a few of them were usually the main spokespersons. This indicates men having more authority than women directly because of their gender or because their better opportunities for educating themselves. In these situations especially younger women, lower in group hierarchy, were talking less often than older women, who were often spokespersons together with men. With all-female interview groups there was no such trend visible, but they also had one or a few spokespersons who were answering most often, the others completing their answers. During one of the interviews, a male respondent stated that especially women who need firewood for cooking for their families are conducting illegal

cuttings in the Kiwengwa-Pongwe Forest Reserve. This might well be the case, since fuel is among the most common uses for the cut wood.

To further ensure the strengthening of women's role, it should be taken into account that it might be more fruitful to cooperate with livelihood groups that have more female than male members, since they seem to be better organized. The K-P CFCN has only one female member in its leader board, and she did not say a word in the interview, but sat on the floor behind the men. According to the BS, the organization is considering gender balance "for instance by choosing female as a vice chairman if the actual chairman is male". However, the organization could recruit more female members and maybe set gender ratios for their leader board in order to empower more women to participate in the forest protection actions.

7.2.6 Strengthened capacity of K-P CFCN

DFNR organized capacity building training for the non-governmental organization K-P CFCN in December 2014. However, this was not discussed during the interview in January 2015, but many still existing problems of the organization were discussed. The first and the biggest problem is the lack of transportation vehicles. They would be essential when shifting between the villages surrounding the Kiwengwa-Pongwe Forest Reserve and when organizing patrols. The functionality of K-P CFCN is currently hindered since it has to suit its actions according to the available resources. Another problem is the lack of a permanent office. The DFNR has currently arranged the NGO an office, but it is government-owned and according to K-P CFCN members, not appropriate. Different solutions for finding a permanent office for the NGO were pondered.

Funding is the third problem. K-P CFCN is mainly relying on funds attained from fines they are getting from patrolling against illegal forest use. The organization has no proper plans for their future funding, and potential ideas of ecotourism have not been fully implemented. Also the village meetings facilitated by the organization in order to raise awareness of forest protection, their actions and

solutions, have low attendance rates. As a result, K-P CFCN is still lacking the required resources, formation and knowledge they would need to become an effective actor of forest protection, but a new project is being planned in order to further build their capacity and strengthen their actions, with the objective of protecting the Forest Reserve.

All thirteen interviewed livelihood groups were aware of the organization existing, and the organization had been in contact with majority of the groups, visiting the fields of most for giving advice. However, the role of the organization was not clear to all members in two interviewed groups. Majority of the groups knew how to contact K-P CFCN, and only one group stated they did not know anybody via whom to contact the organization. One group mentioned clearly that K-P CFCN has organized forest conservation training for them, and one group stated that they had attended a meeting about cooperation and alternative livelihoods facilitated by K-P CFCN. Thus, recognizing the organization but not being fully aware of their purpose, role and activities was one of the themes that rose from the interviews.

K-P CFCN would benefit of more efficient awareness-raising of itself. A problem of low attendance rates in the village meetings organized by K-P CFCN also aroused in some interviews. It would be beneficial for the organization and forest protection to find alternative ways for increasing the participation rates or otherwise develop new kinds of activities that would suit the interests of more people. It cannot be expected that every villager around Kiwengwa-Pongwe Forest Reserve is interested in taking part to the forest protection activities, but K-P CFCN should ensure that everyone is at least aware of the possibility. More enthusiastic and active people are likely to lead a more capable NGO with a clearer role as an actor in forest protection. Also more women in the leader board that now only has one female member would probably be a positive thing for the organization.

Two groups out of thirteen were already having cooperation with K-P CFCN and two groups were thinking that they should have more cooperation with the organization. Similarly, two groups were proposed to contact K-P CFCN in order

to start cooperating and unionizing in order to build a well or purchase a tractor in the village. This is positive development and should be emphasized more in the future. However, it cannot be said if the DFNR had acted as a middleman in organizing this cooperation or if the initiative came from K-P CFCN or the groups.

The K-P CFCN's primary aim and challenge of protecting the Kiwengwa-Pongwe Forest Reserve is severe due the limited available land area and poverty of the local residents. Many do not have sufficient income, and their resources to generate income are scarce due to the high population rates and tourism in the area. As a result, some residents still depend on the forest, thus exploiting its natural resources and predisposing themselves to fines for illegal cuttings. This is more of a livelihood problem than an awareness problem (see chapter 7.2.4). Hence, also socially sustainable protection of the Kiwengwa-Pongwe Forest Reserve is possible only by supporting local people's livelihoods that do not depend on the forest, but which would create work and income based on sustainable resources.

7.2.7 Knowledge and skills on agroforestry and GAPs

Knowledge and skills in agroforestry and other good agricultural practices (GAP) are targeted to be increased. Indicators are stakeholder's opinions on their skills and knowledge, and number of people attending agroforestry or agricultural trainings. Many of the interviewed groups requested for more training, which was an overarching theme. Matters included agricultural practices on general level, and on more specific level crop disease treatment, planting and spacing of crops, organic fertilizer and okra cultivation. In addition, information on where to get viable seeds was requested. A bit surprisingly, living fence (Picture 11.) was also a theme that rose up in the interviews, mainly with the agroforestry groups.

According to the interview, Hatutaki Fitina has learned a lot about cassava cultivation, land preparation and how to pick high quality, well-growing seedlings. They would need more training on use of organic fertilizers. They do

not want to use chemical fertilizers at all, which is in accord with GAPs. Ubaguzi Hatutaki stated that with just a little training they got the knowledge on how to prepare a farming project, and seemed to value this knowledge a lot. Hatuyumbishwi (Tunduni) would need more training on agricultural practices such as planting and spacing of crops. Their maize cultivation did not succeed because of drought, pests and diseases, so pest and disease control would probably be the most useful form of training. Also Tusaidiane stated that they need more training on pest and disease control and selecting viable seeds.

Picture 11. A detail of a living fence.

Similarly to Tusaidiane, also Faida ya Mchangani is facing problems with seeds and plant diseases, especially with cassava. Now they are adding cassava from cuttings but sometimes it does not work out well. During the interview it was discussed that seeds from another area would maybe help with the problems by diversifying the gene pool. Nasisi Tunaweza has planted eucalyptus trees on the boundaries of their field according to agroforestry principles, which proves they have internalized knowledge on agroforestry. The group would need more training on how to cultivate okra. They are facing problems with crop diseases and hoping to get knowledge also on disease treatment. Seed viability is another problem with which they were lacking knowledge, but they were advised about where to buy viable seeds from.

Bora Imani has gotten training on pest and disease control, but unfortunately the members who attended the training have died and failed to pass on the attained knowledge to the rest of members. As a result, the group feels they would need more training on these issues. Pest insects eating Nyuma Mwiko's plants are the group's greatest problem. According to the members, they were supposed to get training on using pesticides but it has not been executed yet. The type of pesticide should be considered carefully and organic pest control should be favored.

The agroforestry training was profitable to Tuondowe Lawama, since the group is nowadays able to generate some income from the food crops while waiting for the trees to mature over the years. Nearly all members of the group attended the organized nursery training voluntarily and they have shared the knowledge with the rest as well. On the other hand, Kadeo received training on agroforestry, but planted maize on one side of their field and the trees on the other side, because they "felt it was better that way for the maize". Over the first year the small trees did not shade the maize too much and it was possible to have them growing on the same field, but later the canopy closed, forming shade underneath. The group is going to plant a living fence for preventing the livestock from entering their fields, which can also be considered as a GAP due to the multiple profits of a living fence. Also Nguvu Jembe has received training on agroforestry and built a living fence. It got destroyed by goats, but the group is going to try and grow it again.

Hatuyumbishwi (Matemwe) has received training in agroforestry as well. The members learned how to practice agroforestry, but according to them it has been difficult to implement on the group's field due to problems with livestock. However, most of the members are applying the knowledge on their own individual plots instead. They know the principles: how to arrange and select the trees and the food crops, and which phase in the growth of the trees is best for which food crop. Hatuyumbishwi has also considered establishing a living fence and even planted some crops to form it, but explains it to be "complicated to continue because seeds are hard to get and nowadays all resources are

valuable to people". The group is trying to guard the started fence so that cattle cannot disturb its growth.

7.3 Agroforestry training and farming methods

Six livelihood groups who attended the agroforestry training organized by SUFO project in December 2013 – January 2014 were interviewed for this thesis. There are three themes arousing from the interviews concerning the livelihood groups' agroforestry practices. These are: well shared information, positive impact on production, and pest problems.

The groups' opinion on the quality of the organized agroforestry training is important to take into account. Three groups (50 %) stated that the training was beneficial for them. All of these groups mentioned the most valuable learnt matters to be the understanding on "how to arrange and select the crops and trees to be planted together", and the knowledge on which phase of tree growth certain food crops can be planted. These same three groups also stated that they had successfully shared the knowledge attained in the agroforestry training among the group members. In addition, one group has one of its members applying the method on his own field, so the knowledge was probably also shared in that group. Hence, at least four out of six groups had successfully shared the information. This can be considered as a theme.

In case of one third of the groups it can be said that the training was insufficient. Nasisi Tunaweza stated straightforwardly that the training was insufficient, because only the tree seedlings and instructions on how to plant them on the boundaries of their field were given to them, but the training lacked thorough explanation about why that actually is beneficial. However, multiple benefits are mentioned in the Agroforestry training plan according to which the training should have been given, including land and soil protection (SUFO 2013). Nevertheless, the group planted trees on the boundaries of their food crop field and sees that as a positive thing, since the trees are forming a sort of a fence around the plot, marking it as the group's property. In case of the group Nyuma Mwiko it can be deduced that the training was also insufficient, since according

to the previous report of the field trip, the training did not convince the members about the benefits of agroforestry: the group had decided to plant the food crops and the trees separately, because “they felt that growing them together would kill the beans”, and they are still continuing like this (Karppinen & Ojala 2014, 24).

The same three livelihood groups that considered the training as beneficial also evaluated their yields to have being impacted positively. Tuondowe Lawama had their yield eaten by birds, but they think their yields could improve in the future. For them, agroforestry would generate continuous income in addition to the greater but less frequent income from selling the trees. Hatuyumbishwi (Matemwe) has a similar view on the matter, and they are content that the continuous income from the food crops can be invested on the trees. The group has a tree plantation and the members have their own personal agroforestry fields. One of them was inspected, and despite the dry and rocky conditions of the coral rag soil, a variety of crops were anyhow growing there, as seen in the Picture 12.

Also Nguvu Jembe feels that agroforestry affects their yields positively, “since they are cultivating multiple crops at the same time”. Nasisi Tunaweza did not notice the planted trees affecting their okra yields, but the trees themselves will provide additional income in the future. As a result, the positive yield development can be seen as increase in total production and its variety, as well as income in the long run, but it cannot be said if the yields of the individual cultivated plants have increased due to agroforestry practice.

The group Kadeo, who also attended the agroforestry training, had an agroforestry system mainly when the casuarinas and senna trees were young and small. After a year or two, the tree canopy closed and shaded the maize crops underneath too much, thus making food crop growing amongst the trees impossible. This could be avoided by planting the trees less densely to ensure that also the undergrowth gets enough sunlight. In this example, only a short-term increase in productivity could have been achieved. The group, however, stated that their maize yields were not increasing. If the trees are planted too

densely, the productivity level of the system decreases and other benefits of agroforestry are lost, while mostly those of regular forestry remain.

Pests are a theme mentioned by half of the groups. One group has ants disturbing the growth of their lemon trees and two groups have a pest problem with their food crops: one with birds and one with insects. SUFO project will organize pest and disease control training, so the situation should be getting better in the future. One group mentioned drought as a reason that killed most of their planted senna trees, and other group's eucalyptus trees have also died, probably because of insufficient rains as well.

Picture 12. An agroforestry field of a Hatuyumbishwi member on the harsh coral rag soil.

One group out of six, Hatuyumbishwi (Matemwe), has noticed a change in the water conditions of their plot. They are also the group having practiced it over the longest period. "Over the first years of agroforestry, the young trees and multiple other crops were using a lot of water, but nowadays the soil can hold more water than at the beginning", stated the group during the interview. According to them, the reason for this is the falling and decomposing leaves

adding organic matter in the soil. Nasisi Tunaweza has a similar picture. They have not noticed any difference in the water conditions, but they state that “technically eucalyptus uses a lot of water”. Two groups accused the matter to be too technical, themselves not having the knowledge to assess any change yet. Thus, they have not taken it into consideration or noticed any difference.

One third of the groups evaluated that the practice of agroforestry improved soil qualities on their fields. Hatuyumbishwi mentioned the falling leaves adding organic matter to the soil. Nguvu Jembe stated that agroforestry has added fertility in the soil, since the rotting plants and leaves provide nutrients. The group also mentioned that growing of beans is adding fertility in the field, but they could not estimate how much or explain why. According to the agroforestry training plan, it has included explanation on circulation and ratio of nutrients in agroforestry, including nitrogen, but some parts of the training might have been too technical considering the educational backgrounds of the beneficiaries (SUFO 2013). Tuondowe Lawama stated that they did not investigate the matter yet, which makes sense, since they have started with agroforestry recently and it takes several years for the change to be visible.

7.4 Suggestions for corrective measures and discussion

Many groups working with agriculture were requesting to get training on pest and disease control. A few groups were hoping for more training on cost and benefit analysis which was first budgeted for the year 2015, but according to the interviews, in most groups the majority of the literate group members already had the skills and knowledge to do that. This situation was discussed with the DFNR staff in the final monitoring meeting and as a result the project plan for SUFO project’s last year 2015 was modified: the planned cost and benefit training was replaced with pest and disease control training. Many agricultural livelihood groups would need it in order to solve their pest and disease problems without external support. This is important for the group’s capacity and the sustainability of the project and it is suggested that this change will stay as it is.

Some groups were also hoping for more practical training to complement the training they have received. It is not clear how practical the training has been so far, because on contrary to the information the recipients were giving, project members had the perception that the trainings have been somewhat practical. It should be ensured that the pest and disease training is practical. The groups were also hoping for more on-site monitoring and advice. Usually they wished professional staff to regularly visit their fields to check if everything was done as it should be. However, as the project's resources are limited, there are narrow possibilities to do this. Anyway it would be important for the DFNR staff to be as available for the project beneficiaries as possible, also during the last project year. The groups could also try and seek advice from each other.

The situation with the other trained beekeeping group should be cleared out during the next monitoring. According to the project budget (SUFO 2014) a total of 12 members from two groups were trained on beekeeping, but during the monitoring it seemed clear that only one beekeeping group has been established, it being Uvivu Sikazi in Pangeni. It is also certain that this does not concern Bora Imani who clearly stated that they did not receive the training or the materials to start with beekeeping. The questions arousing are following: from which group other than Uvivu Sikazi were the trained members, why were they trained, and why they apparently have not started with beekeeping.

To further ensure the strengthening of women's role, the monitoring interviews could have a minimum quota for attending members from both genders. During the monitoring interviews, the groups where female members are a minority sent no female members as representatives in the interviews. This time it was four groups out of 13, and the groups should be informed that this is not acceptable. Also K-P CFCN should be encouraged to elect more female members in its leader board, perhaps setting gender ratios as well.

To summarize the results, SUFO project's objectives and the activities done during the year 2014 in order to achieve the respective objective are presented in the following Table 2. together with the resulted outcomes.

OBJECTIVE	ACTIVITY	RESULT
Livelihoods and additional income sources of the stakeholder livelihood groups are increased and diversified	Organizing training on cost and benefit analysis; Distributing materials for beekeeping groups; Organizing training on beekeeping; Distributing new goats for livestock groups; Organizing training on livestock keeping	Livelihoods have been diversified and developed in more than half of the groups. Incomes have been increased in slightly less than half of the concerned groups.
Productivity of agricultural land per unit area is improved	Distributing materials for beekeeping groups; Organizing training on beekeeping; Distributing new goats for livestock groups; Organizing training on livestock keeping	Productivity of agricultural land has been improved in almost half of agricultural groups, and all agroforestry groups.
Knowledge and skills in agroforestry and other good agricultural practices (GAPs) are increased	Organizing training for tree nursery keeping	Knowledge in agroforestry has increased since the BS. In 2014, no trainings concerning the matter, besides the nursery keeping training, were organized.
Amount of trees in community forests and agroforestry systems is increased	Planting 5000 trees at community woodlots/farms; Distributing tools for two tree nurseries; Distributing materials for two tree nurseries; Organizing training for tree nursery keeping	6225 trees were reported to have been planted during 2014, even though the actual number seems greater. The remaining trees will be planted in 2015. Nursery establishment will increase the amounts of available tree seedlings in the future.
Environmental awareness and understanding of REDD processes are spread in the project area communities		K-P CFCN has been arranging village meetings concerning the matter. Beneficiaries are aware of environmental reasons for protecting the forest.
K-P CFCN's capacity in management of the community forests and its role as a regional forest actor is strengthened	Organizing annual K-P CFCN capacity building training	Training was organized in 2014. Despite this, K-P CFCN has achieved minor strengthening in its capacity and has many problems.

Women's role in communities and in forest administration is strengthened	Majority of beneficiaries are women. There is still a female member participating in K-P CFCN's leader board. The status of women is still lower than men's status in the area.

Table 2. Objectives, activities and result of SUFO project in 2014.

In the future monitoring and evaluations of SUFO project, the production of the livelihood groups should be further clarified. To make the monitoring of the project and the comparison between past and present as easy as possible it is recommended to ask the groups about their specific products, production quantities and times, together with the generated or estimated income in a manner that enables comparing to the situation at the time of the Baseline survey. This monitoring lacks parts of this information, but filling these gaps and updating the information would be essential for a reliable final evaluation of the project.

8 CONCLUSIONS

The main objectives of SUFO project, tackling of development problems through enhancing sustainable forest management including both conservation and sustainable use of forest resources and improving food security of 11 communities surrounding the Kiwengwa-Pongwe Forest Reserve, are broad problems that can effectively and permanently be tackled only over long-term periods of time and with loads of work. Nevertheless, SUFO project has taken part to this development and improved food production in the project area and the incomes of the involved livelihood groups. Future will show whether this achieved development is on a sustainable basis, and if it is due to good luck with weather and other conditions, or due to an effective initiative.

Thousands of tree seedlings have been planted, and these together with the established tree nurseries should provide sustainable wood for the communities and diminish the cutting pressure on the protected forest reserve, and also act as positive examples for other residents of the project area. In addition, the groups practicing tree planting or agroforestry were on the average more successful than the others, and as a result it seems that besides the other profits, those livelihoods are also economically lucrative.

SUFO project has succeeded in its initiative of improving livelihoods and incomes of the involved livelihood groups. Seven groups out of thirteen have been diversifying and developing their livelihoods, while six out of thirteen groups have increased their annual income when comparing to the situation during the Baseline survey in 2013. This means that overall roughly half of the group's situation has been improved, but taking into consideration the unexpected farming conditions and rapidly changing cultivated species, it is hard to assess if any change, positive or negative, is caused by the project. However, this seems like a good start, and the situation can be further enhanced during the last project year. A few groups had even made significant progress with their income levels. Despite the success, one of the studied themes was the groups' yields not being sufficient compared to their needs.

Socially sustainable protection of the Kiwengwa-Pongwe Forest Reserve is possible only by supporting local people's livelihoods that do not depend on the forest and do not need vast land areas, but which would create work and income based on sustainable usage of the existing resources. Currently many people's daily survival depends on the unsustainable use of forest resources, which is a vicious circle and leads to degrading of both, the forest and the livelihoods. These livelihoods should also concern the improving of food security, agroforestry being an effective option for achieving both.

TOPIC	THEMES
Production of livelihood groups	• Increased production of the groups practicing agriculture • Overall increased production in half of the groups • Yields not being sufficient compared to groups' needs
Environmental awareness	• Dependency on the forest resources • Ignorance • Fear of penalties • Respecting the guidelines • Requesting for more training
Agroforestry	• Requesting for more agricultural training • Living fence • Well shared information • Positive impact on production • Pest problems
K-P CFCN	• Groups recognizing K-P CFCN but not being fully aware of its purpose, role and activities

Table 3. Relevant themes occurring in the interviews.

Community members have also been educated on environmental awareness and their knowledge on and connection with the organization K-P CFCN has

been strengthened, but still needs further improving, as does the overall capacity of the organization. A new project has been planned to improve the forest protection readiness of K-P CFCN.

Several themes were found while analyzing the text data of the interviews. These have been gathered into Table 2. in order to summarize and briefly present the resulted thematic.

SOURCE MATERIAL

Bakewell-Stone, P. 2006. Sustaining Livelihoods through Organic Agriculture in Tanzania: A Sign-Post for the Future. Department of Plant and Environmental Sciences, Norwegian University of Life Sciences. Ås.

Beets, W. C. 1989. The potential role of agroforestry in ACP states. Wageningen, Netherlands: Technical Centre for Agricultural and Rural Co-operation.

Bene, J. G., Beall, H. W., Cote, A. 1977. Trees, Food and People: Land Management in the Tropics. Ottawa: IDRC.

CIA 2015. The World Factbook. Referred to 11.3.2015. https://www.cia.gov/library/publications/the-world-factbook. > Africa > Tanzania.

DFNR 2015. Department of Forestry and Non-Renewable Natural Resources. Referred to 11.3.2015. www.forestryznz.or.tz.

Faße, A., Grote, U. 2013. The economic relevance of sustainable agroforestry practices – An empirical analysis from Tanzania. Ecological Economics: Volume 94.

Harwood, R. R. 1979. Small Farm Development: Understanding and Improving Farming Systems in the Humid Tropics. Boulder, CO: Westview Press.

Himberg, S. 2010. Sansibar maantieteellisenä alueena. Sansibar – maustesaari muutoksessa. Turku: Turun Maantieteellinen Seura. 5-14.

Hintsanen, K. 2010. Opas kansainväliseen projektikieleen - Keskeinen terminologia käännöksineen ja selitteineen. Tampereen kaupunki. 14.

Huang W., Luukkanen O., Johansson S., Kaarakka V., Räisänen S., Vihemäki H. 2002. Agroforestry for biodiversity conservation of nature reserves: Functional group identification and analysis. Agroforestry Systems 55. 65–72.

ILO International Labour Office 2010. Social Security Department, 2010. Zanzibar. Social Protection Expenditure and Performance Review and Social Budget, executive summary. Geneva: ILO.

Jain, C. K., Umrani, R. 2010. Agroforestry Systems and Practices. Oxford Book Co.

Karppinen, A., Ojala, M-L. 2014. Report of the field trip. Turku: The Geographical Society of Turku.

Karppinen, A., Viitaniemi, E. 2014. Baseline survey for Sustainable Forest Use and Food Security (SUFO) project. Turku: The Geographical Society of Turku.

Kepa ry 2015. Itseopiskeluympäristö. Referred to 6.2.2015. http://itseopiskelu.kepa.fi/node/34. Kehitysyhteistyön hankehallinto > Toteutus, seuranta ja arviointi > Seuranta ja arviointi > Seuranta.

Kimaro, D., Kitalyi, A., Otsyina, R., Wambugu, C. 2013. FAO Characterisation of Global Heritage Agroforestry Systems in Tanzania and Kenya. Tanzania: Agro Forestry and Development Alternatives (AFOREDA), Tanzania.

Koivula, K. 2012. Peltometsäviljely mahdollisuutena tulevaisuuden Suomessa. Maaseudun kehittämisen koulutusohjelma (ylempi AMK). Oulun seudun ammattikorkeakoulu.

Kotiluoto, R., Kettunen, M., Ruokolainen, K. 2008. Invasive *Acacia auriculiformis* Benth. in different habitats in Unguja, Zanzibar. Blackwell Publishing Ltd, Afr. J. Ecol., 47.

Kusek, J. Z., Rist, R. C. 2004. Ten Steps to a Results-Based Monitoring and Evaluation System: A Handbook for Development Practitioners. Washington, D. C.: Wold Bank Publications.

Käyhkö, N., Fagerholm, N., Asseid, B. S., Mzee, A. J. 2011. Dynamic land use and land cover changes and their effect on forest resources in a coastal village of Matemwe, Zanzibar, Tanzania. Land Use Policy 28.

Käyhkö, N., Mustelin, J., Orjala, M. 2008. Sustainable landscapes in Zanzibar. Turku: Turku University Department of Geography. 7.

MFA Ministry for Foreign Affairs of Finland; Ministry of Water, Construction, Energy and Land, Zanzibar; Ministry of Agriculture, Livestock and Environment, Zanzibar 2010. Sustainable Management of Land and Environment II (SMOLE II), 2010-2013. Zanzibar Woody Biomass Survey Design. Zanzibar: SMOLE II.

MFA Ministry for Foreign Affairs of Finland 2013. Evaluation manual.

Mikidadi, A. J. 2011. A Growing Link? Organic Farming and the Tourist Industry in Zanzibar. MSc Thesis in International Environmental Studies. Ås: Department of International Environment and Development Studies (Noragric). Norwegian University of Life Sciences.

MKURABITA 2015. Property and Business Formalization Programme. Referred to 26.5.2015. http://www.mkurabita.go.tz/mkurabita/project.php. > The Concept and its Rationale.

Myllyniemi, J., Viitamaa, V. 2015. Monitoring Report – the progress of SUFO project based on group interviews in December 2014 – January 2015. Turku: The Geographical Society of Turku.

Oxford University Press 2015. Oxford Dictionaries. Referred to 11.4.2015. http://www.oxforddictionaries.com/definition/english/agroforestry. > Agroforestry.

Pasteur, K., 2014. Livelihoods Monitoring and Evaluation: A Rapid Desk Based Study. United Kingdom: Evidence on Demand.

Place, F., Ajayi, C., Torquebiau, E., Detlefsen, G., Gauthier, M., Buttoud, G. 2012. Improved Policies for Facilitating the Adoption of Agroforestry. Agroforestry for Biodiversity and Ecosystem Services - Science and Practice. Dr. Martin Kaonga (Ed.). InTech.

Project Institute Finland Ltd. 2015. Projektijohtamisen sanastoa. Referred to 6.2.2015. http://www.projekti-instituutti.fi > Osaamisen kehittäminen > Projektijohtamisen sanastoa.

RGoZ The Revolutionary Government of Zanzibar 2008. Zanzibar Food Security and Nutrition Policy. Zanzibar: The Revolutionary Government of Zanzibar.

RGoZ The Revolutionary Government of Zanzibar 2010. Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP II) 2010-2015. Zanzibar: The Revolutionary Government of Zanzibar.

Saaranen-Kauppinen, A. & Puusniekka, A. 2006. KvaliMOTV - Menetelmäopetuksen tietovaranto [verkkojulkaisu]. Tampere: Yhteiskuntatieteellinen tietoarkisto [ylläpitäjä ja tuottaja]. Referred to 7.5.2015. http://www.fsd.uta.fi/menetelmaopetus/kvali/L7_3_4.html.

Salmela, N., Sirkiä, S. 2013. Monitoring report 2013. Turku: The Geographical Society of Turku.

Seufert, P., Suárez, M. S. 2012. Monitoring the Voluntary Guidelines on the Responsible Governance of Tenure of Land Fisheries and Forests: A Civil Society Perspective. Food and Agricultural Organization of the United Nations.

Siitonen, L. 2010. Valtio ja demokratia Sansibarilla. Sansibar – maustesaari muutoksessa. Turku: Turun Maantieteellinen Seura. 31-41.

Sitari, T. 2010. Metsänhoidon ja maahallinnon kehittämistä. Sansibar – maustesaari muutoksessa. Turku: Turun Maantieteellinen Seura. 43-48.

Somarriba, E. 1992. Revisiting the past: an essay on agroforestry definition. Agroforestry Systems. Volume 19, Issue 3. 233-240.

SUFO project 2013. Training on Agroforestry for Communication of People and Forest Protection of Kiwengwa-Pongwe. Zanzibar: Department of Forestry and Non-Renewable Natural Resources.

SUFO project 2014. Budget 2014. Zanzibar: Department of Forestry and Non-Renewable Natural Resources.

TGS 2015. Zanzibar overview. Referred to 11.3.2015. http://tms.utu.fi/sufo. > SUFO project > Zanzibar overview.

TGS 2012. The Geographical Society of Turku, 2012. Civil Society Organisation Project support application paper submitted to the Ministy of Foreign Affairs of Finland. Turku: The Geographical Society of Turku.

Turrall, S. & Studd, K 2009. Capturing Change in People's Lives and Livelihoods within Programmes. Learning from Good Practice and Experiences of Conservation Development Organisations to inform WWF practice. Consultancy Report. June 2009.

UNDP United Nations Development Programme 2009. Handbook on Planning, Monitoring and Evaluating for Development Results. New York: A.K.Office Supplies.

UNECA United Nations Economic Commission for Africa, African Union, African Development Bank, United Nations Development Programme 2014. MDG Report 2014: Assessing Progress in Africa toward the Millennium Development Goals. Addis Ababa: ECA Documents Publishing Unit. 13

UNEG 2007. The Role of Evaluation in Results-based Management. Available at: http://www.unevaluation.org/papersandpubs/documentdetail.jsp?doc_id=87.

UN 2015. Millennium Development Goals. Referred to 13.3.2015. http://www.un.org/millenniumgoals. > Millennium Development Goals.

UN-REDD Programme 2015. About the UN REDD Programme. Referred to 17.4.2015. http://www.un-redd.org/AboutUN-REDDProgramme/tabid/102613/Default.aspx. > About the UN REDD Programme.

Wojtkowski, P. 1998. The Theory and Practice of Agroforestry Design. A comprehensive study of the theories, consepts and conventions that underlie the successful use of agroforestry. USA: Science Publishers, Inc.

Young, A. 1997. Agroforestry for soil management. CAB International.

Monitoring interviews with SUFO livelihood groups

December 2014 – January 2015

1.Names? Who are present? Have any of you been present in previous monitoring interviews?

2. Are the same people still involved in your livelihood group? Changes? Responsibles?

3. How do you feel about taking part in the SUFO-project at the moment?

4. What is the situation with the livelihood you're practicing within SUFO-project? Has the livelihood produced something because of SUFO-project?

5. What products your livelihood group produces? How many items and what is their value? In what period of time?

Product(s) Number of products & their value Weekly/monthly /yearly?

6A. Can you see benefits from materials or training you have received from SUFO, now or in the future?

IF NOT benefitting, what do you think are the reasons for that?

How have you benefitted from the materials and training?

6B. Have you been able to share the received knowledge among the group members?

How has the information been shared? Do you feel you have enough knowledge?

7. How significant impact your livelihood within SUFO-project has to your life?

MAIN MEDIUM LESS IMPORTANT

8. How do you see the bookkeeping has succeeded so far?

9. Have there been problems in the project? Has something been done particularly well?

10. SUFO-project will come to its end by the end of next year. Do you think that your livelihood group will continue existing and being productive even after that?

11. What do you think about MUMKI (K-P CFCN)? How have you been in contact with them? (Have they done something in your village?)

12. Do you feel people are now more aware of forest protection? Does the awareness of forest protection have any significance, meaning, do you think people follow protective guidelines?

13. Do you have some other comments?

Comments regarding all the questions to be asked: All the questions are regarding the SUFO-project and especially the situation of the livelihoods after the interviews last summer.

It is important to take into account that they may be getting some benefits from other projects as well.

K-P CFCN interview draft

6 January 2015

1. What is the current situation with the organisation?

(How are the planned activities going? What are these?) What has happened since July 2014?

- Environmental education in groups in 10 villages. Have there been problems considering the community meetings. Attendance percentage of the villagers. How could they and FCC volunteers be activated? No other livelihoods than forest – How could we search for a solution to this?
- Building/renting an office? Is it long-term solution? Tell us about it. (Salim told about the office near Kiwengwa.)
- Has something changed considering the composition of the group?

2. How often do you meet and how is it going? Are the people from outside the board participating?

3. How is the communication between the NGO and people from the villages organised? Is it working well?

- Forest patrol in K-P forest area
- Fire suppress
- The situation with the patrols: The composition? From different villages?

4. Are you cooperating with other actors?

(Such as

- forestry department
- environmental department
- tourist department
- department of water
- hotels
- police and how
- other?)

5. Illegal forest use.

How do you monitor?

How do you cope if someone asks for a permit to use the forest resources?

How do you punish in case of illegal use? Fines?

6. What are the biggest challenges for the organisation? How do you (plan to) deal with them?

→ How is your funding at the moment?

→ Have you planned any ecotourism activities? How is it going with this? Any other funding that is considered?

7. What are the strengths of the organisation? Tell us about your biggest achievement so far.

→ Have you managed to strengthen the organisation? How?

8. What are the next steps of the organisation? Development ideas?

9. SUFO will come to its end by the year of 2015. How would you develop MUMKI (K-P CFCN) activities around K-P in the future? What are the biggest challenges? If you would develop the area, how would you plan it? Future cooperation with TGS / a new project?

10. Other comments? Problems?