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**„Socio-economic benefits
for small-scale female macadamia farmers
working with the social enterprise Limbua.
A case study from Embu County, Kenya“**

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STUDENT'S DECLARATION

I, Julia Alba Auer, declare that this master's thesis is my original work and has not been submitted to any other university or institution, other than the University of Vienna, Austria, for academic credit.

Signed: _____ Date: _____

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Abstract

The global climate is changing and countries like Kenya are suffering from deforestation and many other social, environmental and economic challenges. This master's thesis examines the socio-economic benefits for organic small-scale macadamia farmers, since they started working with the social enterprise Limbua in Embu County, Kenya (Research Question 1). In addition, this thesis investigates the framework and general factors that are necessary for a social enterprise in Kenya, to succeed and to operate ecologically, socially and economically sustainable; and which challenges arise. These success factors and challenges have also been analysed and demonstrated in relation to the German-Kenyan enterprise Limbua (Research question 2).

As part of a three-week Grounded Theory field study, the author conducted 30 semi-structured interviews with small-scale female farmers within three villages of Limbua's operation in Embu County. In addition, eleven Kenyan experts and Limbua's founder Matti Spiecker were interviewed about Limbua, agroforestry, gender, social entrepreneurship and climate change in Kenya. With regard to the theoretical substantiation of the argumentation, Kenyan and international secondary sources were used to embed the topics in current discussions.

Small-scale farmers in Embu County receive very low prices for their products; have little access to markets and scarce additional income potential, as there is a lack of employment possibilities within this rural region, which leads to high rural-urban migration. The use of expensive synthetic fertilizers in the past has also acidified the soil, reduced crop yields and left people and animals suffering from health problems.

Limbua was founded in 2009 and promotes biological agroforestry through training of farmers and educational initiatives in Kenya and Germany. This brings numerous environmental benefits, but also meets regular income demands of Kenyan farmers while creating a fair, sustainable and local value chain. Once a small-scale farm is certified organic and produces macadamia nuts and/ or avocados, the company buys the products at fair prices and processes the nuts and fruits directly in their three local factories in the villages, creating employment and adding value to the region.

Certain trees, such as macadamia, provide a variety of benefits to the population, such as shade, organic fertilizer, livestock feed, food, income, land improvement, water conservation and carbon sinks.

This study has shown that the standards of living for small-scale female-headed households, since they became part of the company production chain, have clearly improved and that farms headed by women are, on average, more productive than those headed by men. With the additional income from selling their produce to Limbua, many of them have built permanent houses, educated their children and have purchased additional livestock. Organic farming also leads to a general improvement in farming, which is more affordable and sustainable for the farmers and the environment.

Concerning the second research question, a good business concept, investment in talent and employees, a strong and loyal team, as well as a long-term problem-solving approach that really addresses local challenges, are very important to the success of a social enterprise in Kenya. General challenges facing social enterprises in Kenya include financial sustainability, access to financial capital and knowledge, lack of government support, and often western-dominated resources and solutions to local problems.

Key words: social entrepreneurship, organic agroforestry, socio-economic benefits, ecological benefits, small-scale farmers, female-headed households, macadamia, climate change

Zusammenfassung

Viele Länder dieser Erde - im Speziellen Länder auf dem afrikanischen Kontinent - sind besonders von Abholzung und Klimawandel betroffen. Dies führt zu gravierenden sozialen, ökologischen und ökonomischen Herausforderungen, welche neue innovative Lösungsansätze und Strategien fordern. Die vorliegende Masterarbeit untersucht, welchen sozio-ökonomischen Nutzen Kleinbäuerinnen in Embu County, Kenia, haben, seit sie mit dem deutsch-kenianischen Sozialunternehmen „Limbua“ zusammenarbeiten (Fragestellung 1). Zudem wird dargestellt, welche Rahmenbedingungen und grundlegenden Faktoren ein soziales Unternehmen in Kenia begünstigen, um ökologisch, sozial und ökonomisch nachhaltig wirtschaften zu können (Fragestellung 2). Des Weiteren werden auch die speziellen Herausforderungen für Sozialunternehmen in Kenia beleuchtet.

KleinbäuerInnen in Embu County erhalten äußerst niedrige Preise für ihre Produkte, haben kaum Zugang zu Märkten und auch ansonsten wenig Verdienstmöglichkeiten, da es in der ländlichen Region an Arbeitsplätzen mangelt. Dies führt zu hoher Migration in Städte wie beispielsweise Nairobi. Überdies sind aufgrund des jahrzehntelangen Einsatzes von teuren chemischen Düngemitteln die Böden versauert, die Ernteerträge sinken und Menschen sowie Tiere leiden unter den gesundheitlichen Schäden der Chemikalien.

„Limbua“ wurde 2009 gegründet und fördert biologische Agroforstwirtschaft durch Trainings- und Bildungsinitiativen in Kenia und Deutschland. Dies bringt zahlreiche ökologische Vorteile und begegnet regelmäßigen Einkommensfragen der kenianischen Macadamia-KleinbäuerInnen in Form einer fairen, nachhaltigen und lokalen Wertschöpfungskette. Nachdem ein kleinbäuerlicher Betrieb von „Limbua“ in biologischer Agroforstwirtschaft ausgebildet wurde und nun biologisch-zertifiziert ist, kauft das Unternehmen Bio-Macadamia-Nüsse und Bio-Avocados zu fairen Preisen und verarbeitet die Produkte direkt in drei lokalen Fabriken vor Ort. Dies schafft lokale Arbeitsplätze und bringt mehr Wertschöpfung für die ländliche Region. Bestimmte Bäume wie Macadamia, einen vielfältigen Nutzen für die Bevölkerung, wie etwa biologischen Dünger, Viehfutter, Nahrung, Einkommen, Bodenaufwertung, Wassereinsparung, Kohlenstoffsenken und Schatten.

Im Rahmen einer dreiwöchigen „Grounded Theory“ Feldstudie, habe ich mit 30 Kleinbäuerinnen in Embu County semi-strukturierte Interviews durchgeführt. Zudem fanden mit elf kenianischen ExpertInnen sowie „Limbua´s“ Firmengründer Matti Spiecker, Interviews betreffend „Limbua“, Agroforstwirtschaft, Gender, Soziales Unternehmertum („Social Entrepreneurship“) und Klimawandel in Kenia, statt. Hinsichtlich der theoretischen Untermauerung der Argumentation dieser Arbeit wurden kenianische und internationale Sekundärquellen herangezogen, um das Thema in aktuelle Diskussionen einzubetten.

Diese Studie hat gezeigt, dass sich der Lebensstandard von Kleinbäuerinnen, seit sie Teil des Unternehmens sind, einschlägig verbessert hat; und weiblich geführte Betriebe im Schnitt erfolgreicher und produktiver arbeiten, als jene geführt von Männern. Das zusätzliche Einkommen durch faire Preise wird dafür verwendet, hochwertigere Häuser zu bauen, die Ausbildung der Kinder zu finanzieren, zusätzliches Vieh zu kaufen und den Betrieb weiterzuentwickeln. Biologische Agroforstwirtschaft trägt zu einer nachhaltigeren Wirtschaftsweise für LandwirtInnen und der Umwelt bei und ist zudem bedeutend günstiger als konventionelle Landwirtschaft mit hohem Ressourcenaufwand für Kunstdünger. Hinsichtlich der zweiten Forschungsfrage hat sich ergeben, dass ein gutes Businesskonzept, Investition in Talente und MitarbeiterInnen, ein starkes und loyales Team, sowie ein langfristiger Problemlösungsansatz, welcher tatsächlich lokale Probleme bedient, essentiell für den Erfolg eines Sozialunternehmens in Kenia sind. Generelle Herausforderungen für soziale Unternehmen in Kenia sind finanzielle Nachhaltigkeit, Zugang zu finanziellen Mitteln und Wissen, fehlende staatliche Unterstützung und oftmals zu westlich dominierte Ressourcen und Lösungsansätze für lokale Probleme.

Schlüsselwörter: soziales Unternehmertum, Biologische Agroforstwirtschaft, sozio-ökonomischer Nutzen, ökologischer Nutzen, weiblich geführte Haushalte, Kleinbäuerinnen, Macadamia, Klimawandel

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List of abbreviations

AF	Agroforestry
CC	Climate Change
EU	European Union
EUR	Euro
FAO	Food and Agriculture Organization of the United Nations
FI	Field Interview(s)
GBM	Green Belt Movement
GDP	Gross Domestic Product
GT	Grounded Theory
ICRAF	World Agroforestry Centre
IPCC	Intergovernmental Panel on Climate Change
KEFRI	Kenya Forestry Research Institute
KES	Kenyan Shilling
KNBS	Kenya National Bureau of Statistics
Limbua	LIMBUA Group
MOA	Ministry of Agriculture, Livestock and Fisheries Kenya
NCCAP	National Climate Change Action Plan
NCCRS	National Climate Change Response Strategy
NEMA	National Environment Management Authority of Kenya
NGO	Non Governmental Organization
SE	Social Enterprise(s), Social Entrepreneurship
UN	United Nations Organization

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Figure 1: View on Mount Kenya; Source: Limbua 2019

1 Introduction

There is no doubt that the major problem of our time is climate change. Unfortunately the global community is not addressing this issue seriously, which consequently poses severe challenges to humanity. Yet deforestation, which is a major cause of climate change, persists, especially in African countries like Kenya, even though we know by now the consequences on our environment. Also, countless people still live in poverty, work within exploitive and unfair labour conditions and the gap between the rich and poor keeps drifting more and more apart.

In many cases governments, companies and charities have failed to provide solutions to these challenges, and this is where “Social Entrepreneurship” appears to be a key concept to many global problems, especially in Sub-Saharan Africa (Thorgren/Omorede 2018: 2). Most commercial enterprises are mainly profit oriented, and are not interested in other aspects of social life, the side effects or consequences of their business behaviour. Since Kenya, just like the rest of the world is facing dramatic “market failures”, such as climate change, it is clear that there has to be a shift in the way, enterprises operate.

Therefore a company needs to operate in a more social and ecologically sustainable way, and not purely focused on financial profit. This is why the concept of social entrepreneurship plays such an important role today. Social entrepreneurship is receiving more and more attention, as people start to realize that we cannot continue to destroy planet earth, like we have been doing during the past decades. Enterprises need to shift their business behaviour to a more holistic and conscious approach, in order to prepare for future generations living conditions that equal or are even better than ours. Social enterprises like Limbua operating in agroforestry, which are addressing different social and environmental challenges like deforestation and poverty, are key drivers in changing the world to a more sustainable place.

As traditional forms of development aid have proven to be ineffective and failed due to many different reasons (Easterly 2006; Deaton 2013), the need for a new approach is urgent. The major problem with traditional donor-based organizations was and remains the reinforcement of a sense of recolonization as well as dependence on donors (Thorgren/Omorede 2018: 7). Therefore local communities and individuals need to be empowered, in order to raise their living standard (Thorgren/Omorede 2018: 3), because local people and communities, who are closer to the challenges, are more likely to find suitable solutions to local problems (Tom Osborn 17.01.19).

2 Background, Key Concepts and Purpose of the Study

2.1 Country Profile: Republic of Kenya

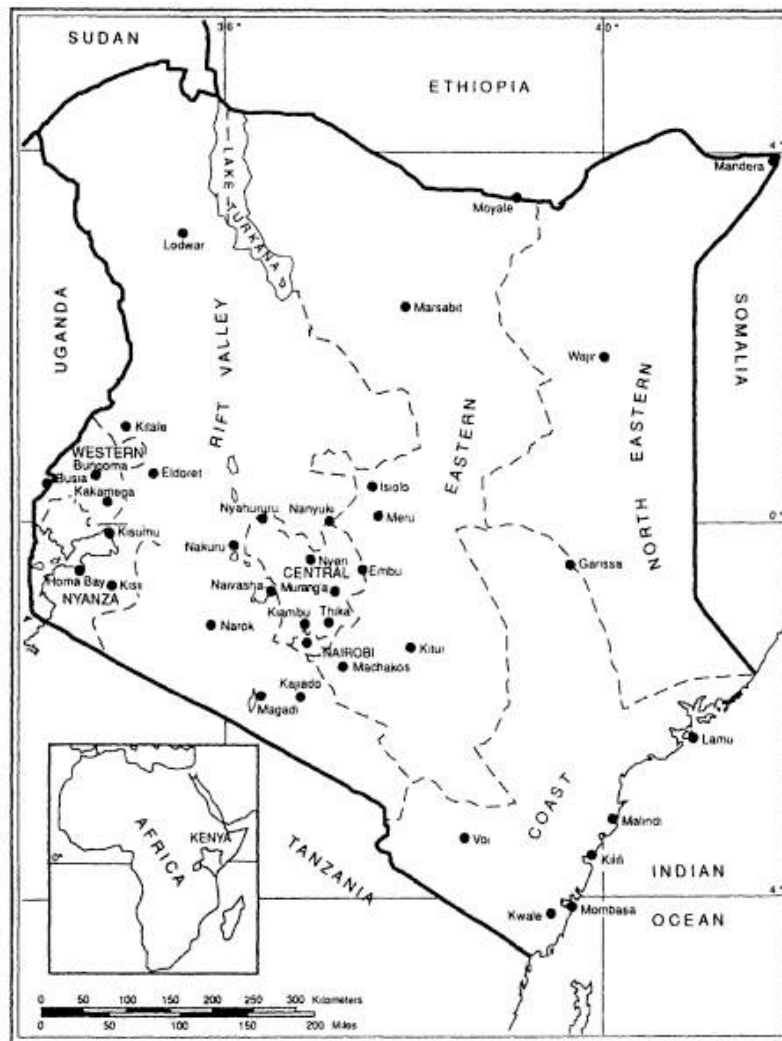


Figure 2: Republic of Kenya; Source: Miller 2018

2.1.1 Contemporary Kenya

The Republic of Kenya is a country in East Africa bordering Tanzania, Uganda, Somalia, Ethiopia, South Sudan and on its coastal line the Indian Ocean. Kenya has a total population of nearly 50 million people (World Bank 2017). It is divided administratively into 47 counties (KNBS 2017). About one half of the country's population is estimated to be under the age of 18 (ibid.). The population density of Kenya is 66 people per square kilometre, although the density is spread very unevenly across the country, as the capital Nairobi and second biggest city Mombasa show population densities between 4200 and 4400 people per square kilometre (ibid.). The two official languages spoken, beside the very many indigenous languages, are Swahili and English.

According to Kenya's current constitution, which has been in place since August 2010 – replacing the old one which had been in place since Kenya's independence 1963 – the Government structure consists of The Executive, headed currently by President Uhuru Kenyatta; The Legislature; The Judiciary; and The Devolved Governments in the 47 counties (KNBS 2015). Uhuru Kenyatta, son of Kenya's first president, Jomo Kenyatta, took office in 2013 as the fourth president of Kenya and was re-elected in 2017 for his second five-year presidential term.

On average, three out of four children in Kenya attend at least primary school, since the country has invested heavily in education (KNBS 2017). Kenya is perceived as a great financial and economical centre in East Africa (Miller 2018: 2). The country's economic backbone is agriculture. Despite the country's economical performance, which generally has exceeded the growth of many other African countries, class and ethnic conflicts, elite corruption and increasing inequality have diluted a lot of its potential (ibid.: 1).

Kenyan's poverty line (people living on less than USD 1.90 per day; 2011) has declined to 36 percent in 2016 from the previous 47 percent in 2006, with agriculture noted as the key driver in reducing poverty (World Bank 2018). Kenya's capital, Nairobi, is also home to East Africa's biggest slum – Kibera – which was established around 100 years ago and has attracted people from different ethnic groups around the country in the past decades due to its close location to the city (Kihato 2015: 14).

Beside poverty, another very dominant issue, especially in African countries as already mentioned, is corruption. Kenya is ranked position 144 out of 180 on the Corruption Perceptions Index 2018, and is perceived as highly corrupt (Transparency International 2018). The effect of corruption can be observed clearly in everyday life, as well as in the inequalities within the society:

„I have noticed, that there seems to be a massive gap between wealth in the Kenyan society, taking traffic/ or the way people move around in Nairobi as an example: people driving either in Range Rovers and Toyota Prado's; or walk, take public busses or motorcycles (...). A meal can be bought in Kenya, starting from around 20 KES (0.18 EUR) up to an open end. When looking at shopping possibilities, there are either shopping malls with expensive international brands or local markets on the streets, rarely something in between (Research Diary 05.01.19).

Kenya's inequality is rooted in its politics, economics, history and social organization and can be observed in the inability of some groups in the society to resources, power, services and agency; therefore the current framework in Kenya does not favour equal opportunities for people (KNBS 2013: 2), and income inequality keeps rising (World Bank 2018).

As a future strategy and development plan, Kenya has created The Kenya Vision 2030, which should lead the country towards a more globally competitive and prosperous future with a higher quality of life (Embu County Government 2014). The three main focus areas of Vision 2030 are the economic, social and political pillars, which have different goals such as infrastructure, energy, macroeconomic stability, land reform, security, public sector reforms etc. (ibid.). Environmental protection has also been mentioned as a national priority within Vision 2030 (Ochieng et al. 2016: 71).

2.1.2 A History of Modern Kenya

Kenya was ruled by the British Empire since 1895, before gaining independence in 1963 (Jedwab et al. 2014: 3). From initially being one of the poorest countries by the end of the 19th century, Kenya developed with the construction of the railroad to Uganda, to one of the richest African countries at time of independence (ibid.: 11). Since around 1980, the country has been heavily influenced by international NGOs and international organizations like the UN, which are merely promoting „the agenda of the International Community“, rather than Kenya's (Macharia 2012: 7), which seems to be a typical scenario for most African countries.

Since the pre-colonial times, very many different ethnic groups were found in Kenya, often mingling together, although colonialists divided those groups to better rule and oppress them and first planted the seeds of „ethnocentrism“ (wa Mbũgua/Gona 2010: 36f.). These ethnic groups are commonly referred to as „tribes“. There are more than 50 different ethnic communities in Kenya today (Aharonovitz/Nyaga 2009: 1159). The seven major tribes are the Luo, Kikuyu, Luhya, Kamba, Kalenjin, Kisii and the Meru, which account for 80 percent of the population (ibid.). The term „tribe“ is widely used, although it has also quite an offensive meaning, looking at its historical root – as it was introduced by the British after conquering Kenya for classifying indigenous people as „tribes“, meaning slaves or „the colonized“ (wa Mbũgua/Gona 2010: 34).

Colonialism is therefore one of the root causes of conflicts between different ethnic groups in Kenya, which are still a major issue and reason of violence in contemporary Kenyan

society, especially after elections (wa Mbũgwa/Gona 2010: 32; Miller 2018: 2). Kenya's first president Jomo Kenyatta - seen as a symbol of national unity, also kept advancing ethnic and class interests during his time in office from 1963 until 1978 (wa Mbũgwa/Gona 2013: 118 f.).

The worst case of „post-election violence“ occurred in 2007/ 2008 after General Elections, with 1.300 people killed and 300.000 internally displaced (wa Mbũgwa/Gona 2013: 133).

Kenya is still today somehow „ruled“ by the same families, related to former presidents and elites, such as the „Kenyatta's, the Odinga's, the Moi's, the Mudavadi's, the Ngala's, the Balala's, the Wamalwa's, the Ntimama's and Konchella's, the Nyamweya's, the Kibaki's, and the Nyaga's“ (Macharia 2012: 9).

In general, Kenya's political leadership has practiced „ethnicity-bound governance“ in the past six decades of independence, whereby they allocated privileges, resources, jobs, land etc. in favour of specific ethnic groups – especially their own – therefore nation-building remains a challenge till today (wa Mbũgwa/Gona 2010: 48).

2.1.3 Agricultural Sector in Kenya

Agriculture plays a key role in the Kenyan economy, as it contributes about 26 percent of its GDP directly and 27 per cent of its GDP indirectly through other sectors (FAO 2018). About 40 percent of the total population, and 70 percent of the rural population are employed in agriculture (ibid.). Key crops, produced in Kenya are sugarcane, tea, wheat, cut flowers, rice, coffee and maize; key manufactured agricultural products are: sugar, maize flour and processed milk (KNBS 2018). Kenya's biggest export goods are coffee, horticulture and tea (NEMA 2011: 2). In 2017, the agricultural and manufacturing sectors suffered a lot from depressed rainfall, which affected key crops and livestock (KNBS 2018). Climate change affects agricultural production and therefore food security in Kenya, as most of its people live in rural areas and directly rely on agriculture for their livelihood (Ochieng et al. 2016: 71). Small-scale farmers in Kenya and in Africa generally are most vulnerable to climatic variability and change (ibid.). Looking at the severe environmental stresses such as droughts and floods (NEMA 2011: 3) in recent years, starting from around 1990, it is even more important to conserve the environment, improve the microclimate for farming and support farmers in adapting to climate change (Ochieng et al. 2016: 71). Otherwise these circles of poverty, food insecurity and environmental degradation will continue and even force agricultural households back into poverty (World Bank 2018).

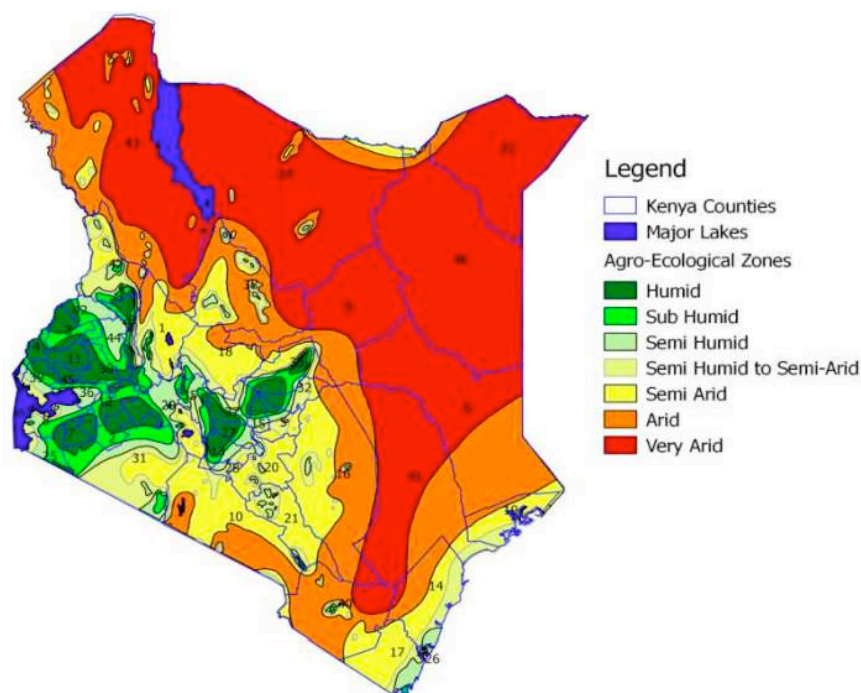


Figure 3: Agro-ecological zones of Kenya; Source: Ministry of Environment and Forestry 2018

Around 85 per cent of Kenya are arid and semi-arid areas (Figure 3), which means that there is additional pressure on farmers living in those areas, as CC hits them, and therefore action on CC should be a major priority for the county (KEFRI: Expert CC 13.08.18; Former GBM Activist 17.08.18). In general, the global population is predicted to increase significantly within the next decades, which means that global agricultural production will also need to increase by 60 percent by 2050 (Kiptot et al. 2014: 104) or even double today's rate in order to feed the everyone (Waldron et al. 2017: 1). It is estimated that the major part of the agricultural production will come from small-scale farmers, who are already seeing a decline in agricultural productivity due to climatic shocks (Kiptot et al. 2014: 104).

2.2 Agroforestry

“Agroforestry is basically integration of trees on farms” (KEFRI: Expert AF 13.08.18)

Conventional agriculture has been responsible for several environmental and social problems such as deforestation, degradation of soil and loss of biodiversity (Waldron et al. 2017). Agroforestry (AF) is a low cost sustainable land management system with many benefits, resulting from combining agriculture and forestry (Kiptot et al. 2014: 104). Trees and shrubs are integrated with livestock and crop systems to restore soils, increase productivity and food security, to diversify farm products as well as to mitigate climate change (ibid.). The most important organizations dealing with AF operating in Kenya are: the World Agroforestry Centre (ICRAF); Kenya Forestry Research Institute (KEFRI);

Kenya Agricultural & Livestock Research Organization (KARI); and Kenya Forest Service (KFS), which are all based in Nairobi (KEFRI: Expert CC 13.08.18). These organizations conduct research in agroforestry and emphasize on the general importance and implementation of new technologies in AF and related sectors (ibid.). When these organizations started emphasizing the adoption of AF, the concept was initially introduced as a “*conservation mission*”, to prevent farmers from getting firewood from the forest and plant trees on their own farms (KEFRI: Expert Gender & AF 15.08.18).



Figure 4: Organic macadamia tree (in the background) intercropped with organic coffee;
Source: Photographed by the author during field research 2018

Although the positive effects of AF are widely known and accepted, and there is high potential for wide implementation, the adoption of this sustainable land management system is slow (Jerneck/Olssen 2013: 114). Why this is the case remains quite unclear (ibid.). One way of explaining the problem could be the fact that having trees together with other crops on farms is still not a very common practise in Kenya and the trees are often seen as competitors to the crops (KEFRI: Expert Gender & AF 15.08.18). Agroforestry is also still a fairly new concept to many farmers, but they are now beginning to see the importance and advantages of having trees on their farms (KEFRI: Expert Gender & AF 15.08.18).

2.2.1 Agroforestry and Gender

“(…) To achieve 10 percent tree cover, climate adaptation etc. - we need to empower women, because women and children are always in the vulnerable group, so why not empower them, so that they can change that vulnerability and maybe now have ways of coping with whatever comes” (KEFRI: Expert Gender & AF 15.08.18).

There is very high potential for women to contribute to AF in Kenya. Unfortunately this potential remains highly underestimated, although many scholars such as Kiptot and Franzel (2012: 35) note that AF clearly benefits women and addresses their potential. In many parts of Kenya, there are still restrictive social norms on women, which do not allow them to plant or harvest trees (KEFRI: Expert Gender & AF 15.08.18), which could partly explain this gap. Available data shows that women do most of the work, when it comes to AF and have higher responsibilities but in comparison are given low priority in decision-making because of men's dominance in many Kenyan communities (Kiptot/Franzel 2012: 35f). This inequality leads to lower agricultural productivity and higher levels of poverty (ibid.). When looking at Embu County, the situation is quite different though, which will be explained later on page 29.

Kiptot and Franzel (2012: 53), like several other scholars on gender and agroforestry, argue that there is definitely a lack of data within the scientific debate. Therefore this thesis aims to contribute in finding solutions in this field, to better understand and demonstrate how to empower women within the AF sector, and why this is so important. Because of this, my study is purely focused on female headed-households – which means that the woman is the head of the household and the one who is in charge of the farm. These women do have husbands living with them, they are widowed or their men are away for work (Luka Kirungu 21.08.18)

2.3 Social Entrepreneurship

“Where markets fail, social entrepreneurs often conceive of business models that look beyond profit maximization; where NGOs fail, social entrepreneurs design more efficient organizations; where governments fail, social entrepreneurs seek the same common good but with less bureaucratic and more flexible initiatives” (Casasnovas/Bruno 2013: 174).

For many global problems nowadays, social entrepreneurship appears to be a key solution, since companies, governments and charities very often fail when trying to address social

dysfunctions (Casasnovas/Bruno 2013: 174; Thorgren/Omorede 2018: 2). This is why the field of social entrepreneurship has been growing fast during the past 15 years, as there is more and more interest from corporations, governments, academics and business schools (Casasnovas/Bruno 2013: 176). Social enterprises (SE) have „(...) emerged from the increasing convergence between the for-profit and not-for-profit spheres, bringing together the two in a marriage between social interests and market efficiency“ (Panum/Hansen 2014: 1).

As market failures from “classic” or rather purely-for-profit ventures are increasing and contributing to social and environmental challenges, there is a massive need, for more innovative and sustainable business solutions, especially in Sub-Saharan Africa (Panum/Hansen 2014).

In general the concept of social entrepreneurship is complex and very difficult to define, as many scholars share different opinions about what social entrepreneurship means, and the term still lacks a clear definition (Thorgren/Omorede 2018: 3; Panum/Hansen 2014: 1).

Ashoka – which is a support and umbrella organization for social enterprises – emphasizes on the social mission, whereby financial sustainability of the business concept seems less important (Ashoka 2012). The microfinance pioneer and founder of the Grameen Bank, Muhammad Yunus, clearly separates a „conventional“ business, which is purely for making money from a „social business“, created for doing good in a way that, social businesses are only covering their costs through provision of services or products, but do not pay financial dividends to their investors (Yunus 2006; Yunus 2008: 13).

For Ashoka and many other scholars (Nicholls, 2006; Alter, 2006), system change through social ventures also plays a major role: “Social entrepreneurs are the essential corrective force. They are system-changing entrepreneurs. And from deep within they, and therefore their work, are committed to the good of all “ (Founder Ashoka: Bill Drayton; Ashoka 2012).

One area where several scholars differ in opinions is whether a social enterprise is not-for-profit or for-profit oriented. Some researchers only consider NGOs as real social ventures, whereby others count for-profit ventures with a social mission as social enterprises (Casasnovas/Bruno 2013: 177). Most researchers, though, focus purely on whether a company has a social mission and creates social change or not, and less on its central organization. Generally, there is no “wrong” or “right definition of the term (Casasnovas/Bruno 2013: 177). Social entrepreneurs therefore constantly have to find the right balance between social and commercial goals, which is a challenge (Panum/Hansen

2014). For some scholars the term is also very inclusive (Casasnovas/Bruno 2013: 177; Panum/Hansen 2014: 3; Brooks 2009: 177), which makes it even harder to frame, and therefore the term, in my opinion, loses meaning somehow. Any kind of enterprises, which are doing anything good – like creating employment – are counted as social enterprises, especially in the African context. However, I am convinced that they should only be counted as such if they were founded to serve a social mission and are not reliant on donor funding. If a company was purely profit-oriented from the beginning, without focusing on a social mission in the first place, they should not be counted as social enterprises, as the whole business concept is unlikely to have this holistic approach in such a case. I have tried to define this concept in a way, which comes closest to *my personal understanding* of the term and also mirrors Limbua's understanding of this concept:

“A social entrepreneur is a mission-driven individual, who is addressing local and/or global social, and/or socio-economic and/or ecological challenges through a socially, ecologically and financially sustainable entrepreneurial business concept. This business concept was created to serve a social mission and to create system-change, beside being fully financially sustainable and independent from donor funding.”

For me SE is a holistic approach, which also highly emphasizes creation of a healthy working environment for employees, like the SE „Ocean Sole“ in Kenya, which offers longer holidays and maternity leave, free meals etc. (Panum/Hansen 2014: 29).

Research on SE, especially in Sub-Sahara Africa and in this case, Kenya, is somehow still in its early stages, and this thesis aims to contribute to ongoing discussions in this field.

2.4 Climate Change in Kenya

Action on climate change in Kenya is crucial as the country is highly vulnerable to climate change, yet a majority of its population relies on climate-sensitive natural resources (Government of Kenya 2013: 10). African countries in generally are largely affected by climate change due to their geographic location, great reliance on climate-sensitive sectors like agriculture; and lacking in CC adaptation capacity (Ochieng et al. 2016: 72). According to the Intergovernmental Panel on Climate Change (IPCC 2015), climate risks to East Africa are mostly related to food and water insecurity, extreme weather events and changing patterns of diseases. Therefore it is important to mitigate and adapt to climate change through different measures, such as reducing deforestation, planting of new forests and improved forest management (ibid.).

From the government side, first a National Climate Change Response Strategy (NCCRS) was introduced in 2010 and thereafter developed into a National Climate Change Action Plan (NCCAP), which was in place from 2013 to 2017 (Ministry of Environment 2019). Since then, the new NCCAP was introduced in 2017, which states the measures for CC adaptation and mitigation until 2032.

Within the NCCAP concrete activities for institutions, organizations, communities etc. are stated, whereby afforestation of farms and government forests are set as major focus areas (KEFRI: Expert CC 13.08.18). Although this policy document is purely a guideline for the country, what is important, are concrete projects on the ground such as Limbua (ibid.). These measures are necessary and urgent because the backbone of the economy and source of nutrition for Kenyans – agriculture – is suffering a lot from poor weather conditions (NEMA 2011: 2). However, CC depends on the area and the crop, as in some cases many crops actually benefit from higher temperatures and increased rainfall (Ochieng et al.: 2016: 76). Nevertheless, it is important that farmers diversify their farming by planting drought tolerant crops and practising sustainable farming methods in order to adapt to climatic shocks (ibid.: 76f).

Generally, there are sound environmental policies in Kenya. However, they are hardly enforced, and are often affected by corruption. A key emphasis in Kenya is especially on climate change adaptation measures, rather than mitigation, in which tree planting activities play a crucial role (KEFRI: Expert CC 13.08.18).

2.5 Deforestation in Kenya

Forests are a crucial source of livelihood and sustain the agricultural, manufacturing, tourism and energy sectors, beside providing a wide range of ecosystem services like groundwater recharge, flood mitigation and mitigation of CC (NEMA 2011: 18). Deforestation has been a common practice over several decades in Kenya (NEMA 2011: 20) and nowadays only 6.9 percent of natural forest cover is left in Kenya (KFS 2018), although a minimum of 10 percent forest cover is recommended by the United Nations Development Program (UNEP) to achieve sustainable development (Ngigi/Tateishi 2004: 281). Deforestation started with the colonization process, where indigenous forests were cleared on a large scale, to give way for cultivating agricultural crops (KEFRI: Expert CC 13.08.18). Even after independence of Kenya from Britain in 1963, these policies continued. (ibid.). Politics played a major role in deforestation after independence, as politicians were giving government forests away in return for political support: “(...) *Giving land for votes and to political allies*”, was the very dominant behaviour of politicians in Kenya during the past

decades (Former GBM Activist 17.08.18; KEFRI: Expert CC 13.08.18). Other reasons for deforestation have been illegal logging for charcoal and timber needs, poverty related over-exploitation of forests, population pressure for residential and agricultural purposes, and the exclusion of forest-dependent communities in participating and practising more sustainable forest management (NEMA 2011: 22). Nowadays trees still get cut down, in order to produce charcoal, or for fuelwood, as these are the major sources of energy for the Kenyan population with 75 percent of people directly relying on them (ICRAF 2012).

Although finally, it seems that there are at least some efforts from the government to stop deforestation, as of February 2018, the government introduced a ban on logging within national forests (KEFRI: Expert CC 13.08.18). As mentioned, corruption represented and still represents a major national economic challenge. Even the forestry sector is a victim of corruption and, therefore, it is questionable if the government ban can actually stop illegal logging (ibid.). Around ten years back, Kenya also finally announced, to work in reaching the 10 percent tree cover necessary, after realizing that, “(...) *the country becomes more and more of a desert* (...)” (KEFRI: Expert Gender & AF 15.08.18).

If deforestation continues in Kenya at its present rate, then the cycle of major issues related to poverty and the environment, will also continue. There will be less water, more soil degradation, less food and more extreme weather events etc. These consequences will especially affect women and children.

2.6 Purpose of the Study and Research Questions

The purpose of this thesis was to demonstrate how small-scale women farmers in the macadamia sector, in Embu County, Mount Kenya Region, in Kenya, were benefitting from macadamia trees, since they started working with the social enterprise Limbua. It also sought to identify what framework and measures were put in place in order make this company successful, as well as fully socially, environmentally and financially sustainable. This thesis also aims to show how Kenyan social enterprises in general are able to create a social, ecological and economical impact. Limbua is a company, which did not take shortcuts in its projects and management. Its aim was to create a fully sustainable value chain and to take a straight, transparent and holistic business approach.

After looking at all the mentioned problems caused by deforestation and climate change, it was in my interest to understand and define sustainable solutions. I took a holistic approach to the issue of climate change and tried to find out how agroforestry was able to empower

and benefit women while tackling climate change and addressing other socio-economic challenges.

This thesis emphasizes how important trees are for small-scale female farmers in Kenya, as they are the ones who suffer a lot from deforestation and CC. It makes a lot of sense to encourage people in Kenya to plant trees and to sustain them, as they rely on a functional environment and ecosystem as a basis for their livelihoods. There also needs to be some form of financial incentive for the farmers to plant and manage the trees they plant on their farms.

The purpose of this research was also to underline the importance of encouraging farmers to take care of their natural resources and to take ownership of their land and resources, as they directly rely on them. Social entrepreneurship is a tool that can be used to encourage that uptake and gives a value to environmental stewardship. It is especially important to emphasize the need for women's participation, as otherwise a lot of their potential in general and in environmental conservation, is being lost.

It was very interesting to find out the role of social enterprises in the field of agroforestry in Kenya, as this is quite a new field of research. Through the research for this thesis, I was also able to learn and develop my own practises, ideas and approaches for my personal future career as a social entrepreneur.

Research Questions

As a guideline for the research, two research questions were developed in cooperation with Limbua. The first question was the main research question and focus of the study. Question two naturally grew from question one. The two questions are stated below:

- 1. How have small-scale female-headed households benefited socio-economically from macadamia, since working with the social enterprise Limbua, in the Mount Kenya Region?**
2. What factors and framework are necessary for social enterprises in Kenya to be successful and create a win-win-win situation for small-scale farmers as well as the company and the environment?

Since Limbua is engaged mainly in the agroforestry tree macadamia, the research was focused on the socio-economic and ecological benefits of this tree. The company also specializes in organic avocado farming and is working on more crops, to upscale and benefit the farmers they work with. For the frame of this study, the focus was set on purely macadamia due to limited time and resources.

3 Case study: Limbua, Embu County, Mount Kenya Region

My main field of interest is social enterprises operating in the forestry sector and emphasizing tree planting. This is how I became interested in the German-Kenyan social enterprise Limbua, which is engaged in income generating activities for small-scale farmers in the villages of Kithungururu, Kibugu and Githure, around Mount Kenya.

The major challenges that small-scale farmers in these regions face concern poor marketing, low prices for their products and rare employment possibilities for themselves and their children. Limbua was founded in 2009 and is mainly involved in spreading organic farming, using macadamia and avocado trees as an entry point. Limbua emphasizes planting those two tree species, whereby the Limbua tree nursery supplies high quality seedlings of the most preferred cultivars to the farmers. Limbua approaches farmers either through offered trainings and workshops in the regions or through word of mouth. The company is engaged with male and female-headed households, although for this study, I purely focused on female-headed households.

The company offers personalised coaching and training to ensure that farmers' products meet the demands of high-end markets. The company then buys macadamia nuts and avocado fruits at a fair price, and does the processing of the same in their three local factories in Kithungururu, Kianyaga and Githure. Limbua adopts labour intensive procedures as opposed to using fully mechanized equipment to create more employment opportunities in the villages. Afterwards the nuts and fruits are exported mainly to Germany, where Limbua also has projects in schools to raise awareness about sustainable farming practises and sustainable value chains. When analysed in perspective, the social enterprise stimulates the drive to grow agroforestry trees, assures better product quality, higher farm income, linkages to markets, environmental conservation and village level employment that reduces migration of youth to urban centres. The company is also engaged in awareness raising in schools in the Mount Kenya region.

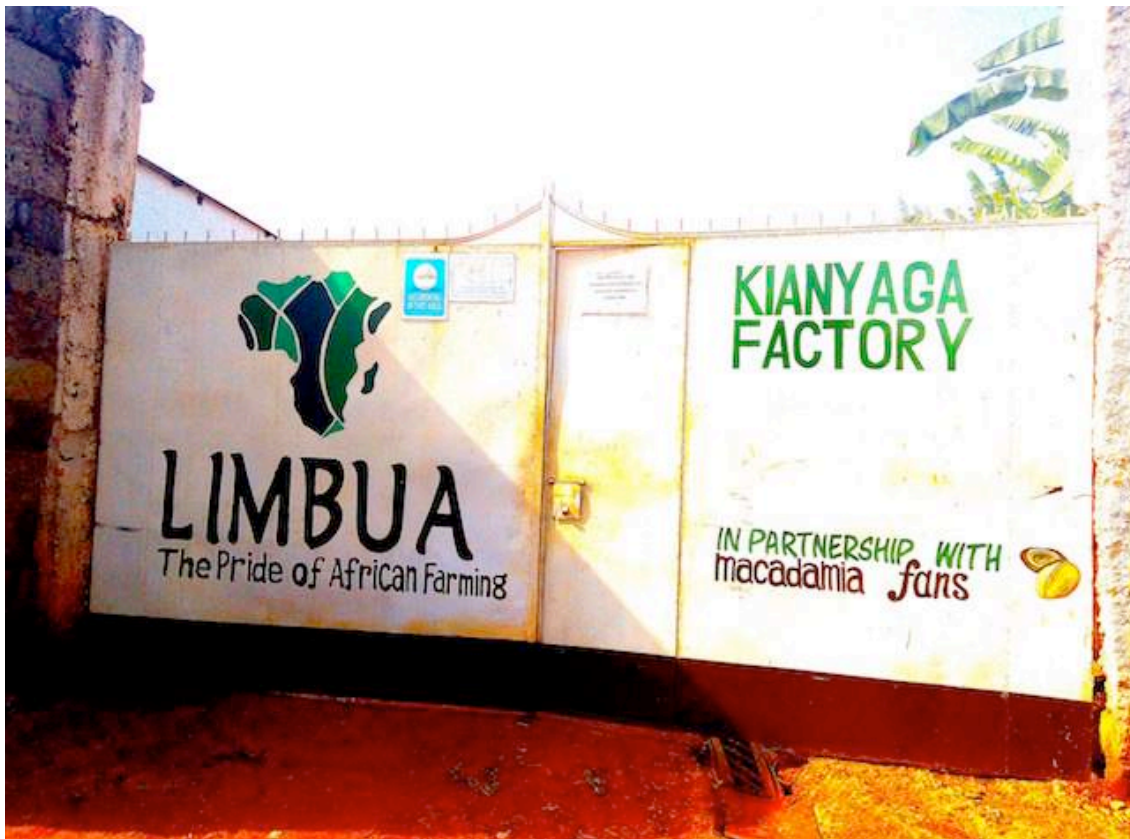


Figure 5: Entrance of Limbua's Kianyaga factory; Source: Photographed by the author during field research 2018

3.1 Limbua's Mission and Vision

Limbua's founder Matti Spiecker's vision was to create a holistic business concept, which has the highest possible impact on a group of people, who were born in a "less privileged" country than Germany in terms of living standards, education etc. He wanted to create a win-win-win situation, in the form of a sustainable agricultural model, having a positive impact on small-scale farmers in Kenya and the environment; while also being able to upscale and build a financially self-sustaining enterprise. He studied business economics, but always wanted to create a social enterprise, which would depend on its own financial success, while benefiting others (Matti Spiecker 24.10.18).

"(...) We don't take shortcuts, we are straight forward"
(Management Limbua 19.09.18).

The quote above demonstrates the path Limbua chose to take. It was not the easiest way, when trying to build this straight and fair way of running a business, since so many factors have to be considered for an enterprise to be really sustainable. If a company plans to purely make the most profit out of a product for their own sake, they are likely to take

“shortcuts” and succeed faster, but in the long run; they might lose, as the world’s economy is also slowly shifting to more sustainable methods of running a business.

3.1.1 Sustainable Value Chain

“(…) My vision was, to really have a sustainable value chain for a product (...) the product is healthy and it has an economic value for the grower (...), the product should be also quite compact in a way, that you don't grow something in Kenya, where you need so many containers to bring it to Germany and maybe 90 percent of the product is water” (Matti Spiecker 24.10.18).

Limbua’s vision was and is to have a fully sustainable value chain, which connects small-scale farmers to the end consumers of macadamia nuts. Mr. Spiecker also believes that, it is generally better, to try and improve value chains, rather than stop buying certain products, which are for example, not produced in a fair way etc. In his opinion (24.19.18), the reason why value chains are often not sustainable or transparent is that so many different organizations are involved within. There are brokers, wholesalers, exporters etc., so it becomes very hard to trace things back and also the communication between the end consumers and the farmers is not given anymore (ibid.).

3.1.2 Sustainable Personnel Management

*“Workers are our organization’s most important resource. We foster teamwork, confidentiality and ethics, to ensure a safe and healthy workplace”
(General policy statement, Limbua 2016).*

During our interview, Mr. Spiecker mentioned a few times the importance of having a good team. For him, it is part of sustainability for a company, to practice personnel management which pays fair salaries to their employees and do not exploit their labour in any sense. *“(…) Everyone, who is involved in the team should be able to have a balanced life” (Matti Spiecker 24.10.18).* He sees it also as important, that the management team, including him, is not exploiting themselves in any way.

I fully share this view on employee management because it cannot be sustainable for a company to create an internal environment, which does not take good care of its own employees. If people are forced to work long hours, without getting paid appropriately, they will soon become dissatisfied, their work quality and motivation will decrease and they are more likely to leave the company. This is what so many companies do not understand, as

the people working within and creating all the product value need to be appreciated and compensated accordingly. It is definitely more costly for companies to always hire and train new people, while already trained people leave the company with all their already gained know-how. Such a “brain drain” could really bring down a company in the long run. “Executives must understand, what motivates employees to excel in their jobs, to reduce the risk of brain drain and, ultimately, to create sustainable organizational success” (Zhang 2016: 15). It is very crucial for company success that the work environment is fair and sustainable, and employees have trust in their executives, which then leads to more commitment in the enterprise and better outcomes (Zhang 2016: 15).

3.1.3 Environmental Health

Creating a healthier environment is very much the focus at Limbua. The introduction of organic farming to more and more farmers in Kenya eventually benefits the quality of soil and the people who do not have to use toxic chemicals anymore. At the same time, it is of course healthier for the end consumer to have products without synthetic chemicals (Matti Spiecker 24.10.18). Thus, the Limbua project has also created many more benefits including the water quality, plastic pollution etc. in the region. Also, trees in general have countless benefits like carbon sinks for the environment.

3.1.4 Creation of regular Income and local Employment

In Embu County, rural-urban migration and out-migration can be clearly observed (Embu County Government 2014: 15). For instance, one of Limbua’s directors Peter Wangara (19.09.18) also observed that *“you will just find old men, women and young children (...) young people have moved to towns”*, searching for economic opportunities. This situation creates additional financial burden for people, as they need to travel or move to cities like Nairobi, very often away from their families because of lack of employment opportunities. Most nut processing companies have their factories in Nairobi or around Nairobi, in places such as Thika, which then forces people to leave their villages.

Limbua decided to set up their factories within the villages for a few reasons, including, to create local employment, to decrease rural-urban migration and to give the youth – often children of their farmers – a different perspective on life. Setting up the factories in the villages, also creates a better relationship with the farmers, a higher trust and better security for the factories. One of the farmers said:

“I advised them, not to use machines, whereby you can employ people from the area, because like that you can get the security. When you employ people from the area, it is a big security means, as nobody would like the factory to be destroyed” (Pioneer farmer/Ecologist 19.09.18).

Limbua has therefore decided, not to install mechanical cracking machines, to employ more people and to increase the quality of the produce. Instead the company self-developed an innovative hand-cracking machine.

3.1.5 Education: Stiftung Weltklasse, macadamiafans, Limbua Foundation

Education within Limbua's work is also a central point, which includes education within and outside the company on different levels (Matti Spiecker 24.10.18). Farmers and field officers, for example, are trained regularly in organic practices, which is done and funded by the Limbua Group itself. Further education to spread knowledge about organic farming, the value chain of macadamia, within schools in Germany etc. is then funded through “Stiftung Weltklasse”, which was founded in 2006 and is a partner of the Limbua Group (Stiftung Weltklasse 2006). This organization aims to empower youth, through global knowledge transfer and intercultural exchange, in becoming more confident about global interrelations and motivated to change the world for the better (Stiftung Weltklasse 2006). Through Stiftung Weltklasse, German students come to Kenya for four weeks and live with Limbua farmers, to experience the Kenyan culture and get to see how they grow macadamia. Then the students share their experiences within their communities in Germany and also sell the nuts in their schools. Using part of the money from selling the nuts, the students are able to visit Kenya (Peter Wangara 19.09.18; Matti Spiecker 24.10.18).

“Macadamiafans” was actually the previous name of Limbua, when it was founded. By the time the company started buying and processing avocados, it had to change its name. So macadamiafans nowadays is an educational project run by Limbua.

Through the Limbua Foundation, education about organic farming and environmental protection in local primary schools in Embu County is done, whereby field officers visit schools on a monthly basis (Luka Kirungu 21.08.18). The Limbua Foundation also offers an opportunity for Limbua's customers who would like to do more than buy nuts only – they can donate to the foundation and the money would be used for additional projects, which the Limbua Group would not be able to cover from its general resources (Matti Spiecker 24.10.18).

3.2 Embu County

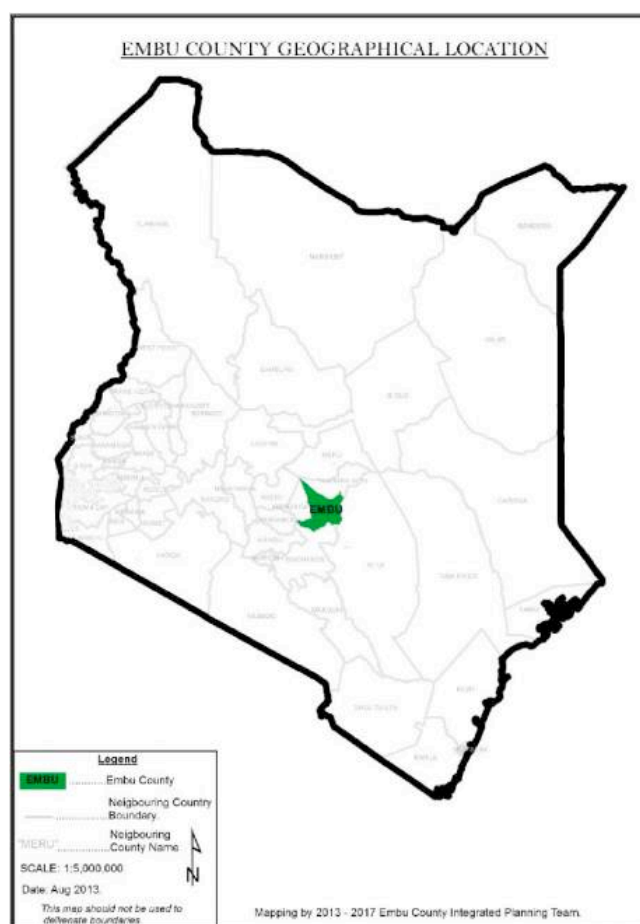


Figure 6: Embu County geographical location; Source: Embu County Government 2014

Embu County (Figure 6) is located on the windward side of Mount Kenya, the second highest mountain in Africa at 5.199 metres, and therefore has typical agro-ecological profile (Figure 7, next page) from lower hot and dry zones located in Tana River Basin to cold and wet upper zones towards the top of the mountain (KNBS 2015). The villages, in which Limbua operates, where the research was carried out, are located within the coffee-tea zone (Figure 7, next page). Therefore macadamia trees are very often intercropped within the coffee farms, since the trees function as windbreaks, provide shade and benefit the soil.

Embu County had a total population 516.200 in 2013 (MOA 2016: 4), whereby 60 percent of the people had primary level education, 25 percent secondary education and 15 percent had no formal education (KNBS 2013: 12). Looking at energy sources in the County, 81 percent of the people use firewood as cooking fuel, 11 percent charcoal and 6 percent paraffin and petroleum gas (KNBS 2013: 13). Therefore trees in general are very important as a source of energy for the people and agroforestry trees are of great help in this region.

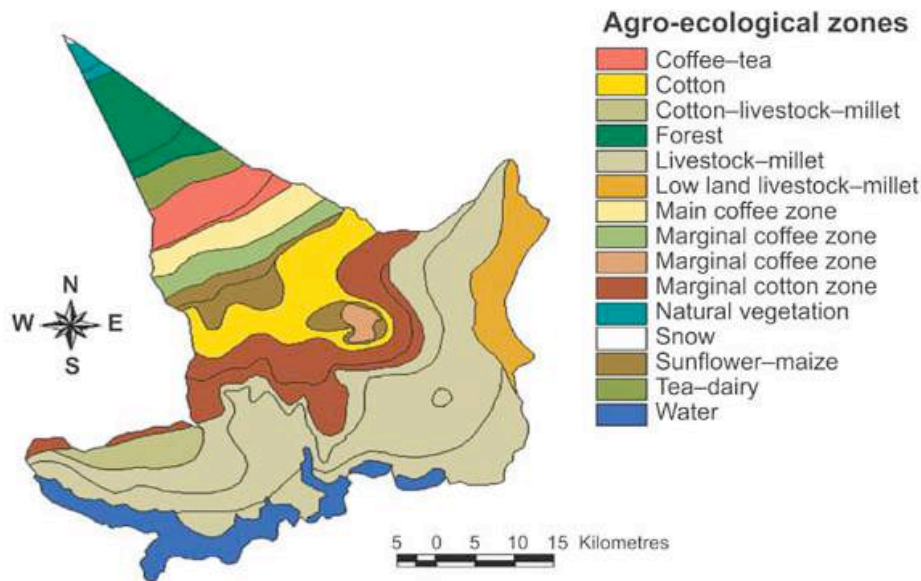


Figure 7: Embu County Agro-ecological zones; Source: Jaetzold & Schmidt 1983

Agricultural production in Embu County is split into food crops (77 percent of produce), cash crops (23 percent of produce), and livestock – mainly goat, sheep and cattle (MOA 2016: 6). The most important food crops produced in Embu County in 2013 were maize, beans, Irish potatoes, cassava, green grams, pearl millet, cow peas, sweet potatoes and sorghum; the most important industrial cash crops were tea, macadamia, coffee and cotton (Embu County Government 2014: 37). Most important cash crops for Limbua farmers are macadamia, coffee, tea, banana and avocado (Luka Kirungu 03.03.19).

Around 70 percent of people in Embu County rely on small-scale agriculture for their livelihoods and more than 80 percent of households are food secure due to the high productivity levels of crops and livestock (MOA 2016: 4f.). Although still 20 percent of households, especially in the dry semi-arid lower zones of the County, are food insecure, mainly due to extreme weather conditions or lacking access to inputs, markets, knowledge and natural resource management (MOA 2016: 1).

Around 60 percent of female-headed, 50 percent of male-headed and 40 percent of youth-headed households are already engaged in AF, which plays a major role in Embu County's climate change adaptation, besides soil and water conservation (MOA 2016:15). There is a lot of awareness about the positive effects of tree planting, although community participation remains a great challenge (ibid.). Therefore it is very important to emphasize tree planting strategies, which also generate financial income and other benefits for farmers, besides awareness raising from different organizations.

3.3 Macadamia in Kithungururu, Kibugu & Githure

Nowadays Limbua is working with around 5000 small-scale female-, and male-headed farming households around the three villages of Kithungururu, Kibugu and Githure, located in Embu County. There are several reasons why the company started operations in Kenya and particularly in this region. Kenya, first of all, was the number one producer of macadamia in the world, when it comes to small-scale farmers, and most of these farmers are located in Embu County (Matti Spiecker 24.10.18). Before choosing to start the company in Kenya, *Mr. Spiecker (24.10.18)* decided on producing macadamia:

“(...) Because it is very sustainable in the whole value chain. It is very good for agroforestry, it has a good income for the small-scale farmers and you can do good local processing up to a very high point. The value addition can be done locally and it is not very complicated also in terms of taxes and duties”.

3.4 Female-headed Households in Embu County

“(...) You will find women in Embu who plant their own trees, they can harvest and get the products from these trees” (ICRAF: Expert Gender 17.08.18).

Historically women in Embu County have a unique position in comparison to women in most other parts of Kenya. Women in regions around Mount Kenya are very independent, have a lot of leverage and can be seen as quite “empowered” (ICRAF: Expert Gender 17.08.18). However, the term “empowerment” is difficult to define and to understand within the local context, since it implies many presumptions and is somehow a “western” term and perspective (ibid.). During the anti-colonial struggle, a lot of men in the regions around Mount Kenya (ibid.; Macharia 2012: 8), especially Embu and Meru, went to fight for independence in the Mau Mau War, which left many households widowed and women had to bring up their children and run their farms etc. (ICRAF: Expert Gender 17.08.18). Therefore many women from these areas are somehow used to taking responsibility for a lot of things and have in general fewer restrictions within the society (ibid.). Women in these regions have high levels of participation in social activities including when it comes to agroforestry, in comparison to the typical social norms of whether women are actually able to plant or harvest trees in Kenya (ibid.). Limbua has also realized the fact, that women in Embu are strong in their appearance and very driven to work (Matti Spiecker 24.10.18).

“(...) We want to empower women in terms of training, knowledge and better management of the farms” (Peter Wangara 19.09.18).

A major part of the employees in the Limbua factories are women, since they are perceived as more responsible (Peter Wangara 19.09.18). Also a big part of registered farmers are women, besides the fact that very often the farms are managed by women, although the men are registered officially with Limbua: *“I realized, that 80 percent of our farmers are women. Even though some men are registered as our farmers, it is the women that maintain the farm”* (Peter Wangara 19.09.18). In general, 32 percent of households in Kenya are female-headed, with most of them found in rural sub locations (KNBS 2017).

4 Research Methodology

4.1 Grounded Theory

As a research methodology and method of evaluating the data, Grounded Theory (GT) was chosen as the best option for this project. GT challenges researchers, to take on a more reflective approach on themselves, as well as on the research process (Schultz 2014: 75). This self-reflection is also seen in the circular course of the research and data analysis. GT is presented in specific steps in this thesis, which are recursive and iterative (Birks/Mills 2015: 4). Therefore these steps were followed and practised, but I also had to go back to previous steps, until the data was saturated. The good thing about this GT approach is that I was able to choose from many different approaches of the concept, according to my preferences and the nature of the data I had collected.

Within GT, the researchers are encouraged to investigate with a very open mind, listen to what the interviewees have to say and adjust the course of the research by creating new guideline questions depending on the outcome of the first interviews (Corbin 2016: 51). I did this after the first field interviews in Embu, when the important questions I needed to ask, became clearer.

Ideally a GT researcher should be then able to develop a theory based on research, within a certain subject area, using interlinked concepts, which can describe and explain an examined social phenomenon, as much as possible (Böhm 1994: 12; Strauss/Corbin 1990: 7). So when it comes to GT, there are different opinions and views on it, especially because it is one of the most common methodologies in research (Birks/Mills 2015: 1). In the initial stages of Grounded Theory development it was believed that “Theory is embedded in the data. The idea was that if the researcher is sensitive and looks hard enough at the data, theory will emerge, the key word being ‘emergence’” (Corbin 2016: 36).

Therefore, as the name already suggests, the idea was that a theory should emerge out of the data collected, although in a practical way, in my opinion, it is both the researcher and the data, which create certain knowledge. I tend to agree with the late view of Corbin (2016: 39) who noted that “(...) Concepts and theories are constructed (they don’t emerge) by researchers out of stories that are told by research participants who are trying to explain and make sense out of their experiences and/or lives, both to the researcher and themselves.”

Generally within GT, “(...) many different approaches to doing Grounded Theory have emerged, leaving me to wonder, if there is or even should be this one methodology called “Grounded Theory.” Perhaps it would be better to think of Grounded Theory as a compendium of different methods that have as their purpose the construction of theory from data, with each version of Grounded Theory method having its own philosophical foundation and approach to data gathering and analysis” (Corbin 2016: 41).

I would agree with Corbin, as it cannot be said that there is this one method called Grounded Theory, since there are so many approaches to it and each researcher and research is individual. Nevertheless, in this thesis the term Grounded Theory is used and named as a research methodology. Basically it is a combination of different approaches to Grounded Theory, which were most suitable for the research and myself.

4.2 Methods

One of the reasons, why this study has taken a GT approach is, that I lived in Kenya for six months, and therefore was able to return to the field and carry out further research in the process. I was not embedded within the local context and assumptions made prior to the field research turned out differently, once I started conducting the interviews and observing the field. This is why this approach was chosen as the best option for this project.

In the very first stages of this study, theme-finding conversations with experts from ICRAF, Limbua and KEFRI have been carried out to develop the research topic and sharpen the concrete research focus. This has been very beneficial to better understand the research field and enriched the study in general. After finalizing this process, I have started conducting expert interviews and field interviews, which will be explained in the next sections.

4.2.1 Access to the Field: Field Assistants

Limbua employs field officers for specific regions, who are closely engaged with their farmers in terms of training and any kind of assistance. The field officers took me to the farmers for the interviews, which was very convenient; and they could also carry out their usual duties with the farmers during the same visits. The most positive aspect of the field environment was that the farmers seemed to trust the field officers and to have a very good working relationship with them, since we were always welcomed in a very friendly way. Most of the farmers had not been in contact with any researchers before I met them, and the field officers, therefore, enabled harmonized and open interview situations.

Limbua mentioned specifically that they would also like to find out what could be improved and what were the challenges for the farmers. Since I was with the field officers as my field assistants, I got the impression, that I had received trust from the farmers as well, which significantly helped with the interviews.

“When walking around from one farm to the other, very many people were greeting us in a friendly way. They started talking to us and were introducing themselves as Limbua farmers. I got the impression, that they are really proud for being part of the company. Many of them said, that they have been with the company from the beginning” (Research Diary, Githure 30.08.18).

Since many of the interviewees spoke one of the local languages, mainly “Kikuyu” and “KiEmbu”, but also Kiswahili, the field officers helped in translating from the local languages into English, during the time of the interviews. This was very helpful, as I thought the farmers would have felt somehow overwhelmed, if there would have been three of us speaking to them, while they were mostly alone. When carrying out the research, it was always a field officer and myself visiting farmers. A third person as an additional translator might have disturbed the interview situation.

4.2.2 Data Collection: Semi-structured Interview

In view of the Grounded Theory approach, the data was collected on the basis of qualitative semi-structured interviews. This method was chosen for many reasons, as discussed below.

At first, interviews have long been proven, in both qualitative and quantitative social research to be very productive. Access to individuals in the field is also much easier than,

for example, gaining a group for a focus group discussion, as individuals are more likely to engage in a conversation. In addition, qualitative interviews can be interpreted well, with evaluation methods, such as the Grounded Theory method (Lamnek 2010: 301). Nevertheless, these types of interviews were still quite flexible, since the questions are formulated openly and can be adapted to the respective interview situation, if necessary. Another advantage of these kinds of interviews is that they could be better compared based on interview guideline questions (Dannecker/Vossemer 2014: 158f).

The interview guideline also gave me more confidence and helped in supporting the conversation. On the basis of the key questions, an attempt was made to encourage the interviewees to narrate and to show contexts and their perspectives concerning the field (Dannecker/Vossemer 2014: 159). More or less open questions were used to answer the research questions and to better illustrate the structures of the research field.

In general these types of interviews are very often used in qualitative research, as they are a variant between the extremes of very open forms of interviews on one side and pre-structured interviews on the other side. They can thus be described as "relatively flexible semi-standardized interviews", since the guideline provides scope for formulation and handling of the questions (Hopf 2004: 351; translation by author). The choice of the appropriate form of interview also depends on the general research interest, which should be adapted to the respective interview form. Interviews are not necessarily the most appropriate survey method (Dannecker/Vossemer 2014: 155). In general, the survey methods should also be reflected during the research process as this study did (ibid.).

4.2.3 Expert Interviews

Before the field study, expert interviews were carried out to identify the specific local structures within this field and the region (Figure 8, next page).

Expert interviews continued to be done during and after the field research, as the study became more and more focused. In nearly all cases, the interviewees proposed their own office as the place for the interview, as this was the most uncomplicated way for everyone involved. I made them consciously choose where the interview was to take place so that they could feel comfortable. In addition, I was also interested in seeing their workplaces, such as the World Agroforestry Centre or the Kenya Forestry Research Institute. The offices were a good idea as the environment was most appropriate for both the conversation itself and the recording.

Most of the time, I prepared an interview guideline in advance to make it easier for me during the interviews, and because of other aspects already mentioned. I noticed, that sometimes it did not make so much sense to strictly follow the questionnaire, as this made the conversation seem somehow artificial, which is why I left out some questions and gave the interviewed persons the freedom to tell me, what they considered most important concerning the topic. According to Lamnek (2010: 324), it is also the point of a qualitative interview that the interviewees are given the space to speak freely and only until they cannot think of anything else, the interviewer should intervene stimulatingly. Of course at times, the interview partners tended to drift away from the actual topic, which is when I intervened. All interviews always ended in a very positive manner, with the interviewees offering to be available for further interviews should I need additional information.

In total twelve expert interviews were conducted as shown in the figure below:

Number of expert Interview	Date	Name/ Organization	Field of Expertise
1	August 13th, 2018, Nairobi	Anonymous Kenya Forestry Research Institute (KEFRI)	Agroforestry in Kenya
2	August 13th, 2018, Nairobi	John N. Kigomo Kenya Forestry Research Institute (KEFRI)	Climate change and agroforestry in Kenya
3	August 17th, 2018, Nairobi	Anonymous Kenya Forestry Research Institute (KEFRI)	Agroforestry and gender in Kenya
4	August 17th, 2018, Nairobi	Anonymous World Agroforestry Centre (ICRAF)	Gender and gender history in Embu County
5	August 17th, 2018, Nairobi	Former employee of Green Belt Movement (GBM)	Environmental policies and development; climate change in Kenya
6	August 23rd, 2018, Githure; March 3rd, 2019, via phone	Luka Kirungu Management LIMBUA Group	Overall information on operations of LIMBUA Group
7	September 19th, 2018, Kibugu	Pioneer farmer/ Ecologist LIMBUA Group	History and challenges of LIMBUA Group

8	September 19th, 2018, Kithungururu	Sara and Mike Management the LIMBUA Group	Overall information about LIMBUA Group and macadamia processing
9	September 19th, 2018, Kithungururu	Peter Wangara Director LIMBUA Group	Overall information and history about LIMBUA Group
10	October 24th, 2018, Kithungururu	Matti Spiecker Founder and Director LIMBUA Group	Overall information and history about LIMBUA Group, social entrepreneurship, macadamia sector in Kenya
11	December 17th, 2018, Nairobi	Liz Muange East Africa Trade and Investment Hub	Social entrepreneurship in Kenya
12	January 17th, 2019, Nairobi	Tom Osborn Social entrepreneur - Founder of GreenChar	Social entrepreneurship in Kenya

Figure 8: Expert interviews; illustrated by the author

4.2.4 Field Interviews with Small-Scale Female Headed Households

I carried out in total 30 field interviews with small-scale female macadamia farmers in Embu County, in three villages of Limbua's operation, Kibugu, Githure and Kithungururu. The interviewed farmers were among 40 and 60 years old, had between two and five children and most of them attended primary and secondary school education. Only a few of the farmers went to college (Luka Kirungu 03.03.2019).

The average size of the women's farms was between one and four acres with five to 50 macadamia trees. All the interviewed farmers can be seen as „Pioneer“ Limbua farmers, as they joined the company in 2009 or 2010 from the very beginning (Luka Kirungu 03.03.2019). The households are female headed for different reasons. The women are either widowed, divorced or their husbands are away from the farm working in the village or in cities (ibid.). Nearly all Limbua farmers, as well as the interviewed persons, are intercropping macadamia trees with coffee, which are very important cash crops in this region. Further major cash crops for the farmer's are tea and banana; avocado plays a smaller role. Most important farm animals are cows, mainly or using their milk (ibid.).

The data collection was done within three weeks in total, from August 28th, 2018 to September 18th, 2018. It was important for me, to set aside enough time for the fieldwork because I was not able to go to the field on some days due to poor weather conditions or

because the farmers were not at home. I also wanted to be shown around their farms, to get a better impression of their situation, without having time pressure. I noticed after the first set of interviews that many farmers were telling me very similar stories about Limbua. Yet I still wanted to do a certain number of interviews to make the data more reliable. After the 30 interviews, I had the feeling that no new information was forthcoming and the data was saturated.

The field interviews took between 15 and 30 minutes, depending on if the farmers were involved in some work at that time and how freely and openly they were speaking. I did not wish to disturb any of the farmers too much; which is why I kept the interviews as short as possible at times. Sometimes the interviews even took longer, especially when farmers answered in English, as they were very happy talking to me and many times offered us tea or food. I initially considered giving a small financial token as appreciation for the interviewees' time but I decided against it for ethical and practical reasons. First, this might have falsified data for future research, since there was the possibility that once the farmers knew that they could be 'paid' for information, they might have told me what they thought I wanted to hear. Second, considering my financial situation and the situation of future students, it is not realistic or affordable to hand out money for interviews and I did not want the farmers to expect this from future researchers. Third, future researchers might turn out to always interview the very same people who might be expecting to be paid and therefore might falsify the data.

I although always tried to show my appreciation for their time, as I also asked them if they would like to ask me some questions after the interview as well. I also gave sweets to their children after the interviews, which they seemed to appreciate. In one case, Sylvia Ochanda (fellow researcher) and myself have helped with tea picking for a few hours, as an appreciation for the interviews, and to understand how this process works (Figure 9, next page).

I think in future some small gift, such as a chocolate; a pen or a similar material thing could be offered as an appreciation of the interviewees' time and as a memory of the visit.



Figure 9: Limbua farmer, field officers, author and fellow researcher picking tea;
Source: Photographed during field research 2018

Looking at the beginning of the field interviews, I found it difficult to keep the interviews very open and to let people just tell me what they found important. Although after the first field interviews I figured out some key aspects, which many of them found important and mentioned again, and in a similar way. So I decided to ask the interviewees certain questions to find out more about these aspects. This made the whole interviews also more comfortable for both sides. For me, it was good to understand what to ask and for the interview partners it was also good to get questions, which they were able to answer.

4.2.5 Secondary Data Collection: Literature Review

Since this thesis is scientific work, many Kenyan and international secondary sources like journal articles, books and other respectable sources have been cited and used to give it academic credibility. Secondary data from other researchers also helped to demonstrate the current situation and debates around topics like agroforestry, social entrepreneurship and gender.

Transcription

All the field and expert interviews were transcribed word by word. The main focus of the interviews in this case was a thematic-content interest, this is why filling words, and short breaks etc. were mostly left out from the transcripts. Due to the fact that all interviews were recorded in private spaces with a minimum of background noise, it was quite convenient to transcribe them. For all the interviews the transcription software “F4transkript” was used, which made the whole process much easier. Also some notes, which were taken during the interviews, helped with the transcriptions.

4.3 Ethical Aspects and Reflexivity

4.3.1 Self-reflection as a Researcher

Before entering the field, many aspects of how the interviews and observations will be carried out and what approach to take, needed deeper thinking through as well as a reflective look at my position as a researcher. Corbin (2016: 40) also emphasizes that: “(...) we don’t separate who we are as persons from the research and analysis that we do. Therefore, we must be self-reflective about how we influence the research process and, in turn, how it influences us.” As I was not embedded in the field nor the local area, I had to carefully be aware of my prior assumptions, which always come automatically with one’s mindset.

I arrived in Kenya on 1st August 2018, four weeks before starting the field research in Embu County, Central Kenya. In total I lived in Kenya for a period of six months. The first weeks were used to acclimatize to the country and the culture, as well as for preparation for the field research. I also started conducting the expert theme-finding conversations and expert interviews during this time, as mentioned before. After, I spent three weeks living in Kibugu village in Embu County, while moving around Kibugu, Githure and Kithungururu to carry out the field research. I returned to Nairobi to finish the transcription of the interviews, carry out further expert interviews and start the writing of this thesis.

The first weeks after my arrival in Kenya, I spent mostly in Nairobi, Kenya’s capital and biggest city, staying a little outside the city, at my Kenyan friend’s place. In the course of staying with my friend, I experienced what it means to be a white person, or rather a “mzungu”, how Kenyans call a white person, in Kenya. I received extra attention everywhere I went around Nairobi, especially in the local area I stayed, and in the commercial business district (CBD), as there are not many white people in general. I was

constantly approached, when walking on the streets and people tried to engage me in small talk all the time, which was very unusual for me. I realized that unless I was moving around Westlands and other areas in Nairobi where more white people stay, I would somehow always attract attention.

After the first two weeks of acclimatizing I did become more confident when walking through local areas and people did approach me less, as they thought I was living in the country. At first, many people approached me as a tourist and tried to overcharge me when I would be buying things, as white people are commonly perceived as rich. This also changed after I became more familiar with how Kenya works.

In general, I had never experienced such openness and kindness of people, no matter if I went to a local shop, asked for directions on the street or when taking a public bus, “Matatu”, or a taxi. Most Kenyans were extremely friendly and open-minded with a very positive and welcoming attitude towards me in general. I think it is very good, if a researcher has some time to acclimatize in a foreign place before undertaking a study, as it makes it easier to understand the social and cultural aspects and practises of the people she will be studying. This makes it more comfortable for the researcher when in the field but also for the interview partners and other local people interacting with the researcher.

I also experienced that it is very important, to adjust to local standards and practices as much as possible, due to the fact that a white person is generally always standing out somehow. I noticed that Kenyans often tend to treat white people as “something better” for different reasons. I think this way of thinking is still somehow persistent due to colonial structures and maybe through “westernization”. What I tried to do from the very beginning was to take the same means of transportation, to buy at local food stands and to be as decent as possible, so that people could see, that I was no better than anyone else. Over time I got the impression that this actually worked and people started to charge me the local prices as they would charge a Kenyan person and spoke Swahili to me. I tried to show people my appreciation by adapting to their country and they too showed me their appreciation for doing this in return. Sometimes they were a bit surprised, for example, at how I carried my shopping bags home without taking a taxi or that I actually went to very local markets and areas, which I was told, might be unsafe at times. In general, I never felt unsafe in Kenya, as I always followed advice from local people where to go, where not to go and at what time of the day.

In general, I was following my own individual path in terms of my role as a researcher and I would definitely agree with Corbin (2016: 36 f.), that the following statements are nowadays out of date:

- “1. A researcher should remain “objective” at least to some degree when collecting and analysing data.
2. A researcher should avoid “going native” (adopting the stance of or getting too close to participants), because going native would make it difficult to maintain that objectivity.”

Certainly a researcher is trying to be objective to a certain extent, as otherwise this would have an impact on the data even more. But it is definitely somehow wrong to think that a researcher could be objective, since: “Each person experiences, gives meaning to, and responds to events in light of his or her own biography or experiences, according to gender, time and place, cultural, political, religious, and professional backgrounds” (Corbin 2016: 39).

To what extent qualitative research in general can be considered, as objective is highly controversial. Research can never be seen as purely objective in this sense, since the researchers' embedment and background always play a central role, but they also constitute a quality feature of this type of research (von Unger/Narimani 2014: 22; translation by author). How a researcher understands and defines the world is very much influenced by one's own individual history and context (Birks/Mills 2015: 1). So our individual philosophy influences, what we consider important and what knowledge we are creating out of a research (ibid.).

Referring to statement number two above, one could argue that if a researcher does not try to adapt to the research field and cultures at all, the whole idea of qualitative research might not work out. The data sought might not be collected at all in the first place, as interviewees might think, why would they give just any person information who approaches without wanting to be related to the culture or values of this area. The other thing is that wrong information might be given or the information given might not be interpreted in the best possible way, closest to reality, as the researcher does not understand the field or the data.

4.3.2 Research Diary

As part of the reflexivity process during the study, I carried a Research Diary, which was helpful during the whole study, as I was able to compare how, for example my view on

certain cultural and social structures changed. Within the research diary, I noted down memos, which were my personal reflective thoughts throughout the research process. The memos helped me a lot with my memories, when analysing the data a few weeks later. A research diary gives one a more practical insight into how the field study was conducted and how things worked in the research area. Below is one memo from the Research Diary:

“Every time, when walking around with the field officers, I have noticed that people in general, and farmers are very delighted to see them. They seem to be very well integrated in the community, also because they are from areas where Kikuyu language is spoken as well, so it is easier for them to communicate with the farmers, since most of them speak Kikuyu.” (Research Diary, Githure 11.09.18).

4.3.3 Prior Informed Consent

All *expert interviews* were arranged via the mobile phone, email or through local contacts. The contact details of the possible interviewees and departments were found based on information on the respective websites and were either directly contacted or via their assistants. Some other interview partners were suggested from previous interview partners or local contacts. When contacting the interview partners, it was briefly explained during the phone or email conversation, what the research was about. Also, permission to record the interviews and prior informed consent were obtained via phone or email prior to the interview.

At the actual time of the interview the consent for the interview and the recording was confirmed orally before starting. In none of the interviews was the consent approved in writing, as in my opinion, it would have seemed inappropriate for the interview partners, since already the recording sometimes disturbed the interview situation.

During the *field interviews*, all interview partners gave prior informed consent to the recording and the interview, orally. Before the beginning of the interview, the study was explained to the interviewees and permission for the recording was asked. I had not been in contact with the farmers prior to the interview, so this strategy made the most sense. It would have been confusing and compounded by the language barrier, if the prior informed consent were obtained in writing.

In general all interview partners agreed to the recording and use of the information given within this thesis.

4.3.4 Anonymization

When it comes to anonymization, only a few expert interview partners stated that they would not like their names to be mentioned in the thesis. This concerned mainly interview partners who are working with an organization, while at the same time, communicating their very personal views on the topic, which might not always be in line with the views of their organization. Therefore I assured them to anonymize their names.

All farmers were informed that their names would not be mentioned anywhere in the thesis. Most of them were not bothered about mentioning and they often proudly announced even their surnames. Although from an ethical perspective it is definitely necessary to anonymize their names because the information might be able get traced back to the farmers. On the other hand, some farmers specifically asked that their views be delivered to Limbua. Some expert interviews, for example with the founder of Limbua – Matti Spiecker – have not been anonymized, as his views should definitely be identified with him and Limbua.

4.3.5 Confidentiality of Data

In the course of the interviews, confidentiality of the collected data played an essential role. Strategies to contain and prevent these risks mainly concerned data protection. The data was always adequately protected with passwords to prevent access by third parties. It was important, that the interviews took place indoors or outdoors in a quiet and private space. Nearly all expert interviews were conducted in the respective offices of the interviewed persons or in other private areas, which on the one hand provided a calm atmosphere and on the other hand excluded those who could listen in. In the offices, the interviewees also felt visibly at ease, as it is their usual environment, which made this a perfect atmosphere for the conversation. After the interviews, the data was transferred immediately from the private smartphones to the private laptop, secured with passwords and stored.

4.3.6 Vulnerability

Looking at the *expert interviews*, the individuals interviewed could be seen as vulnerable in the sense, that personal information and/ or political views were given. In extreme cases, such information could reach the public (or even their superiors or other levels/ organs within their organizations etc.) and harm them. Therefore all the interviewed persons were assured, that their names would remain anonymous if they wished so. Otherwise this

would, as already mentioned, lead to private information being leaked out, as well as information provided by respondents about institutions, organizations and for example the political situation in Kenya. This would also be an unpleasant situation for me as a researcher, because I did promise confidentiality. In worst case, this could also make me somehow vulnerable. There were interviewees who specifically asked that their names should not be mentioned in the thesis whilst others were happy to be named. Naming interviewees can often help readers to better understand where specific information comes from.

Concerning the *field interviews* with the farmers, they could definitely be identified as a vulnerable group. At first, many of the farmers depend more or less on Limbua in order to secure their incomes. This is why it would be in their interests not to get into any misunderstanding or conflict with the company. Although Limbua clearly asked that this research should also aim to find out what the company could still do to improve its services to the farmers, and therefore it was in their interest to also get critical information from the farmers.

Then, because Limbua is a company operating globally, they do have to maintain a good reputation and be conscious about what information about their company gets to the outside world. Therefore it was agreed between the researcher and the company that this thesis would not get published without the approval of the company. Generally any kind of negative impact on interview partners' privacy was avoided as much as possible and their social, cultural, gender and religious identity was respected all time.

4.4 Challenges During the Field Research

When it comes to field research, especially if the researcher is not embedded in the cultural context, it is likely that there would be misunderstandings or other forms of misinterpretation between the researcher and the interview partners. There were a few challenges that I faced during my field research.

At first, I did not have very much general information about this region or how the production of macadamia works. As mentioned earlier, there are many companies that market themselves as social enterprises but are rather focused on how to sell their brand as sustainable and social, without benefiting farmers. Therefore I was not sure, whether this company also did a lot of „green washing“ or if it really supported small-scale farmers in this region. Since there had never been research carried out about the Limbua itself before, the only information available was on their website and in some articles. I also received information about the company through a colleague from Vienna.

In the beginning it was a bit difficult to conduct the interviews because one fellow researcher and me, who started research around at the same time, were the first people to conduct research about Limbua. Therefore many interviewees did not speak openly regularly, mainly because of the language barrier. Often the women were also engaged in farm work when we visited them. In such cases I kept the interviews as short as possible. One unexpected challenge was the weather condition, which made it impossible to access the field for several days, due to heavy rains (Figure 10).



Figure 10: Road leading to Githure village - after heavy rains;
Source: Photographed by the author during field research 2018

"I did not have field access for a few days, as there were too heavy rains. The roads were very slippery. The common means of transportation here is to take a "boda boda" (motorcycle), which makes it nearly impossible and dangerous to move around at this time. I saw so many motorcycles and cars get stuck on the roads to the villages during this period. I also noticed that on the roads near the facility in Githure, macadamia shells were used for stabilizing and fixing them" (Research Diary, Kibugu 11.09.18).

Additional to this, the one thing I experienced in Kenya was that things often did not turn out as expected. This lack of information at first was quite challenging as I had designed my research somehow beforehand. The good thing was that I used a GT approach, which allowed me to start my field research with a very open mind, with lesser presumptions, and

I could, therefore, really let the field “speak to me” and frame my study. Silverman (2016: 11) also shares the opinion, that a qualitative researcher should be open, in order to identify the views that make people interact with the world in a certain way.

A general challenge was the language barrier. In Kenya there are more than 50 speech communities. The official languages are Swahili and English, which most people speak. In the countryside, in a region like the Mount Kenya Region, less people speak English and also Swahili; and it was sometimes difficult to communicate with them. During many of the interviews the field officers translated from the local languages, which were Kikuyu, KiEmbu, or Swahili into English. This was sometimes a challenge because it disturbed the interview situation a bit and the women seemed to not speak as freely as expected. The farmers appeared to speak more openly when the field officers were not involved in the interview, and when they were able to communicate in English with me. With time I became more aware of these potential difficulties and I always tried to maintain harmonized interview situations. The good thing here was that the interviews were held in peoples’ homes, where they felt most comfortable.

Last but not least, different aspects, which are important within the whole context of agroforestry, were only touched on or not considered in this study, if they were not specifically in line with the research questions of my thesis. Organizations like ICRAF, or KEFRI have been operating for a many years in this sector and write a lot, when it comes to agroforestry. Mentioning all this further important information would have examined the frame of this paper.

4.5 Recommendations for Future Research

As mentioned, expert interviews were done before, during and after the field research. The initial plan was to organize the expert interviews with Limbua’s directors before the field research, although some were not present in Kenya until the end of the research. It turned out that it was actually very beneficial to conduct these interviews after, as I had a much better understanding of how the company operates, which was a more fruitful basis for the interviews. I was able to ask for specific information, which the farmers could not provide. In this manner I got a better picture of Limbua and all the information needed for my study. I was also able to have a better discussion with the directors about the farmers, since I understood how things worked on the ground.

“Leo (today in Swahili), I met Peter Wangara, one of Limbua’s directors for an expert interview. He seemed very calm and like a good person, who personally tries to interact with the farmers, as from many stories he told me, when meeting farmers or when farmers came to the factory, to talk to him. It was very good, that this interview took place after the field research, because now I understand how everything works on the ground and I was able to ask questions, which the farmers were not in the position to tell. I was able to ask very detailed questions, which I would have not been able to ask if, I had not done the research before. It was nice, that he also mentioned some of the farmers’ struggles, which were actually in line with what the farmers have mentioned in their interviews. In general, it seemed that Peter Wangara very well understood, what is happening on the ground because he was and is interacting with the farmers directly and on a regular basis” (Research Diary, Kithungururu 20.09.18).

4.6 Data Analysis

4.6.1 First step: Initial coding

In the beginning coding sentence by sentence openly was a very good way to find out what the data was about (Charmaz 1996: 37) and to identify crucial words, concepts and groups of words (Birks/Mills 2015: 10). I have written out and conceptualized individual passages using in-vivo codes (Charmaz 1996: 41) or codes formulated in my own words. Every interview was coded word by word. This step of initial coding was done after the first interviews, prior to further data collection, which differentiates this research from other more linear types of research (Birks/Mills 2015: 11).

During data analysis, there was a major difference in handling field interviews and expert interviews. Within the field interviews, certain codes and categories occurred again and again in the interviews, and I formed categories manually. When I realized that once new data was analysed did not bring out new categories and fitted into existing categories (Birks/Mills 2015: 10), I decided not to collect any additional data.

Afterwards I sorted the concepts according to the main topics to get a better overview of the data. This helped me with focused coding, so I could make the concepts easier to categorize. The concepts were then summarized on the basis of the categories. The most interesting concepts for my research with the most analytical sense were worked out and all concepts categorized (Charmaz 1996: 40). Throughout the entire coding process, I wrote

memos like Charmaz (1996: 43) and Corbin and Strauss (1990: 10) suggest. In my case, they helped me, among other things, to better understand and reflect on the evaluation process itself.

Within the analysis of the expert interviews, the software “f4analyse” was used, as there was so much different information, and this made the whole process more effective. The software was most helpful when it came to citing direct quotes from the expert interviews and getting a good overview of the data. The result of this process was a very well structured summary with all categories and codes.

4.6.2 Intermediate Coding

In the next step, which has somehow already been introduced within the previous steps, I linked the categories to each other and provided the most important phenomena with precise subcategories. This advanced step of coding reconnects data that was somehow fractured in the previous step; and links categories (Birks/Mills 2015: 12).

4.6.3 Final Step: Forming of Core Categories

From the category list, I thus selected and assigned those categories which fit the phenomena and which could best answer my research questions. As a preliminary final step in the coding process in this research, I developed two core categories from the key categories (Figure 11). The core categories are found in all phenomena as well as almost all created categories and represent the central phenomena of my research (Corbin/Strauss 1990: 13). Everything is more or less linked to them and there are countless connections based on the concepts and categories (ibid.). Both research questions are about how small-scale farmers benefit from agroforestry after engaging with Limbua, and therefore the core categories clearly represent what my work is essentially about. Starting from these two umbrella terms, I have examined the major phenomena in it that answer the research questions. The **core categories** have been defined as following:



Figure 11: Core categories; illustrated by the author

5 Research Findings: Research Question 1

How have small-scale female-headed households benefited socio-economically from macadamia, since working with the social enterprise Limbua, in the Mount Kenya Region?

5.1. Macadamia Sector in Kenya: Before Limbua

5.2 Reasons for Farmers in Embu County Planting Macadamia

5.3 Changes in Farmers' Living Standards after Joining Limbua

5.4 Socio-economic Benefits for Farmers since Becoming a Limbua Member

5.5 Female Headed Farms vs. Male Headed Farms in this Region: Major Findings

5.6 Further Benefits of Macadamia

5.7 Challenges for Macadamia Farmers in Embu County

5.8 Farmers' Suggestions to Limbua

5.1 Macadamia Sector in Kenya: Before Limbua

*"The prices were so low, we even cut down the trees.
It was 20 KES (0.15 EUR) per kilo" (FI: L, 12.09.18, L24).*

Before Limbua was founded, macadamia farmers had been oppressed by brokers coming to the region for their macadamia nuts (FI code 1). There has been a monopoly by one company, which initially brought macadamia to Kenya in the 1960s and dominated this sector for many decades (Gregoratti 2011: 10). This monopoly received protection from the government and the international community since they were the ones bringing macadamia to Kenya in first place (ibid.). Such multi-stakeholder market-based development strategies have excluded small-scale farmers from participation and left them without a voice or benefit sharing (ibid.: 15f.).

The majority of farmers (FI code 2) claimed, that they were paid very low prices for their produce and sometimes were not even paid at all. The produce was bought by local and international brokers (FI code 3, 4). Sometimes foreign brokers could not buy the nuts directly from the farmers and had to work together with local brokers (FI code 5). Before Limbua introduced the farmers to organic agriculture, they had suffered from several health problems, mainly from fertilizers, which used to burn their skin (FI code 151).

The farmers' statements were pretty much the same throughout the interviews, claiming that they had not been very happy with the whole situation regarding macadamia before Limbua started:

"Before, we were not getting good money from macadamia, because we sold at a very low price, 10 or 20 KES (0.10 or 0.15 EUR) and now we are getting over 150 KES (1.30 EUR) per kilo" (FI: B, 30.08.18, B177). "They used to buy as they wanted. They were oppressing us (...)" (FI: H, 28.08.18, H158).

These facts clearly state, that it did make a lot of sense to found a company like Limbua, since the farmers had the macadamia trees, but it was even sometimes a question for them, whether to cut them down or not, because of very low prices. The farmers did not have a secure and regular income since the prices kept changing and brokers did not buy on a regular basis. Since Limbua was founded, they seem to be happier with the company, which is actually based in their villages, and regularly pays them fair prices. Consequently they have come to trust and be loyal to the company.

5.2 Reasons for Farmers in Embu County Planting Macadamia

Most of the farmers, or even their forefathers, had planted macadamia trees before engaging with Limbua many decades earlier. Limbua also requires the farmers to have at least five old trees before signing up with the company (Luka Kirungu 21.08.18). The farmers for planting macadamia trees in the first place have given different reasons:

1. Income (FI code 83)

Money, or rather additional income, was named as the number one reason for planting the trees.

2. School fees (FI code 90)

This additional income was mainly used for paying children's school fees.

3. Healthy food for children (FI code 89)

Farmers planted macadamia as a healthy food for their households, especially for children.

4. Simple maintenance (FI code 86)

Macadamia is much easier to maintain, compared to other crops like tea or coffee, which are typically produced in this region.

5. Cheap maintenance (FI code 87)

Macadamia is also cheap to maintain, since the only inputs are organic self-produced manure.

6. Shade for coffee (FI code 88)

Coffee benefits from the tree's shade, and grows better when intercropped with macadamia.

7. Diversification of agriculture (FI code 82)

Diversification is important, to create other sources of income and not to be too reliant on one crop, like typically tea or coffee in this region, in case the prices for these crops decrease or farmers face climatic shocks.

8. Building material (FI code 84)

The wood from the trees has also been used as building material for housing etc.

9. Shelter for livestock (FI code 85)

Trees are always a good shelter for livestock to protect the animals from sun, rain etc.

5.2.1 Reasons for Farmers' join Limbua

There are very many different reasons, why farmers joined Limbua in the first place. The reasons, below, are demonstrated by order, according to their importance for the farmers:

- 1. Fair price (FI code 8).**
- 2. Training (FI code 17).**
- 3. Trust (FI code 16).**
- 4. Immediate payment (FI code 12).**
- 5. Good logistics: quick pick up (FI code 9).**
- 6. Reliability (FI code 13).**
- 7. Macadamia is less work (FI code 14).**
- 8. Manuals/ assistance from field officers (FI code 15).**
- 9. Macadamia pays faster than coffee (FI code 10).**
- 10. Employment creation for children (FI code 11).**

5.3 Changes in Farmers' Living Standards after Joining Limbua

“There is a lot of change, because, for example, this house I built from macadamia money(...) I built it last year, after two years since working with Limbua” (FI: I, 11.09.18, I92).

There have been significant changes in the living standards of farmers since they joined Limbua. This is basically due to the higher prices they get paid now for macadamia. They have more economic power and it also seems, that they are able to make future plans, in terms of what they want to achieve and what their next steps in life are, since they know that they have a regular income. From what I observed, very many farmers have built new permanent houses with money from macadamia; about ten farmers mentioned this fact. The term „permanent“ house is not quite clear, although from my understanding, it describes houses that are built from brick/ block and cement. In Embu County, most of the houses are built using a combination of mud and wood (29 percent); 25 percent are built from wood only; 21 percent are built from bricks/ blocks; 16 percent are stone houses; and 9 percent made from other materials (KNBS 2013: 15). This means that there is still high potential for building permanent housing.

In the beginning I merely observed this fact – that farmers have a new permanent house – but I did not ask the question directly. I later asked them about their houses as the interview structure changed to get a better idea of the changes in their lives. This is why only ten farmers stated that had they built a new house, although I observed newly built houses on nearly every farm.

“I built a house with five rooms. I bought a motorbike with that money from Limbua. I see an improvement there. Limbua is good because they helped us. This year I’m also trying to buy a vehicle” (FI: G, 28.08.18, G111).

“A lot of change, because even the cows we bought, are from that company money, we have built a good house, it is so good” (FI: K, 11.09.18, K366).

Building a permanent house, paying school fees for the children and buying livestock have been the top three things, farmers mentioned the most, when it comes to improvements in living (FI codes 23, 24, 25), *“It is a great help for them to have more cash, so that they can afford the school fees in a better way or even a higher education for their children” (Matti Spiecker 24.10.18).*

Many farmers also mentioned, that they were enjoying better and healthier nutrition than before joining Limbua, and they were also able to buy food for their children (FI codes 29, 32). Further, they mentioned several things, such as farm development in general, also due to the fact that they were able to attend trainings; installing electricity; and building a toilet (FI codes 27, 28, 33). Some farmers were now able to spend their money on healthcare (FI code 26), which is very important for them too. They were also able to save money and invest in buying a motorbike, a vehicle, or more land (FI codes 22, 30, 31, 34).

5.4 Socio-economic Benefits for Farmers since Becoming a Limbua Member

“We get market access, they help us with issues on the farm, we see the field officers often, we get trainings” (FI: Q, 13.09.18, Q104).

5.4.1 Fair Price (FI code 122)

All farmers mentioned that they joined Limbua and were part of the company because they received a fair price for their produce. Because of this addition to their economic power they were able to improve their quality of life. 18 out of 30 farmers interviewed said that they were happy with the prices they were being paid but they would still like it to be increased (FI codes 41, 182). Nearly all the farmers interviewed said, when asked about recommendations to Limbua that they would still like to receive a higher price for their produce.

“We have been able to turn around the economies of the farmers and they are able to do calculations and planning. In the past, there used to be price variations and it was difficult for the farmers to estimate the income from the nuts. But today I can tell you with certainty if you produce 4 tonnes of macadamia I can buy at a price of 120 KES (1 EUR) per kilo at minimum. This I can promise all the farmers, but in the past it was like gambling” (Peter Wangara 19.09.18).

5.4.2 Training (FI code 129)

The second most important benefit, which has been mentioned, is training. Training is one aspect, which made farmers, first of all, join the company (FI code 17). Thereafter the farmers said that they were satisfied with the training (FI code 38) and it also counts as one major benefit, which leads to many other positive effects for them.

Learning's from Limbua's Trainings (FI category 17)

"We learned about composting manure, soil fertility, soil terraces and soil conservation. We have learned so much, I can't remember all of it."

(FI: O, 12.09.18, O204).

"We are now able to maintain the farm well, because we got trained on how to maintain the trees, to do the manure."

So I have gained a lot from Limbua."

(FI: L, 12.09.18, L96).

1. Maintenance of macadamia trees (FI code 159)

- **Organic manure:** How to make organic manure for the macadamia trees, was the most frequently named thing the women mentioned in the interviews. They said that they did not use other inputs apart from the self-made manure as fertilizers for the trees (FI codes 101, 108). They applied manure approximately every one or two years on the trees, so they spent little time maintaining the trees, which is a general advantage of macadamia (FI codes 102, 103, 107). Therefore the main effort in producing macadamia is during the time of harvesting; otherwise the trees are easy to maintain (FI code 104).
- **Mulching** (FI code 164)
- **Pruning** (FI code 154)
- **Field hygiene** (FI code 158)

2. Organic farming in general and its benefits on the environment (FI codes 157, 160):

The farmers were introduced (most of them for the first time) to the practise of organic farming and on the benefits it has for humans, the environment and of course on the way of farming. Farmers were also advised on how to build fences bordering their non-organic neighbours, in order to protect their land and produce from sprayed chemicals (FI code 156).

3. Soil maintenance (FI codes 161-163):

Here the farmers were trained about soil fertility, soil conservation and how to construct soil terraces. The soil plays an important and major role when it comes to farming, considering that through excessive use of fertilizers, the soil had become very acidic and less productive. Since the farmers stopped using chemicals, the soil quality has improved and is less acidic now (FI code 134).

- 4. How to increase produce** (FI code 155): Limbua has introduced new types of macadamia trees - which are grafted, to the farmers. These trees have more produce that is also of better quality.

5.4.3 Good Service (FI code 120)

An important point, which came out very clearly, was the good service the farmers were receiving from Limbua. The field officers visited the farmers once a month to help and support them in terms of organic farming practices and other farming areas, where help was needed. This has led to an intact and well-maintained relationship, which has resulted in high levels of trust on both sides. Another successful social enterprise in micro forestry in Kenya – “KOMAZA” – has also stated that monthly visits to farmers and embedment of the company’s employees within the local communities has led to trust from the farmers (Panum/Hansen, 2014: 20).

“Every time, when walking around with the field officers, I have noticed that people in general, and farmers are very delighted to see them. They seem to be very well integrated in the community, also because they are from areas where Kikuyu language is spoken, so it is easier for them to communicate with the farmers. Many times, when we were visiting farmers, we were given food (mainly avocados, sugarcane, but even a meal) and tea, which I found very friendly.” (Research Diary 11.09.18).

Also, the factories, which are located in the villages, function as another contact point for the farmers if they have concerns. I twice observed a farmer come to one of the factories, although I rarely visited the factories. Farmer’s have also mentioned that Limbua picks their produce very quickly, and they have good weighing machines (FI codes 123, 125). The farmers are generally very happy with their logistics system.

5.4.4 Organic Farming

*“This system of farming has somehow controlled the environment at large.”
(Luka Kirungu 21.08.18).*

“It helped a lot. Less acidic soil, better water retention, improved health for me, no stomach ache because no more chemicals.” (FI: O, 12.09.18, O196).

“I like it (organic farming), because there is no cost for input, no diseases from using the chemicals, so it’s better for the crops and humans.” (FI: X, 18.09.18, X117).

A major and important benefit for the farmers was the introduction of trainings in organic farming. It had led to an overall improvement in farming, as well as very many other benefits for the population and the environment (FI code 127). The process of how Limbua farmers have adopted organic farming is explained in detail in the appendix of this paper on page 109.

Disadvantages and Effects of Conventional Agriculture in Embu County

“One lecturer told us in school back in the time: If you want to control the environment, change the system of farming, cause in the past we had the whole village using very strong chemicals” (Luka Kirungu 21.08.18).

Conventional agriculture has proven to be a root cause of many social, environmental and therefore also financial challenges for planet earth. There are a number of issues, which are a consequence of unsustainable agricultural practices. The list below names a few, which specifically affect small-scale farmers in Embu County:

- **Health issues for humans and animals**

“Our generation has certain diseases, our grandfathers never had, (...) they are becoming much stronger, because of these kinds of chemicals (...)” (Luka Kirungu 21.08.18).

Conventional agriculture emphasizes very much the benefits of toxic chemicals, which cause a number of health issues, for humans and animals. These chemicals also unbalance the whole ecosystem, contaminate water and destroy the soil. Farmer’s working with Limbua have previously suffered from many health issues, especially stomach ache, skin burn, lung problems, cancer etc. One of the reasons for these effects is that only a small number of farmers have the correct equipment to spray chemicals and most of them do not use masks (Pioneer farmer/ Ecologist 19.09.18).

(...) In this region we have a lot of farmers doing horticulture, tomatoes, paprika etc., so they just buy the strongest chemicals, to cure the disease for long – but the same vegetables they still harvest and eat” (Luka Kirungu 21.08.18).

Therefore farmers do not only suffer from health issues from spraying, but then they also directly eat the sprayed vegetables. The good thing is that nowadays people are becoming more and more aware of these issues because they realize the negative effects of the chemicals and therefore want to change to organic agriculture (Luka Kirungu 21.08.18). At the same time, while humans suffer from getting into contact with toxic chemicals, animals too suffer a lot, as they often feed on a lot of produce from the farms (Pioneer farmer/ Ecologist 19.09.18).

- **Negative effects on environment**

In Kenya, a lot of environmental degradation started with the introduction of toxic chemicals and fertilizers in 1973, by mainly Britain (Pioneer farmer/ Ecologist 19.09.18). Farmers were introduced to this way of farming, which has had catastrophic impact on the environment (ibid.). Through this strong emphasis on farming with chemicals, many farmers still do not know about organic farming or automatically think that they only get more and better produce with conventional farming methods (Management Limbua 19.09.18).

“Here is very near to Mount Kenya, so you are contaminating the whole water. And this water is the main water source for Kenya, so a lot of people get issues” (Luka Kirungu 21.08.18). Mount Kenya is the main water tower of Kenya, and chemicals in these waters are being spread out all over Kenya, which has negative consequences on a very high number of people.

- **Soil quality and produce decreases**

“Many farmers nowadays have experienced that with synthetic fertilizers the soil is also somehow getting addicted to it and productivity is slowly going down” (Matti Spiecker 24.10.18).

With the use of toxic chemicals on the soil, it becomes very acidic over time and the produce eventually decreases. However, many farmers still believe and see the opposite: that the produce is going up with chemicals. They are clearly not aware of the unsustainable long-term effects of the chemicals.

Benefits of Organic Farming for Farmers in Embu County

During the field interviews the women farmers stated the following benefits of organic farming:

1. Cost benefit (FI 139)

*“When they realize that it is better and cheaper - they go for it.”
(Management Limbua 19.09.18).*

The major benefit named by the highest number of farmers is that organic farming is cheaper for them than conventional farming. As the financial income is always a general concern for them, they count it as one of the most important benefits of organic farming.

2. Improved human health (FI code 140, 150)

Second, most important for the farmers was the improvement of their own health. Since many of them had been using fertilizers for a long time and had been in direct contact with these chemicals, they had suffered in many ways, including stomach ache and chemical burns. Since they stopped using toxic chemicals they clearly felt that their health had significantly improved.

3. Improved soil (FI code 134, 135)

“When walking around, one could clearly tell the difference between organic farms and non-organic farms, especially when looking at coffee. The soil underneath the sprayed plant seems dry and there is no more grass or other plants. Also most of the sprayed coffee, I have seen, has less beans und looks unhealthy, compared to organic coffee - which seems much more intact and healthy” (Research Diary, Githure 11.09.18).

Many farmers stated that the soil was less acid since they stopped using chemicals and also the microbalance remained in the soil. This, therefore, benefited their crops.

4. Increase of overall produce (FI codes 141, 142, 144, 150)

*“Since we changed to manure also for the coffee, it is more productive.”
(FI: T, 13.09.18, T282).*

Some farmers said that the produce of macadamia and other crops on the farm, like coffee or maize, had increased since the farmers started practicing organic farming. The coffee seemed healthier, intact and had more produced because there were no more pesticides.

5. Better quality of macadamia (FI code 133)

It has been observed that the quality of macadamia nuts as well as other crops has improved since organic farming was implemented.

6. Healthier food for household consumption (FI code 147)

Certainly the farmers realized that they were consuming the chemicals they sprayed on their crops. They now eat healthier food since they no longer spray the crops.

7. Maintenance: Less effort and time (FI code 137)

Since many of the crops are not being sprayed anymore, the farmers also save time and effort in maintaining them. Of course, when it comes to crops like coffee, it still might have to be sprayed with organic fertilizers, but in general the time spent spraying on the farm is reduced.

8. Production of own inputs (FI codes 148, 149)

Another benefit of organic farming is that farmers are able to produce their own inputs, such as manure, which is highly needed and plays an important role in organic farming. They also produce their own organic fertilizers or insecticides from plants on the farm. This makes them save more money.

9. Further environmental benefits (FI code 143)

Farmers have definitely realized that organic farming has an overall benefit on the environment. Toxic chemicals contaminate groundwater, and can also harm animals besides causing many other environmental problems.

10. Organic products preferred by buyers and consumers (FI code 146)

Buyers nowadays generally prefer organic produce. This is why shifting the way of farming to organic is an investment in the future, in every sense. Farmers have also realized that even the market for organic coffee and other farm crops is better than the conventional one.

11. Less plastic waste (FI code 136)

Since farmers are able to produce their own inputs needed for farming, their plastic waste has decreased, which has many positive benefits. What normally happens is that plastic waste gets burned in a hole dug in the ground, since there is no garbage collection system, especially in the villages. This method of garbage disposal leads to people inhaling the toxic smoke. The micro-particles of the plastic are also distributed in the soil where they remain for a long time.

5.4.5 Fast payment through M-Pesa (FI code 124)

Another important benefit for the farmers is the payment through the mobile banking system, M-Pesa, which makes it possible to send money directly to people's mobile phone accounts. The money is sent to the farmer immediately after receiving the produce, either on the same day or the next day. As many farmers do not have a bank account, M-Pesa is of great help to Limbua and very much appreciated by the farmers.

5.4.6 Organic inputs (FI 126)

Limbua, first trains the farmers in producing their own organic inputs, and second, provides them with further needed organic inputs like fertilizers. *"(...) We have a certain plant, when you burn it you can smoke the macadamia tree with it, and it keeps away the insects which are eating the flowers (...) such methods are working"* (Luka Kirungu 21.08.18). Limbua also has their own tree nursery near Kithungururu factory, which supplies the farmers with a variety of organic macadamia and avocado tree seedlings (Figure 12).



Figure 12: Limbua tree nursery; Source: Photographed by the author during field research 2018

5.4.7 Cultural exchange (FI code 128)

*“Slowly I improve my English. When they come, I am so happy, they also help me. We would also like our children to go to Germany (...) and also more farmers to visit Germany to see what you are doing there”
(Fi: P, 13.09.18, P60).*

A few female farmers, who have been visited, already have hosted students from Germany on their farms. They said that they would really like to continue hosting them and were happy when they were in their villages and homes. German students have exchanged cultural values, often also with the farmer's children, who became friends. The farmers got a better impression of their customers' values and also enjoyed German food, cooked by the students. Certainly the German students have also very much benefitted by getting an insight into the Kenyan culture.

“I was asked nearly every time, when visiting a farmer, to come back and I was even offered to stay with them for some time, if I wished to. I got the impression that they welcome foreigners very much and they keep asking about our culture and are very interested in it. Interacting with foreigners seems to be a highlight within their daily routine. Especially women, who were alone in the household, seemed to enjoy our company” (Research Diary 11.09.18).

“With Limbua, some of them also feel a connection to the world (...) they feel exposure, because there are international people moving through their region, which they generally appreciate I think (...) it is inspiring them, and they are open for other visitors in the future” (Matti Spiecker 24.10.18).

5.5 Female-Headed Farms vs. Male-Headed Farms in this Region: Major Findings

(FI category 8)

This study purely focused on interviewing female-headed households, to find out and better understand their perspective on agroforestry. The study also sought insights into the general perspectives and social rules of men and women in this region.

5.5.1 Women and Men are equal

“I feel appreciated. Men and women are equal” (FI: N, 12.09.18, N 164).

It was very interesting, as nearly all of the interviewed farmers saw themselves in a strong position and argued that they did not see the difference in terms of possibilities when it came to men or women in this region. When it comes to farm work, many of the farmers said, that they did the same work as men and even climbed trees during macadamia harvesting. Other women said they paid men to climb the trees to do the harvesting.

5.5.2 Women are not equal to Men

But some women said that women did not get the same respect as men, and they felt that they were not on the same level with men. Especially when in public, men sometimes seemed more dominant than women and spoke more, and women were expected to show them respect. In traditional African societies it was/is very common that men held/hold senior positions and were/are more dominant in public.

5.5.3 Female Headed Households are performing better than Male Headed Households

“I have realized that farms headed by women perform better than those headed by men” (Peter Wangara 19.09.2018).

“Nowadays women are actually doing many more activities than men, or the same. Women are more active and responsible” (FI: V, 18.09.18, V47).

Many interview partners, as well as directors from Limbua, said that female farmers performed better than male farmers in general. They found that women controlled money better and behaved responsibly. Women were more active on the farms and spent their money primarily on the family and farm development. They also enjoyed being in control in general, once they were the ones earning the money. After joining Limbua, women tended to be even less dependent on men, as they had higher income (FI code 36).

“They (women) work more than the men, so they also get the positions they like. The governor here is also a lady. We can get anything we want to achieve. Men here are often addicted to drugs, so it is easy for women to take their positions” (FI: Q, 13.09.18, Q129).

“I would definitely agree, that in average the female farmer plays a bigger role, is able to have a more positive long term contribution to the family than maybe the husband. Of course it is not possible to generalize it, but I think the tendency is clear” (Matti Spiecker 24.10.18).

Two women even mentioned that their farms perform better, since their husbands passed away, which was quite shocking for me. Although very many female farmers said that there was no difference for them between female and male farmers.

5.5.4 Addiction to Alcohol is an Issue among Men

“Alcohol is quite an issue among men, it depends highly on the areas, but for here it is even a bigger problem than in other areas. (...) in Kithungururu it is even worse” (Matti Spiecker 24.10.18).

The fact, that men in this region, were often addicted to drugs, especially alcohol, seemed to play a major role in the society. As with drug abuse, the men would spend more money outside the family and the farm, and therefore their farms performed worse. The issue of alcohol was mentioned by Limbua and many women farmers, and therefore seemed to be a very common and persistent problem.

“(...) Young men here have been destroyed by traditional beer. This has always been a problem. The remaining men who do not migrate get entangled with traditional beer in such a way that they cannot do any duties” (Peter Wangara 19.09.18).

5.5.5 Women are running the Farms, while Men are the official Heads of the Households

“Women are actually the better farmers and have a lot of responsibility, even when the men are around. Still we are used to organizing everything and produce higher outcome” (FI: Y, 18.09.18, Y184).

“In the traditional African set-up of a family, the man is supposed to move to the town to find money (...) the woman is supposed to take care of the farm. And this is why there are a lot of female headed households” (Peter Wangara 19.09.18).

At the household level it is very common that even if the men are registered with Limbua and seem to be the head of the households, it is the women who are the heads of the household and run the farms.

5.6 Further Benefits of Macadamia

“(...) There are firewood, charcoal, they give shade to coffee and also manure - instead of fertilizer, so macadamia has many benefits for farmers, I love that tree”
(FI: B, 30.08.18, B205).

There are a very high number of further benefits of the macadamia tree, besides selling the nuts, which the farmers have mentioned. They will be explained below.

1. Firewood for household (FI 79, 80)

Clearly the number one benefit for the farmers is the firewood they get from the tree, especially after pruning. 21 of 30 farmers said that they use the tree branches for firewood for their household.

2. Manure (FI code 68)

Using the leaves of the macadamia tree to make organic manure is the second most mentioned benefit the farmers see in the tree.

“The husks are very good for making manure” (Pioneer farmer/ Ecologist 19.09.18).

3. Benefits for other crops: shade for coffee (FI code 64)

Intercropping macadamia with coffee is a very common practise in Embu as it benefits coffee by providing shade. This allows the coffee to grow better.

4. Benefits for other crops: pollination

“If you have other crops, that require pollination it is benefiting them” (Pioneer farmer/ Ecologist 19.09.18).

5. Benefits for other crops: good humus (FI code 78)

Macadamia trees are generally benefiting other crops like coffee, as they create good humus.

6. Shade for humans (FI code 66).

7. Shade for livestock (FI code 65).

8. Healthy food (FI code 74)

Farmers have also mentioned that macadamia is a healthy food for them, especially for their children.

9. Charcoal (FI code 67)

Bigger branches of the trees produce charcoal.

10. Additional income: selling firewood (FI code 69)

Farmers also said that they were able to sell additional firewood from the trees, thus earning extra income.

11. Additional income: selling wood from old macadamia trees (FI code 63)

Once the macadamia trees become old, they often need to be replaced since their produce is likely to go down, and this wood can be then sold.

12. Mulching material: leaves (FI code 70).

13. Chicken food (FI code 76).

The leftovers of macadamia, after the oil production, can be used as chicken food. The farmers receive the waste after pressing the macadamia oil from the factory. This is a sustainable way of making good use of these leftovers, which would otherwise be waste.

14. Windbreaks (FI code 72)

The trees function as windbreaks, especially when intercropped with coffee as they prevent the wind from reaching the coffee and breaking its branches.

15. Balancing of the environment (FI code 71)

The farmers said that the trees create a very good microclimate within the farm. Through the shade they create a cooler atmosphere on the farm. They also benefit birds.

16. Wood for smoking the trees (FI code 75)

The branches of the tree are often used to smoke the tree. This is practised to prevent flower abortion, if the weather is too cold and also to prevent the trees from insect damage.

17. Beehives (Pioneer farmer/ Ecologist 19.09.18)

Some farmers have started to use the trees for beehives.

18. Planting other crops before macadamia is mature (FI code 73)

Before the macadamia trees mature after approximately five years, it is also possible to plant other crops like maize around the trees, since there is still space between them.

19. Building material for streets

On some streets close to the macadamia factory in Githure, I noticed macadamia shells, which were used as building material to stabilize the streets.

5.7 Challenges for Macadamia Farmers in Embu County (FI 13)

- **Flower abortion** (FI code 200)

Flower abortion is the biggest challenge for farmers in this region. If it is too hot, too cold, or too rainy, the trees tend to abort their flowers. This is a big issue, since there is not a lot the farmers can do about it. One thing they can do in terms of the cold weather to prevent flower abortion is making a fire underneath the trees to smoke them.

- **Climate change and weather in general**

“When all these trees start flowering around September, you expect a lot of insect damage, because now the insects will start biting the nuts around early October, so you lose your production quantities”
(Pioneer farmer/ Ecologist 19.09.18).

Climate change seems to be a general issue and the farmers in most cases said that they noticed changes in the weather. It is more sunny, rainy and colder than it used to be. Others said that they had not noticed any change in the weather. As mentioned above, if it is too cold or too hot, the trees abort their flowers. Due to the change in climate, the trees also tend to flower earlier, which sometimes leads to insect damage and other problems.

Some of the farmers said, that there was more rain and sun in 2018, which was not normal for them. Too much rain is a problem in three ways: the trees abort, production goes down,

and farm work is not really possible. Others said that it is colder than it used to be. Again others said, that they felt it rains less than it used to be, which actually benefits macadamia. Overall there were many indications that the climate is actually changing but it did not come out very clearly from the farmers in which direction the change was headed, since there were so many different perspectives.

- **Theft** (FI code 201)

“There are many thieves, so sometimes when the nuts are ready, we must protect them. And we are forced to harvest as quick as possible”

(FI: W, 18.09.18, W97).

“When the nuts are ready, you need to have guards at night”

(Pioneer farmer/ Ecologist 19.09.18).

Since macadamia is a high value crop, theft is a common practise that is challenging to the farmers. Some said that there was not much they could do about it. Others said that they protected the trees once the nuts were mature or they paid people to protect the trees. They also had to harvest as quickly as possible once the nuts were mature, to prevent them from being stolen.

- **Replacement of old macadamia trees**

“There are some macadamia trees, which you have to replace after 25 to 30 years, but there are other better species which last for 100 years” (Pioneer farmer/ Ecologist 19.09.18). After a certain period of time, certain macadamia tree species need to be replaced, as their produce tends to go down once they are older.

- **Expensive harvesting**

When it comes to harvesting, the farmers do it either themselves or they employ other people (very often men) to do it for them. This can sometimes be expensive for the women.

- **Spraying is impossible**

Even spraying organic fertilizers or insecticides on the trees is nearly impossible for logistical reasons.

- **Makes farm dark**

Once the trees become mature and grow bigger, they also give a lot of shade to the whole farm, which sometimes might darken the place.

- **Occupies big space**

As the trees grow bigger they occupy a bigger space of land.

- **Trees have to be planted near water source**

In the beginning macadamia trees need water in order to survive. After they mature they also become more resistant to drought.

5.8 Farmers' Suggestions to Limbua

One interesting aspect of the research was that the critical and negative points were most of the times the same for all the farmers interviewed – demand for a higher price for their produce than they were being paid and also the possibilities of getting loans from Limbua. Without my mentioning these expectations, Peter Wangara (19.09.18) and Matti Spiecker (24.10.18) also said that most farmers always asked for a higher price, even when Limbua was paying them a much higher price than before.

- 1. Increase price per kilo (FI code 182)**

Nearly every farmer mentioned that they would like Limbua to increase the price for macadamia per kilo.

- 2. Introduction of loan scheme (FI code 171)**

Six farmers suggested that Limbua should introduce a loan scheme, which could make their life easier. Peter Wangara (19.09.18) mentioned in the interview that they did have such a scheme in place before, but it did not work out that well when the farmers were given loans, as they still sold their produce sometimes to other companies and sometimes did not repay Limbua. But he also said that Limbua was planning to introduce a better loan scheme in the future.

- 3. More trainings (Fi code 176)**

Five farmers mentioned that they would like to have more training in general.

- 4. Operation throughout the whole year (FI code 188)**

Another five farmers requested that Limbua should operate throughout the whole year because their children who were employed in the factories remained unemployed during the off-season. They also had to sell their macadamia to other buyers when the factories were closed, as some macadamia trees produced throughout the entire year.

5. Reduce price of seedlings (FI code 170)

Three farmers said that they would like Limbua to reduce the price of the seedlings so that they could plant more macadamia trees.

6. Enable more visits from foreign students (FI code 131)

Three farmers said that they would like more students to come visit them to exchange ideas etc.

7. Introduction of bonus scheme (FIs code 180)

Two farmers wished Limbua could introduce a bonus scheme for farmers who sold a lot of produce to Limbua, and for farmers who exclusively sold their produce to Limbua.

8. Buying of other crops (FI 173, 174)

Two farmers suggested that Limbua should also buy other crops like mango and coffee from them. Limbua's management said that they were planning to do this in the future.

9. Introduction of new cash crops (FI code 187)

Two farmers suggested that it would be helpful for them if Limbua could introduce other new cash crops.

10. Enable visits to consumer countries (FI code 132)

Two farmers said that they would like Limbua to enable them travel to consumer countries like Germany and see the culture and consumers there.

11. Trainings: savings (FI code 184)

One farmer requested Limbua to offer trainings on saving their income.

Peter Wangara (19.09.18) mentioned that they are planning to do this:

"We want to train the farmers on financial management. (...) It is not a matter of, let's say, trying to control the farmer on how they spend their own money, but we are trying to input knowledge on better management of this resource. Because if the farmers are not managing this resource they are getting from macadamia well, it means they will not see the benefit of having the trees".

12. Trainings: handling of livestock (FI code 183)

One farmer wished that Limbua could train her on how to better handle livestock.

13. Advance macadamia tree (FI code 172)

One farmer wished for the introduction of a new tree type that has higher produce.

14. Introduce remedies for flower abortion (FI code 178)

Since flower abortion is a very persistent problem for the farmers, one farmer suggested that Limbua should introduce a remedy scheme for flower abortion.

15. Buy from uncrafted trees (FI code 181)

One farmer hoped that Limbua could also buy nuts from ungrafted trees, since she had many of them.

16. Advance organic chemicals (FI code 175)

One farmer asked that Limbua should improve their organic chemicals, as they did not seem to work well enough.

17. Faster pick up of nuts (FI code 179)

One farmer said that she had issues with Limbua for picking the nuts late. Some farmers said that they had the same issue in previous years but Limbua had solved this issue. So it was not very clear if she still experienced this issue or if this was only in the past.

18. More frequent visits (FI code 177)

One farmer said that she would have liked the field officers to visit more often.

19. Enable scholarships for farmer's children (FI code 130)

One farmer said that it would be nicer for her children to also participate in the student exchange program like the German students do.

6 Research Findings: Research Question 2

What factors and framework are necessary for social enterprises in Kenya to be successful and to create a win-win-win situation for small-scale farmers as well as the company and the environment?

6.1 Limbua's Approach

6.2 General Success Factors for Social Enterprises in Kenya

6.3 Challenges for Limbua

6.4 Challenges for Social Enterprises in Kenya

6.1 Limbua's Approach

In general Limbua's approach developed with time and they have tried a few things to see what is working and what does not work out well. It took nearly a decade for the company to reach where it is now. In the discussion below, Limbua's approach is explained as well as the factors that have made the company successful.

(1) Start small

"(...) Companies, who are trying to take short cuts, end up getting lost on the way. But if you start something small and you follow the right way you can even sell the product double the price, because you are doing very well. But if you start taking short cuts you end up losing" (Management Limbua 19.09.18).

At first no one knew if this concept would actually work out. This is why starting small was the way to go for Limbua and they started with setting up their first macadamia factory in Githure village with around 20 employees – nowadays the company has 400 employees (Peter Wangara 19.09.18). I also share in the argument that starting small minimizes the risk, especially when investing a high amount of money and other resources into a concept that nobody knows if it will work. This also has the advantage that the first factory could be somehow seen as a prototype. For Limbua there have been a lot of lessons and improvements made in the first factory that have been implemented in the next factory.

Also in terms of the requirements for organic certificates and bureaucracy, it was very difficult in the beginning to fulfil all obligations, which is a higher risk if one had already sets

up a business on a bigger scale (Matti Spiecker 24.10.18). Initially Limbua only worked with schools in Germany and served a very small group of people since the macadamia market was so competitive, before expanding and selling macadamia on a bigger scale (Peter Wangara 19.09.18).

(2) Be invisible in the beginning and more visible with time

As there are very many nut processing companies in the Mount Kenya Region and Kenya in general, Limbua was perceived as a new competitor. What happened very often in the beginning of the company was that other competitors tried to harm them by sending, for example police officers, to their factory on a regular basis to ,find‘ things that were supposedly illegal (Matti Spiecker 24.10.18). Limbua employed a strategy that sought to make them as invisible as possible from the beginning so that others could not clearly see what was going on within the company (ibid.). Nowadays as an established organization invisibility is no longer necessary (ibid.).

(3) Emphasis on a good relationship with farmers

“Our main strength is interaction with our farmers. This sets us apart from other companies. I can tell specifically how many times field officers visit the farmers. So there is that binding, and we were able to understand the farmers better” (Peter Wangara 19.09.18).

“Usual nut buyers are not interested in any relationship with the farmers (...) but this is what we are trying to do, so throughout the year there is a lot of interaction with the farmers” (Luka Kirungu 21.08.18).

Always a key point from the beginning was to create and maintain a good relationship with the farmers. Usually nut buying companies are not so much interested in maintaining a relationship with farmers, and this is why the farmers very much appreciated the relationship they have with Limbua. Limbua was and is trying to work very closely with the farmers and to find out what their needs are and also what works for both sides. The field officers visit the farmers once a month to see if everything is okay, if they have any concern or need help. This good relationship with the farmers was also observed when visiting them and when walking around with the field officers in the villages. I think a good relationship with farmers is very crucial for a company’s sustainability, as the farmers become more loyal and motivated.

(4) Creation of trust

The emphasis on a good relationship and regular interaction with the farmers also goes hand in hand with the creation of trust. Since the farmers were not used to a company that was actually concerned about their well-being and would visit regularly, they have build trust. Time did play an important role and by the time the farmers realized that Limbua was investing in their villages, the company was established and had began to pay the farmers on time regularly.

“Their nuts are not brought to Nairobi, they are here, which was easier to create now the trust (...) the other thing definitely, what is creating trust, is simply time, because I think the experience from many farmers was, that somebody is appearing with ambitious goals and then disappears (...)” (Matti Spiecker 24.10.18).

Many farmers have pointed out this fact as a big benefit, even without me asking them this question. Immediate payment was one of the major factors farmers mentioned that made them trust Limbua. Also the continuity within the team played an important role as several field officers had been working with the same farmers for years, which gave the farmers confidence and trust (Matti Spiecker 24.10.18). Limbua promised the farmers from the beginning, that they would pay them a fair price throughout, and they have kept the promise (Peter Wangara 19.09.18).

In my view, it seemed like there was a lot of trust between the farmers and the company, and the continuity within the team makes everything more efficient, since know-how is kept within the company.

(5) Self-sustaining business concept

It was very clear for Limbua from the beginning, *“(...) to have a business concept, which is working, creating money, but also has a great impact on others” (Matti Spiecker 24.10.18).*

A good business concept, especially for social enterprises, is a very critical point. Limbua always wanted to have a business concept without being dependent on donations, to scale up the impact. *“It is a huge difference, whether you donate to somebody, or he/ she earns it him/herself by producing something on his/her farm” (Matti Spiecker 24.10.18).*

Within this economic partnership, Limbua is also able to pay the farmers a much higher price than with donations (Matti Spiecker 24.10.18). A good business concept has important advantages, such as the company being able to pay good salary to their employees, without making sacrifices. For Limbua, it is part of sustainability, to not exploit their own

labour by paying them low salaries (ibid.). If the company had been financed through donations, Limbua could possibly have run into self-exploitation of their own labour (ibid.).

(6) Financial independence

Limbua wanted to keep their financial independence from the beginning, throughout. They did not want to give out company shares to investors in return for financial support. This was a more stressful and exhausting way for them, as everything took a bit longer and finances have been always more or less an issue, but in the long run they are satisfied for choosing this way (Matti Spiecker 24.10.18).

(7) Factories in the villages

“People travelling to Nairobi, compared to the past is now somehow controlled, because a lot of youth is working for the company. So this is the reason, why we have the factories in the local areas” (Luka Kirungu 21.08.18).

Director and Founder Matti Spiecker wanted to create local employment in the villages, as he saw the massive migration to urban areas (Peter Wangara 19.09.18). Setting up the factories created local employment, decreased labour migration away from the villages and created a good and close relationship between the farmers and Limbua (ibid.). This helped in building trust with Limbua, as the farmers saw that the company was investing in their villages and seemed to intent on operating for a while (Matti Spiecker 24.10.18). Another advantage is that knowledge transfer in general is easier when everything is in the same place (Peter Wangara 19.09.18).

(8) Emphasis on building a good team

For Limbua it was very important from the very beginning to set up a loyal and strong local team (Matti Spiecker 24.10.18). This strategy created many benefits for everyone as the team helped in developing the company further, created local employment, and also guaranteed security in general. If the employees are hired locally, they also have the interest to maintain the company and would not do anything to harm the factory, for example. The local field officers also speak the local languages, which makes it easier to interact with the farmers. As a security measure for Limbua, the field officers were placed in a way that they were not related to the farmers, with whom they were directly working with (Peter Wangara 19.09.18).

(9) Sharing responsibility within the team

Sharing the responsibility within the team reduces the risk also in so far as the pressure is taken from one single person, in a way that the company is able to operate even if the founder, Matti Spiecker, for instance decides to pursue other plans. In my opinion it also reduces the general risk of someone getting a burnout, since the pressure, responsibility and workload is shared among different people. This strategy also makes it difficult for outsiders to threaten or harm the company and makes everything more sustainable (Matti Spiecker 24.10.18).

“ As a precaution - if you set up something, it is good to spread the responsibility between the team as soon as possible, that it is a vibrant team which is not dependent on individuals, because this is also reducing the risk, in case somebody is unable to continue supporting the team (Matti Spiecker 24.10.18).

(10) Trainings (Luka Kirungu 21.08.18)

Field officers and farmers are trained on a very regular basis, mainly in organic farming, which plays a crucial role for Limbua. The farmers attend general Limbua trainings and get trained by the field officers additionally.

(11) Field officers play major role

Limbua employs around 25 field officers, who work closely with the farmers. If there is, for example, a new policy in terms of organic farming, the field officers get trained in what is relevant to the farmers. Thereafter they visit the farmers and inform and train them about these new changes, advise and help them within the implementation. The field officers also advise the farmers in terms of other crops, livestock etc., not only on macadamia (Peter Wangara 19.09.18).

(12) Mobile payment system: M-Pesa

“A great thing, which was helpful here in Kenya, whereby without it, I would not have started, is M-Pesa, where we can pay salaries and also the farmers, because this kind of direct payment makes sure that you don't have any corruption in between and it is also very encouraging for the farmers, if they receive the money directly from us” (Matti Spiecker 24.10.18).

M-Pesa is a mobile money transfer system, which was introduced in 2007 by Kenya's largest cellular phone provider Safaricom (Mbiti/Weil 2015: 247, 259). Since then it has revolutionised money transfer in Kenya and become the dominant money transfer

mechanism after only two years in 2009 (ibid.). M-Pesa allows users to exchange cash for “e-float” on their phones, to send e-float to other cellular phone users and to exchange e-float back into cash (ibid.: 247).

Through M-Pesa, very many Kenya’s are now able to access modern financial services, which has especially benefited rural livelihoods, as having a traditional bank account was and is not the norm (Mbiti/Weil 2015: 270, 276; Matti Spiecker 24.10.18).

Mr. Spiecker (24.10.18) pointed out, that M-Pesa was really one of the main reasons, why he got encouraged to work with small-scale farmers. With this system, the money reaches the farmers immediately, which simplifies the whole process and again, creates trust – many farmers have also stated this fact.

Personally, I found M-Pesa of great help in many different scenarios. I never had the experience that I was not able to pay with it, no matter how remote the area was or how small the shop or the amount. M-Pesa makes it very easy to send people money, which happens in just a few seconds. It also works on every kind of mobile phone so it is basically available to everyone, although only 63 percent of Kenyan households own mobile phones (KBNS 2017), in comparison to 50 percent in 2009 (World Bank 2018).

In many other countries, a system like M-Pesa did not have such a breakthrough and was somehow limited by regulations, influenced by the traditional banking sector, and seen as a strong competitor (Matti Spiecker 24.10.18). In other countries, there is also not such a great need for a system like M-Pesa, as most people are already connected to traditional banking services (ibid.). But in countries, with a similar structure like Kenya, M-Pesa is of great advantage for people and enterprises.

(13) High quality product

*“I think the best thing was, that we handled organic macadamia”
(Pioneer farmer/ Ecologist 19.09.18).*

It was clear that Limbua had a holistic approach and wanted to create a sustainable value chain and therefore the product had to be organic. The quality of the product was a key point from the beginning, especially because the reputation of macadamia nuts from Kenya was not very good in the global market. This was due to the way of processing the nuts and not due to the general quality of the nuts (Matti Spiecker 24.10.18). Limbua found ways to improve the quality of the nuts, as they did the processing different from other producers.

They, for example created their own hand-cracking machines and basically every step of processing was done somehow differently from other nut processors (ibid.).

(14) Emphasis on digitalization (Matti Spiecker 24.10.18)

Digitalizing the company operations helped Limbua very much since the field officers only had to bring their laptops when visiting the farmers. The farmers signed in with their fingerprints, for the field officer to access their profile, instead of bringing and accessing paper files. From then on, basically everything, like updates on the farmer's profile or the buying of the nuts could be done. The farmers are then directly paid the same day or the next day through the mobile banking system, M-Pesa, to their mobile phone accounts. All this saves a lot of paperwork and makes operations much more effective.

(15) Certifications and traceability system BIOFANS

"The nuts get weight at the farm level and then brought to the facility and weight again. The nuts are brought to the facility as yours, you can trace everything back – this is called traceability system. Its very important for our certifications, you need to show exactly where the certain products come from" (Luka Kirungu 21.08.18).

Traceability of the produce is very important when it comes to organic certifications, as everything has to be transparent. So Limbua has installed the traceability software BIOFANS (Limbua 2019). Current certifications held by Limbua are: fair for life, IFS Food, ECOCERT and ABCERT (ibid.).

Traceability also guarantees transparency in the quality of nuts the farmers deliver to the company. Nowadays every farmer is paid the same price for their product, although in the future Limbua's aim is to reward farmers with better quality with higher prices. Farmers with lower quality are then motivated to perform better (Peter Wangara 19.09.18).

Limbua's aim is to improve this traceability system in a way that they want to sell more directly to the end consumers and make sure consumers know where exactly these nuts come from and how they were produced (Matti Spiecker 24.10.18). Right now Limbua often sells to wholesalers, who then sell to other companies and the nuts are part of a product, which has many different components (ibid.).

(16) Sanction system (Luka Kirungu 21.08.18)

Due to the strict requirements from the certification organizations, Limbua has set up a sanction system in order for farmers to fulfil their obligations. What sometimes happens is that farmers still use non-organic chemicals on their farms. If this is the case, and the field

officers find out, the farmer is sanctioned and cannot sell their produce to Limbua for a certain period of time. During this period, the farmers can only sell to other nut buyers, but they are still able to participate in Limbua's trainings etc. and the field officers also visit them on a regular basis to make sure they make improvements. If a farmer uses non-organic chemicals, Limbua is able to remove this farmer for about two years from their buying list, depending on how long it takes for the chemicals to disappear from the soil.

6.2 General Success Factors for Social Enterprises in Kenya

This chapter includes different recommendations from Limbua's management and other experts about what factors create a win-win-win situation for social enterprises. Social enterprises, as their definition goes, are complex and therefore these ventures also face various challenges, especially when they launch. The following chapter tries to give insight into the elements and strategies that make it most likely for a social enterprise to succeed in the long run and even scale up. This list is based on recommendations and learning's from Limbua and other experts. Also, my personal experiences and view in this field are included. Due to limited resources, this chapter does not claim to be complete.

Clearly the major factor for a social enterprise to succeed and to be sustainable is a good working and sustainable business model (Casasnovas/Bruno 2013: 188; Muange 2018; Spiecker 2018). This business model further leads most likely to access to seed capital (from banks, investors, incubation hubs etc.), which is necessary for the enterprise to flourish. Other factors that are also important are access to the right information, skills and trainings e.g. in finance, marketing, management, communication and so on (Casasnovas/Bruno 2013: 188). As SEs always operate on the borderline between social and commercial goals, a right balance of those very controversial areas is crucial for long-term success.

(1) Good Business Plan

A good working business concept is a key factor for social enterprises to succeed and become financially sustainable (Liz Muange 17.12.18). It is sometimes difficult to set the key focus for the business concept, as many social entrepreneurs heavily concentrate on their social vision. This is why a large number of social enterprises rely on donor funding throughout, or at least at the beginning (ibid.).

However, if a business does not have financial viability it will also not be able to create social impact – therefore the commercial part should always be a focus point beside the social mission (Panum/Hansen 2014: 31). The issue with donor funding is that if the donors

decide to pull out of the company for whatever reason, the enterprise is simply unable to sustain itself. As a social entrepreneur, it sometimes becomes difficult to reward oneself with an appropriate salary if one relies on donor money (Matti Spiecker 24.10.18). This is why social entrepreneurs are often more likely to exploit themselves and their labour, as the whole mission of helping others is the most important factor in the venture. I would agree here with Matti Spiecker (24.10.18), who says that for him, to call Limbua a social enterprise, it definitely needs to have a good working business plan and be independent from donor money: *“You really need to think, how you can get a better product, brand and more funds which you can then also forward to the farmers”* (Matti Spiecker 24.10.18).

The good thing with an actual working business concept is also that a social enterprise – such as Limbua – is simply able to build a sustainable business that improves the value chain and offers better value to farmers (Matti Spiecker 24.10.18). This is not possible sometimes if social enterprises over rely on donor funding (ibid.). Liz Muange (17.12.18) from East Africa Trade and Investment Hub also points out how important it is to immediately focus on a good working business concept, besides the social mission, when starting off an enterprise. She states that nowadays many lessons have been learned concerning SEs, as there is data from acceleration hubs and many projects, on why businesses fail. Even if you have a well-defined social impact, the financial plan is key to show the viability of the business and to ensure social enterprises thrive and succeed (ibid.). Universities are also realizing the need and importance of SE nowadays, which are now able to bring the idea and project together with the business mind (ibid.). Another reason, why a good business plan is important, is that most enterprises at some point in their growth curve will need funding beyond their own internal resources (ibid.). Therefore social entrepreneurs should be able to create their business models and be able to articulate it to banks and investors, to get investment (ibid.).

(2) Legal framework and stability of a country

The better structured the bureaucracy and the legal systems of a country are the easier for a company to settle down and operate. Matti Spiecker (24.10.18) gladly said that the stable legal framework in Kenya definitely played an important role for the company to start off and succeed, and he has also seen even more improvements since he started. He noted that the fact that many bureaucratic details and processes are digitalized and can be done or are available online helps Limbua a lot in terms of logistics. It is also beneficial for a company, if land and ownership rights are defined, which is the case in Kenya (ibid.).

Liz Muange (17.12.18) emphasizes that *“the government’s support is very critical if local industries are to thrive (...), by introducing tax incentives for local industries they make sure, that local people are really having enough incentives to be able to create globally competitive products.*

So government policy plays a crucial role in creating a business friendly environment in a country. Muange (17.12.18) also said that the production cost in Kenya is not that low and therefore Kenya is not able to compete with many products, for example coming from China in terms of pricing. The government also has to make sure that things like electricity and infrastructure are in stable condition, to make the Kenyan business environment more competitive (ibid.).

(3) Suitable investments

Finances are always a challenge, especially for SEs and in particular when starting off. This is why funding from outside often plays a major role. Liz Muange (17.12.18) observed that there is a lot of impact funding in the market but many enterprises are conservative about outside investments. She points out, that equity investment comes with a lot of benefits additional to financial assistance, but is suitable for growth stage companies as it enables the business to grow. This could therefore be a better option, than taking a loan from the bank, since banks are purely looking on how the company is going to repay its debt, without any other benefits to it (ibid.).

However, the challenge later on with funding from outside is that SEs are often struggling to pay back their debt (Liz Muange 17.12.18). This is instruments like repayable grants, matching grants and convertible (quasi) equity investment from impact funders could be a better option for social enterprises, since these kinds of funding are much more flexible, and also able to offer technical support or business connections for instance (ibid.).

Matti Spiecker (24.10.18) shares a different opinion, as he was always trying to be as self-sustaining as possible without giving any company shares or equity to investors. This has not always been easy for Limbua, but in the long-run it seemed to pay off, as Matti Spiecker and his management team are in full charge of the company and decision-making, without anyone directing them from the outside.

I agree with both views on equity investment, as surely it can bring benefits and opportunities to the company while helping in overcoming financial struggles, especially for young social entrepreneurs who often do not have seed capital and rely on outside funding. On the other hand I also agree that too many shares given out, especially when it comes to

social enterprises, might interfere at some point with the idealistic vision and mission of the company. When such a situation happens, the company always needs to consider the equity investors expectations, which could be different from the company's. Therefore as Ms. Muange (17.12.18) mentioned, it is very important to take time when finding an appropriate investor and consider carefully what benefits they are able to contribute to the company.

Since the field of social enterprises is growing and there is a clear trend where companies and investors are trying to be more sustainable, it is sometimes also the case that certain investors try to take advantage of a social enterprise, if they are not able to articulate their real objectives (Liz Muange 17.12.18). If social enterprises are targeting impact funds, they need to make sure that they understand what the impact criteria and measurement tools of the targeted funds are in order to attract the investment. Social enterprises should be able to align their own objectives to these criteria and in the ideal case; these criteria should also match the objectives of the social enterprise (ibid.).

Mr. Osborn (17.01.19) gave an example of a different model of investment, whereby entrepreneurs are able to collaborate with investors but in the long-run stay in control of their company. This example is, however, still in development stages:

"(...) A different way of investment would be a revenue sharing model which...let's say, I am an investor, we agree, I give you 100.000 EUR. (...) then we have an agreement, that you are going to buy back the shares I have from your revenues at a pre-agreed price (...) for example 150.000 EUR. So every quarter, or every year, I get a certain percent of your revenue, until you reach that 150.000 Euros but then I remain with a really tiny share of one or two per cent, just in case the company grows big, I still have the opportunity to make money" (Tom Osborn 17.01.19).

(3) Long-term solution matching the market (Tom Osborn 17.01.19).

Social ventures often tend to only have short- or mid-term solutions to a specific problem due to lack of different resources. Ideally, a social enterprise should have a long-term and „full“ solution to a problem, rather than creating mini steps in the right direction and wasting time with building up a company, which might be irrelevant in a few years. An example here would be a company like „GreenChar“, which is producing a sustainable alternative to traditional charcoal, but the long-term solution would be, to find a way of introducing non-biomass forms of cooking in Kenya.

If a company is really able to find a long-term solution to a problem in the form of great technology, they will be successful in the long-term and people will adapt to their technology, if there are enough benefits for them. An example here would be M-Pesa (ibid.). In my opinion, it would be of course better, for SEs to progress and succeed with final and „full“ solutions to certain problems. But I think certain problems are only going to be solved with time and different steps, which are sometimes necessary in between.

(5) Market research

Since a social enterprise is also market oriented, it needs to conduct research on what are the markets' needs in order to sell their product or service and to be economically sustainable – just like a traditional enterprise (Tom Osborn 17.01.19). Market research is very important but many social ventures tend to miss out on it, or do it when it is too late (ibid.).

I would agree with this assessment as this can be observed together with the missing additional focus on the business side of a company, although SEs need to realize that they are also businesses and need to fulfil certain steps of a „mainstream“ business.

(6) Cost-benefit analysis

When companies are trying to enter the international market“(...) *they go for trade shows in different markets to be able to see how interesting that market is for their product. Once they are there, they will also understand what it means to get their product there, the cost and everything*” (Liz Muange 17.12.18). A cost-benefit-analysis should be done to find out the best trading options for companies to clarify the entry points and also the final markets (ibid.) So here again, access to the right information plays a key role.

(7) Emphasis on a good team: investment in talent, sharing responsibility and appreciation of employees

“I think, the team is really important because what you might find is that social enterprises are having a really charismatic individual but then often this individual is not very good in small teamwork. So when you have a business, I think it is very good to share responsibility (...) that is really important for growth” (Tom Osborn 17.01.19).

It is very important, when setting up a business, that a company hires people, who understand the concept and who are talented and willing to bring the company forward.

Investment in talent should be done early enough, as talented people will help in shaping the company and creating opportunities (Liz Muange 17.12.18).

While “the one leader’s” charismatic vision is very important for locals to create trust and the business concept to work (Thorgren/Omorede 2018: 3), it is also very important that this charismatic individual shares his or her responsibility (Tom Osborn 17.01.19). Sharing responsibility and enabling others to express their potential brings the company forward and enables growth (ibid.).

A good leader, though, can also act as a role model, is able to create motivation and inspire others (Matti Spiecker 24.10.18). I also think it is for sure important for a company’s success that people get inspired by the leader, a consideration that was also noted in relation to Limbua. Many farmers said that they liked Matti Spiecker’s approach, since he was very down to earth and trustworthy when starting the company and throughout the whole project. At the same time, as Matti Spiecker (24.10.18) said, it was very important to share and spread the responsibility throughout the team and also give other people decision-making responsibilities and confidence to make the company more stable.

Personally, I am convinced that investment in talent and a loyal team, and showing the team appreciation and respect are very important in moving the company forward. If an employee feels appreciated it is much more likely that there is more general motivation, which then results in better work outcome. The employee will also recommend the company to others and bring good energy into the whole business environment, as basically everything is about people.

For me, it is part of sustainability and crucial for social ventures to be very keen on benefitting their employees, as this is definitely part of the holistic approach to entrepreneurship. Otherwise the whole concept is likely to somehow backfire, as observed at the Kenyan SE Pwani Feeds, which created great opportunities and benefits for its customers, while its own employees faced poor working conditions (Panum/Hansen 2014: 42). Here I would strongly question if such a company should really be understood as a social enterprise.

(8) Local solutions for local problems

“I think people that are much closer to the problem, are much closer to the solution, and are also much more motivated to be there in the long-run. Because it is something which is much more personal” (Tom Osborn 17.01.19).

This is also one of the main reasons why traditional forms of charity do not work since people are trying to resolve problems that do not affect them and very often they do not work together with locals nor have knowledge about the local context. I would definitely agree with Mr. Osborn on this approach, as I also see social entrepreneurship as having the potential to finally give local people more power and resources in order for them to stand up and take care of their challenges. Local communities and individuals need to be empowered in order to raise their living standards (Thorgren/Omorede 2018: 21-23).

In my understanding the traditional approaches of only giving money without emphasis on local capacity building and empowerment, leaves receivers of these funds in the same place where the “West” is initially “trying” to get them out of. They stay dependent on outside funding and on solutions that do not match their actual problems, as people who do have good intentions but basically no good understanding of how African societies work have designed those solutions.

(9) Building bridges between local and international resources

“(...) What I think is that Western capitals and individuals have a lot to offer in this space. I am not saying we should get rid of it. I think what should be changed is the methodology through which these things are offered” (Tom Osborn 17.01.19).

A trend that has evolved in the past years, from around 2010 to 2016, especially in African countries like Kenya is, that social ventures started with at least one Kenyan person in the founders’ team, which is a step in the right direction – although this person often does not have the same decision-making as the other founders (Tom Osborn 17.01.19).

Due to the fact, that the Chinese are investing more in African countries nowadays, it is likely that Europe and America will also invest more (ibid.). However, for these investments in social enterprises to be more effective, collaboration with local individuals and organizations, in the form of financial and non-financial resources, should be fostered (ibid.). This has, first of all, the advantage of talented locals finally getting access to needed resources and skills to better understand “western” business ideas and therefore are able to easily access “western” funding (ibid.).

This form of “building bridges” should happen in a middle-ground way, in the manner of Limbua, as an example. The board of directors of the company has two Kenyans (Prof. Rhoda Birech and Peter Wangara) and the German Matti Spiecker. The company benefits

from local knowledge about agriculture, small-scale farmers, the Kenyan society and Kenyan business structures, and knowledge about social entrepreneurship, business and the markets in Europe from Mr. Spiecker's side. In general, it is very important for a social enterprise to understand the local context and foster a close relationship with locals, who are familiar with a certain problem and the area (Thorgren/Omorede 2018: 2).

(10) Simpler concept: Linkages to other businesses

Social entrepreneurs often have idealistic personalities and are aiming to do and cover as many things as possible within their enterprise. As Matti Spiecker also mentioned (24.10.18), if he were to start all over again, he would probably choose a simpler concept, which does not cover the whole value chain, as this was a longer and exhausting path to follow. Liz Muange (17.12.18) also points out that social enterprises should try to link to other businesses, giving the following example:

"(...) An enterprise will have a solution to improve logistics, but they end up getting into the other parts of the value chain to try and build more business for themselves, but in reality they should not, because of the value chain challenges sometimes companies are forced to move from their core solutions to solving problems beyond their available technical and financial resources."

I also think that these linkages to other businesses could make everything more efficient because starting a venture from the scratch demands effort compared to improving a system, which already exists. When Limbua decided to include the full value chain from small-scale farmers in Kenya to the sales in Germany, this was a massive effort for them. But Mr. Spiecker sees it as the most sustainable and transparent solution. Additionally, Limbua has created their own innovative nut cracking machines and has developed their own way of processing macadamia. Certainly this has turned out to revolutionize the sector somehow, but it could have been also helpful for Limbua to also look at other processors, to learn more and then improve their processes (Matti Spiecker 24.10.18). When covering many different areas with one business concept, the original concept gets more and more complex, the risks to fail are higher, it takes a longer time to set-up and there might be more general challenges (ibid.).

For Limbua in general, it could also have been an option to develop their concept step by step, in a way to only cover certain areas of the value chain in the beginning and then develop further from there to cover more areas.

(11) Not try to invent everything yourself

Limbua took quite a unique approach from the beginning, as they did not really look into what other macadamia processors were doing. They actually tried to invent many things by themselves (Matti Spiecker 24.10.18). This has had, as already mentioned before, the benefit that they invented completely new techniques. But it also took a lot of time and effort, as there is always something to learn from other companies, which can then be improved (ibid.).

(12) Access to information and skills

For social enterprises that export to other countries, it is important to have access to the right trading information. They need to inform themselves at, for instance, export promotion agencies, they need to talk to people in trading, logistics companies and other agencies, about what options are available and suitable for them (Liz Muange 17.12.2018). Otherwise companies might end up dealing with the wrong agents etc., which can be very expensive in the end. If companies do not have access to the right information in international trading, they end up losing a lot of money (ibid.). In African countries, general access to information and skills for social entrepreneurs are often unfortunately only available to privileged Africans or expatriates (Tom Osborn 17.01.19), which again mirrors the state of affairs between the Global North and Global South as well as the gaps in societies on accessing resources.

(13) Knowledge sharing on entrepreneurship

Sometimes young entrepreneurs may have a different picture from what to expect when founding a company. This is why it would be very important to introduce more lectures about entrepreneurship in general (Matti Spiecker 24.10.18), although general knowledge sharing about this topic is delicate, as people either tend to be sometimes too positive or too negative about it (ibid.). Past challenges might have been forgotten, after entrepreneurs succeeded and things are easier nowadays; therefore they sometimes do not look back at challenges too much (ibid.). Talking people “into” entrepreneurship can also sometimes backfire, especially if such ventures are presented too positively and young founders underestimate the challenge (ibid.). Therefore one has to carefully consider all information given about entrepreneurship to make up one’s own mind about it, without forgetting the general challenges that come with being an entrepreneur.

(14) Do not underestimate entrepreneurship (Matti Spiecker 24.10.18)

*“(...) I would definitely not underestimate the general challenge of entrepreneurship”
(Matti Spiecker 24.10.18).*

As mentioned earlier, many social enterprises are founded with the main focus on a social mission. Yet even with this as the main focus, besides being financially sustainable, the business side still sometimes gets less attention. Although there are many costs to be covered, salaries to be paid etc., the business side is, as already mentioned, very important too. As a social entrepreneur, many different fields of concern come together and running a company should definitely not be underestimated, in any sense. Mr. Spiecker said that one also needs to be willing to sacrifice many things for the business, as there is a lot of efforts to expended, which can be very time consuming. The first years can be especially challenging, until everything is set up.

(15) Support organizations: Acceleration and incubation hubs

Social incubators and accelerators are organizations that support social start-ups to upscale their businesses. “Social incubators and accelerators offer a portfolio of resources, that usually combines training, mentoring, networking, and access to funding” (Casasnovas/Bruno 2013: 190). They provide many opportunities for new ventures and support and train them in many fields, to take their businesses to the next level (Liz Muange 17.12.18).

In general upscaling a social venture plays an important role, as social entrepreneurs very often address social and environmental challenges, which concern a very big group of people globally. From an idealistic entrepreneurial perspective it is better to benefit a bigger group of people and/ or solve bigger ecological issues; this is why significant efforts are made in terms of upscaling. Besides addressing wicked, large and complex social challenges, supporters and donors are also looking for high “social returns” when investing in a social enterprise (Casasnovas/Bruno 2013: 178), which is another reason to upscale.

Although this support mainly benefits Western social enterprises, it is a different scenario in Africa. Such acceleration hubs do exist in Kenya but they are mostly operated and funded by expatriates who are not involved in the African context and review African business concepts through their “Western” lenses (Tom Osborn 17.01.19). I would say that this demonstrates again, the issue of non-existent local engagement of such organizations, as non-local people decide on whether a local business concept gets support from the hub or is addressing important local challenges.

(16) Impact measurement tools

Social enterprises should be very keen on how to measure the impact they are making over time, especially if they are targeting impact funds (Liz Muange 17.12.18). When targeting impact funds social enterprises need to be really aware of their own impact and of the impact measurement criteria and tools of the fund itself, so as to align themselves to it. Obviously this alignment should ideally only happen if their impact criteria also match the company's values and objectives (ibid.)

(17) Understanding your company's capacity

Liz Muange (17.12.18) points out, that many social enterprises do not focus much on finding out where their capacity gaps are, which then hinders them from scaling up and bringing their businesses to the next level. Social enterprises need to understand where their capacity gaps are, “ (...) *in making sure, that whatever is coming to you, whether it is funding or business, it is helping you address those gaps* (Liz Muange 17.12.18).

6.3 Challenges for Limbua

The company faces many challenges, similar to other social enterprises, like financial struggles, sacrifices in different areas, accessing markets, cultural differences etc. Challenges specific to Limbua are explained below:

- **Sacrifices at the beginning**

When starting off, Limbua needed to decide where to make sacrifices (Matti Spiecker 24.10.18). When dealing with organic macadamia and setting up the first factory in Githure from scratch, the legal obligations and requirements from the certifiers were very demanding (ibid.). Therefore it was a very balancing act in the beginning to decide which areas to make these sacrifices in while keeping a keen eye on the fact that all operations should basically, at some point, fulfil all obligations (ibid.).

- **Complicated concept**

Due to the fact that Limbua tried to cover the full value chain with their concept and create a high number of benefits for everyone connected to it, the concept also became complicated (Matti Spiecker 24.10.18). Even for me as a researcher, it was a challenge to frame their approach and set key focus areas, since there were so many different challenges the company was addressing. Although this, surely, proves again how widely sustainable and great Limbua's work is.

- **Challenges with farmers**

“Definitely some were afraid, because they have seen some foreigners coming, taking the nuts without even paying them. There was definitely this fear“

(Matti Spiecker 24.10.18).

There were a number of challenges when starting to work with small-scale farmers in Embu County. Some of the farmers were very sceptic at the beginning as they had so many bad experiences with macadamia nut buying companies before, especially those operated by foreigners, as *Matti Spiecker (24.10.18)* explained: *„These bad experiences had been there throughout the last decades, and proving to be different, was then really a challenge for Limbua“.*

- **Pre-financing of macadamia**

“The problem is, we cannot change this upfront payment now, because the farmers trust us, due to the prompt payment (...) changes may interfere with it”

(Peter Wangara 19.09.18).

Limbua, like many other social enterprises, struggled in terms of accessing finances, and had been relying on loans from the beginning until 2017, when they became self-sustaining (Peter Wangara 19.09.18). A general challenge for macadamia buying companies is that the produce needs to be paid for upfront to the farmers although the whole processing takes months, and only after that are the processed nuts sold and the investment comes back to the company (ibid.).

The general issue, when working with products that grow on trees is that the tree first needs to grow and only after three to five years do the trees mature and start producing nuts. This is a significant disadvantage when it comes to financing (Matti Spiecker 24.10.18).

- **Lack of organic inputs**

“They were no organic chemical producers. So it was a problem, because you cannot tell a farmer to stop using conventional chemicals without providing alternatives” (Peter Wangara 19.09.18).

Since organic agriculture is not yet very popular in Kenya, there was a lack of organic inputs like fertilizers, when Limbua started. This was a very big challenge and Limbua, therefore, had to focus on training the farmers to produce their own organic manure.

- **Competition** (Matti Spiecker 24.10.18).

When Limbua started there were already other macadamia buying companies operating in Kenya. They saw the new company as competition, as they increased the prices they paid farmers and pressured other companies to pay the farmers a certain minimum price. Apart from that, the competitors were also not sure whether Limbua was really doing good, as they were a small processor and might have been producing poor quality nuts, which could bring down the image of Kenyan macadamia nuts. In the beginning, competitors also tried to harm the company by sending authorities and the police to the factory to check if everything Limbua was doing was legal.

- **Failed certificates within first years**

“When you have such standards, which are generally created for the use by the European Union and you want to interpret and localize it for the Kenyan farmers, you need to do a lot of things and this took us a lot of time. This was the basic reason why we failed the inspection in the first years” (Peter Wangara 19.09.18).

The company had set high goals from the beginning and since their main market was Germany, their organic certifications also needed to conform to the EU demands. To apply these standards in the Kenyan context was a big challenge because Limbua itself had to first settle in with all these standards (Peter Wangara 19.09.18).

There was also lack of field officers who were trained in organic farming and could work with farmers to implement organic and agroforestry practices (ibid.). For a company to sell organic produce it has to have an organic certificate, which is why it was crucial to pass these standards, acquire the certificates and maintain them.

- **Export restrictions for Sub-Saharan Africa**

As already mentioned, it was clearly a challenge to target the EU markets with African products, since the general standards are very different. Some Northern African countries like Algeria or Tunisia were somehow given a “EU-status” when it comes to trading. However, it is a very different scenario in the Sub-Saharan African context (Peter Wangara 19.09.18).

Limbua needed to export their nuts first to Germany, before they could send them to their final destination countries. These export restrictions really hindered the operations and the company was forced to always send the nuts first to the EU, especially Germany, and then distribute them from there, rather than sending them to the final destinations directly. From

an ecological perspective, in my view, this practice does not make sense at all, but it again demonstrates the power relations between the Global North and Global South – African countries get much worse terms of trade in general. The general issue is, that *“(...) the EU wants to somehow get all the value addition to the European side, which to me is not very fair, just to exploit other countries for their raw material. So, therefore, it was part of the value chain, to have a lot of the value addition locally”* (Matti Spiecker 24.10.18).

An extreme example, for such a neo-colonial practice is coffee. Coffee was introduced to Kenya in colonial times as a high value crop, and very many farmers still produce coffee in Kenya today for export. Macadamia farmers in Embu very often intercrop coffee with macadamia, since the tree benefits the coffee, as mentioned earlier. This crop is very labour intensive and is exported mainly in a raw form, as there are numerous export barriers to it when processed here (Matti Spiecker 24.10.18). Therefore the very labour intensive good is produced in Kenya, exported in raw form and processed somewhere else, so the farmers get the least value for the crop.

- **Intercultural challenges: Kenya vs. Germany**

“(...) You really needed to adapt in a way that you appreciate, instead of trying to force your views on how things should work (...) these adaptation and learning processes were certainly a challenge” (Matti Spiecker 24.10.18).

I personally find this quote very inspiring in a way as it shows a most appropriate approach to take when entering a foreign country. One should really try to learn from the new culture rather than trying to force their own perspective on a place, when coming as a visitor. This point of view reminds one of the typical “western” behaviour, when one visits an African country and people get judged based on their own societies’ cultures. .

Certainly Kenya and Germany have different cultural values. Whilst Germans seem very strict in terms of keeping time, Kenyans appear more relaxed, which somehow mirrors the mentality of the people and also determines how logistics work in the two different countries. Many things (seen from Matti Spiecker’s German perspective) seemed to have taken quite a long time to be processed, which interfered with his initial plans. This state of affairs sometimes posed quite a challenge for him. After he realized how things worked in Kenya his mindset changed and he was less focused on keeping exact time plans and goals with an exact timeframe (Matti Spiecker 24.10.18).

- **Knowledge about macadamia**

Mr. Spiecker's (24.10.18) vision from the beginning was, to set up a fully sustainable business, covering the whole value chain, and therefore it was for a long time not clear which country and which product he would be targeting. When he decided to focus on macadamia, he was not very familiar with the product. Even for the Kenyans who started working for Limbua, including those engaged in Kenyan agriculture, macadamia processing was quite a new thing (Peter Wangara 19.09.18).

6.4 Challenges for Social Enterprises in Kenya

During the expert interviews, many general challenges of social enterprises in Kenya were discussed. Since these ventures are often very complex and somehow a hybrid between NGOs and commercial enterprises, it is always, as mentioned, a big challenge for them to balance the idealistic social mission part and the commercial business part, since those two fields often interfere with each other. This phenomenon can also be observed when looking at a social company's image, which might sometimes be perceived as a hand-out-giving NGO, although it is an actual business (Panama/Hansen 2014: 22). Therefore, these two parts have to be balanced in a healthy way and this should also be communicated accordingly to the outside world.

The next passage lists the major findings from the interviews with experts; it however does not claim to present a full picture of all the challenges SEs in Kenya face.

- **Access to suitable financial resources**

In general access and generation of enough financial resources to start a social business is where the first challenge begins as a social start up rarely has enough seed capital. This is now where access to outside funding comes in even though it also comes with its own challenges, but which is not an issue for social enterprises only but also for traditional enterprises (Liz Muange 17.12.18). Another aspect is that those SEs, who are targeting social and environmental challenges at the same time, often fail to access social capital funding as they might not be really understood as social enterprises (Panum/Hansen 2014: 31).

In Kenya and Sub-Saharan Africa, governments also often lack support for social enterprises, (Thorgren/Omorede 2018: 2; Tom Osborn 17.01.19), due to the fact that there are not many success stories of local social ventures and no legal framework for this concept (Tom Osborn 17.01.19). In general there is the fundamental problem of no legal framework for SEs in Kenya, as enterprises are either not for profit or traditional profit

oriented businesses, which then implies that companies might get sued if they are not maximizing profits (ibid.).

Social enterprises also often deal with people with low financial resources as their consumers, and therefore their products or services must be offered at a suitable price, which is often a challenge (Tom Osborn 17.01.19). At the same time products or services offered by SEs are often more expensive than commercial ones because of the higher resources needed for fair production and sustainable practises.

Another problem is that social enterprises find it difficult to attract investment that really matches their own mission, and are often forced to accept terms from investors, which are not very favourable for them (Tom Osborn 17.01.19). If commercial investors, for example, are invited, there is always the risk that the commercial drivers and economic goals take over the social goals (Panum/Hansen 2014: 41).

Another effect from taking in an investor is that social ventures often have to give their decision-making away (Tom Osborn 17.01.19), which makes processes even more challenging, considering that there are already several decision makers in the company yet the investor might have a different mind-set. This arises from the structure of the business environment in Africa, which poses additional risk factors, and therefore companies often have to give equity away as a guarantee, in order to get investments (Liz Muange 17.12.18).

Limbua was always very keen on not giving company shares and decision-making away but of course, *“(...) the more shares you want to keep, the longer the process will be. It means you need to do everything in very small steps”* (Matti Spiecker 24.10.18).

Liz Muange (17.12.18) also points out that the image, in which the social enterprise is presenting itself must be matching “the financial viability” in order to attract investment. When looking at accessing funding from banks, it becomes often difficult for social enterprises to demonstrate that they are generating enough cash flows and are able to repay their debts, which makes them high-risk ventures, and less attractive (ibid.).

- **Overreliance on donor funding**

As the definition of a social enterprise is not clear and many scholars also see non-for profit organizations as social enterprises, these organizations now have the same problem with donor funding as the traditional non-for profit organizations. There is an overreliance on donor funding (Liz Muange 17.12.18), which does not make a company financially sustainable, as donors can always pull out. It is generally known, that this dependency on

outside funds comes with more substantial issues, as donors usually define the path of a company in a certain direction and therefore someone with economical power is then likely to automatically decide what Kenya's problems are and how to "solve" them.

What is often the case with social enterprises is that they start off with donor funding before focusing more on the business side of being financially self-sustaining (Liz Muange 17.12.18). The problem here is that it becomes very difficult for a company, once reliant on donor money, to become financially independent, and the business might turn out not to be as successful as initially assumed (ibid.). Panum and Hansen (2012: 22) named in their study on SEs in Kenya, the example of the micro forestry social venture "KOMAZA", which faced great challenges when transforming from a entirely donor funded NGO to a for-profit business.

- **Difficulties to repay debt** (Liz Muange 17.12.18).

For social enterprises, especially start ups, it always somehow becomes an issue to repay debit, since it also takes some time to get the company running and actually generate cash flows. The reason why start-ups, especially in the social scene, struggle might be due to the fact that they focus less on the business side of being economically sustainable and sometimes might also not have the necessary know how. Also, given that the key focus of the company is not in making money, actually making money becomes difficult.

The most preferred form of financing is repayable grants or matching grants as they became more established than the concept of equity investment - whereby investors are providing a more flexible and patient repayment structure. Equity investment could be an alternative option for social enterprises, whereby this financial support also comes with technical support to build the business processes.

- **Short-term solutions to problems**

The big problem in countries like Kenya is that the most effective solutions to problems are normally too expensive for social enterprises, and this is why sacrifices have to be made on the functionality or quality of the product, which then leads to short-term problem solutions (Tom Osborn 17.01.19). These solutions are not likely to eradicate the problem to a full extent and are only one next step within the problem-solving process (ibid.).

This makes it quite frustrating, as there are still a lot of resources flowing into these ventures, which probably become irrelevant after some years (ibid.). These short-term solutions are also harder to sell because they offer a completely newly introduced invention (ibid.). Yet these innovations, which would be solving the issue completely, may also take time to develop (Liz Muange 17.12.18).

- **Social business concepts do not match actual problems**

This issue does remind one of the ways traditional charities operate in Africa. People who decide what problems to address are often not embedded in the African context and are, therefore, not able to figure out and understand the real local challenges and their suitable solutions. An unfortunate trend here is that everything often is about developing an attractive and outstanding business concept, although these concepts sometimes do not match actual problems, as *Tom Osborn (17.01.19)* points out:

“(…) In my opinion, it is about being “sexy” (…) it is kind of a sad thing about social enterprises, that people spend a lot of time to be the “sexy entrepreneurs”, and certain kind of issues are not considered to be sexy enough to attract funding and attention”.

He further notes that issues claiming the most attention and that make people “cry” the most, are the ones receiving funding, when they sometimes might not be the biggest challenges. “Western” ideas usually do not match African needs, as the bridges to local community involvement are not there. So it also happens that solutions are introduced which are so many steps ahead and make no sense for most Kenyans (*Tom Osborn 17.01.19*). A good example of such ideas is an application that has raised around 20 million USD of funding, and which should enable Kenyans to build online backup although many Kenyans do not even have laptops to use internet (*ibid.*).

Another issue is that the business concept of a social enterprise can also be either too small or too large scale – for example improving the living standard for a very small group of people or solving a global problem like climate change (*Tom Osborn 17.01.19*).

In my view there needs to be the right balance and a logical bridge between western resources and Kenyan resources. Social enterprises should not make the same mistakes as traditional non-for profits, which always had this problem of not being really effective in what they do because they do not really understand the local context. Within SE there is an opportunity of more sustainable and fruitful partnerships, with equal opportunities and power for actors involved. Present actors just need to learn from the past.

- **Access to information and connections**

Often a challenge for Kenyan social entrepreneurs is that they do not “speak the international language” of this field, because they sometimes do not have access to certain education, information, connections or financial resources (*Tom Osborn 17.01.19*). This then makes it harder for them to access international funding, as they need to be able to

articulate business plans according to “western” standards (ibid.). Companies at the start up level often lack certain business connections or access to information, and, therefore, sometimes slide into other business areas, far removed from their initial idea, simply because they do not have the linkages to other companies (Liz Muange 17.12.18).

- **Western dominated ideas and resources**

The fact is that there is a massive imbalance in how resources are distributed throughout the world. In postcolonial African countries these power relations and how society is organized and structured still mirrors the colonial area. People, who look European or American, are perceived as rich and “as something better” in a way that they get advantages in many different situations and areas. It seems that it will still take some time to move away from the general mind-set of Western people, who are trying to “help”, and African people who maybe see themselves still as victims of colonial powers and still believe that they cannot move forward without help from the outside. This is my very personal perspective on this issue and it frustrates me very much that these imbalances can be also observed within social entrepreneurship in Kenya.

Although SE has great potential to move away from traditional unhealthy and artificial dependency on the West, it unfortunately appears that most social enterprises in Kenya are often funded and set-up by Westerners, and Kenyans tend to lose out, once again, when it comes to the development of effective solutions for their own problems. This Western dominance can be observed throughout the SE sector and it raises very many ‘old’ problems that traditional forms of aid have caused, such as lack of transparency, ineffectiveness and misuse of funds. A problem, for example, that is common in Kenya is the “Kangaroo enterprises”, operated by expatriate business planners, who raise significant funding but then only use around 10-20 per cent for the actual enterprise (Tom Osborn 17.01.19).

- **Social entrepreneurs are not deeply connected to the problem**

As already mentioned it can be quite difficult for the “average” Kenyan person to access funding and build up a social enterprise. Consequently these ventures are often founded by people who are far away from the actual problem (Tom Osborn 17.01.19). This fact is critical because the farther a person is from an issue the less connection is there to motivate this person to make the enterprise sustainable in the long-term and to really make an impact (ibid.). This could also be one of the reasons why there are so few long-term success stories on social entrepreneurship in Kenya (ibid.).

- **Lack of data and research on social entrepreneurship**

The reason there is no real data research on social enterprises in Kenya is because there are not really many long-term success-stories from social entrepreneurs. Currently information about social ventures such as their average size, number of employees, raised funds etc., as well as the key sectors they operate in, remains quite unclear (Tom Osborn 17.01.19). This is part of the reason there is little support for social enterprises in Kenya as there is serious lack of information about them.

- **Cultural challenges**

Certainly what might sometimes play a crucial role when trying to implement new technologies etc. are cultural challenges. For the sustainable charcoal producer “GreenChar” it was, for example, an issue that local people share the view that their food tastes different if they do not cook it the traditional way, using firewood (Tom Osborn 17.01.19). Also, when considering ideas implemented by non-Kenyans different cultures often become an issue as the people implementing a solution often have a different culture and way of understanding things.

- **Term social entrepreneurship loses meaning**

Without arguing that the term social entrepreneurship implies something different in Africa compared, for example, to Europe, the definition of the term is often very broad and what can be observed in African countries like Kenya is that nearly every company claims to be a social venture, purely if they are creating employment and ‘doing good’. What is frustrating is that such companies also try to access impact funds and compete with actual social enterprises (Tom Osborn 17.01.19).

7 Conclusion

It was very interesting and inspiring to find out how beneficial Limbua was to farmers, as it is still very rare to find such a kind of enterprise, which is actually doing good for all sides involved in this “healthy” partnership. Also, the fact, those women were doing very well in running their farms, and their generally strong and motivated appearance was great to see. I also liked the fact that every person engaged with the company – the farmers, employees and management – had a very positive and friendly attitude, which surely led to such a good working relationship between everyone.

Before Limbua was founded, the farmers had been very oppressed by nut buying companies in the past. There has been an exploitive monopoly in the macadamia sector from around the year 1960 to 2000. Within this period, macadamia prices had been so low, that it was always a question of whether the farmers should cut down the trees and sell the wood instead. The strong chemicals that were used within conventional agriculture also led to different health issues for people and animals. The soils became very acidic and therefore the produce declined significantly in some cases. There were cases of heavily contaminated water in the region and beyond, which is dramatic considering that the Mount Kenya Region is a main water source for Kenya.

Limbua’s mission and vision focused on a fully sustainable value chain, environmental health, sustainable personnel management, creation of regular income, local employment and education in Kenya and Germany. The company started small with 20 employees but expanded to around 400 people employed within their three macadamia factories and works with 5000 small-scale farmers today. A good relationship with the farmers, resulting from trainings, regular interaction and trust was always a key emphasis of Limbua. Apart from creating high level trust through paying fair prices and being reliable, the company always aimed to be self-sustaining without any funding from donors.

In the frame of this Grounded Theory study, 30 semi-structured field interviews with female headed-households working with Limbua, were conducted within a period of three weeks. I also interviewed twelve experts before, during and after the field research, which helped in drawing a better picture on the topics of agroforestry, social entrepreneurship and gender in Kenya. A Research Diary helped with the project, especially in self-reflection, which played an essential role during the entire study. Challenges during field research revolved around weather conditions, due to heavy rains; and language barriers, as there are so many different local languages; and other cultural misunderstandings, since I was not embedded

in the cultural context in the beginning. After the field research all the interviews were coded sentence by sentence and the two core categories, benefits for Limbua farmers & success factors for social enterprises, were formed.

During the field research in Embu County, I observed that there were significant changes in the living standard of the farmers since they joined Limbua. All this basically resulted from the fair price, they were receiving from the company for producing macadamia nuts; and also their training in organic agriculture, which benefitted their health and their farms. Several farmers had built new permanent houses, were able to pay school fees for their children, buy more livestock and improve their farming methods.

The initial reasons for joining the company the farmers named first, were the fair prices and the training they received. They also found the immediate payment, reliability and logistics very positive. Most mentioned benefits by the farmers, since being a Limbua member were again fair prices, training, good service, organic farming, fast payment, organic inputs, cultural exchange and good logistics. Organic farming in general has many benefits to them with the most appreciated being the cost benefit, since farmers can produce their own inputs such as manure. They have also noticed improvement in their health, better soil quality and an increase in and better quality produce.

The macadamia trees also provide a number of further benefits for the farmers, besides the nuts. Two third of the farmers use the branches for household firewood needs or sell the firewood and charcoal after pruning. The leaves are used to make manure and the trees also provide shade for humans, coffee and livestock. Macadamia trees also benefit other crops with soil improvement, pollination and as windbreaks.

Female-headed households in the studied villages seem to be more productive than households headed by men. This, of course, cannot be generalized, but there seems to be a clear tendency, possibly resulting from the fact that men in this region are often addicted to alcohol. Women in Embu County are in general quite strong due to historical reasons and many of the interview partners see themselves as equal to men. Although some have also mentioned that there are still significant cultural differences and women are not equal to men. An interesting fact though is that there are very many cases of male farmers who are registered with Limbua, although it is their women who are in charge of the farms – so often the men are the heads of the households only „in public“.

Macadamia farmers in the three studied villages still face a number of challenges. First is flower abortion due to the weather. If it is too hot or too cold, the trees abort their flowers,

which means a decrease in produce. There are also indications that the climate has changed, although unclear in which direction, as some farmers said it is getting colder and rains more than it used to be, whilst others said they did not notice any change. But one expert and pioneer farmer pointed out that the trees are flowering earlier in general which leads to more insect damage. As macadamia is a high value crop, theft is also a major issue for farmers once the nuts are mature.

Farmers recommended to Limbua different actions and programs it should consider, such as higher prices for the produce, establishment of a loan and bonus scheme, further training and reduced prices for seedlings. The farmers would also like Limbua to introduce and buy other crops apart from avocado and macadamia, enable more visits to consumer countries and scholarships for their children.

This study has also explored the major success factors for social enterprises and the most demanding challenges to such enterprises in Kenya. For a SE to succeed sustainably and create impact, it has to have a good working business concept and access to suitable financial resources, skills, information and connections. As SEs operate at the borderline between social and commercial goals, the right balance of those often very controversial areas is crucial for long-term success. Many experts have also emphasized the importance of investing in talent early enough, building a strong team and sharing responsibility. Building bridges between international and local resources is very important, as local individuals and communities have important knowledge of local challenges, whereby international investors have a lot to offer financially. Then, the product or service offered by a company should be of high quality and matching a certain market. In the case study, the mobile money transfer system M-Pesa also played an important role, as it very much helped the farmers and Limbua in terms of payments.

Limbua faced different challenges during its establishment. To begin with, macadamia was quite a new crop for everyone involved and farmers were also generally sceptic, due to their past, mainly negative experiences with nut buying companies. In the beginning, Limbua also struggled with certifications, resulting from the different standards and obligations applicable when exporting from Africa to the EU; and import restrictions from the EU, mirroring the much worse terms of trade for Sub-Saharan African countries in general.

Lack of adequate financial resources were a serious constraint for the company given that it needed to pay the farmers upfront. The farmers are paid immediately after delivering their produce, although the processing of the produce takes several months – until the company is actually paid by the buyers in Europe. As Limbua sought to cover the full value chain, the

idea and practice also became quite complicated and challenging. Consequently it took nearly a decade to fully set up the company into what it is today. However, the founder and director Matti Spiecker noted that he is happy to have chosen this path, because it was and is the right and most sustainable one.

The most demanding challenges for SEs in Kenya are financial struggles, especially in accessing seed capital, when founding the company and repaying debt. Generally, SEs tend to over rely on donor funding, especially in the beginning, which does not make them financially self-sustaining. It is also sometimes the case, that concepts of SEs are not matching actual problems or are only short-term solutions to deeper problems in Kenya. The issue of Western domination in terms of ideas and resources is observable when looking at SEs led by foreigners. Some enterprises do have Kenyan partners in their management teams, although they sometimes have less decision-making powers. SEs in Kenya managed by foreigners are sometimes ineffective and less successful in general, as such managers tend to be far from the actual problems the enterprise initially sought to address. The general challenge of entrepreneurship should also not be underestimated, especially when targeting such a widespread impact within many different areas like Limbua.

One problem that is commonly associated with the concept of social entrepreneurship is that the term gets somehow over- and misused, as its definition is often too broad and complex. When it comes to Africa there is a tendency to count every company that is doing some good – in the sense that they are creating employment, for example – as social enterprise. It matters little that some of these companies may be engaging in unethical behaviour such as oppressing employees or doing harm to the environment. Thus, if the definition of SE continues to be applied in such a blanket manner, the term will surely lose its original meaning and fall more into the category “green washing”.

However, the great potential that I see in social entrepreneurship – based on my research findings – is that it creates benefits and serves socio-economic interests of different parties, which means that different parties have a common interest to sustain the business. When looking at Limbua for example, the farmers benefit in many ways – higher income and improved livelihood etc.; the environment benefits in many ways – organic agriculture and beneficial agroforestry; the company itself benefits in many ways; and macadamia consumers benefit from eating organic products. The company might also be able to foster system change, as it focuses on several educational projects emphasizing organic agriculture, agroforestry and environmental conservation in Kenya and Germany. Therefore

many parties have mutual interest – sustaining the company and taking it to the next level. It would be difficult to tell farmers to plant trees without them having any visible incentive. At the same time, when only donating money to farmers, the money does not have a concrete relation to or meaning for the farmers, nor is it investing in local capacity building. Therefore it probably would not change much in the long run, especially as donors are volatile and might just pull out any time. When giving farmers opportunities and motivating them in projects such as macadamia farming, which has direct socio-economic benefits, they are likely to get ambitious and empowered. SE should be a 'healthy' economic partnership of giving and taking, while benefiting from each other and unfolding one's own strengths.

As the global economy moves more towards sustainable practices, there is no path around certain value chain standards and fairer trading. Building up such a value chain needs higher financial, motivational and other resources in the beginning, but it pays off in the long run and is definitely the future way to go for any kind of enterprise.

With this research, many lessons and facts around Kenyan social enterprises in agroforestry can be learned. As this thesis is basically the first research on Limbua, it contributes in identifying the most important benefits and challenges for Limbua farmers and drawing a better picture on the farmers' perspective. This can be clearly helpful to the company as it seeks to better understand the farmers' challenges and address them. Generally there are significant opportunities for such enterprises and definitely an urgent need for Kenya to seriously emphasize tree planting and afforestation activities.

Last but not least, there is lack of data on social enterprises in Kenya. This lack of data and research needs to be addressed so that future social entrepreneurs can build on lessons learned but also, hopefully, provide politicians and government officials with the evidence of the potential of SE. The international community also needs to better understand that bridges and connections need to be build with local people and communities in Kenya, to enable an effective working relationship and create positive socio-economic impact for everyone.

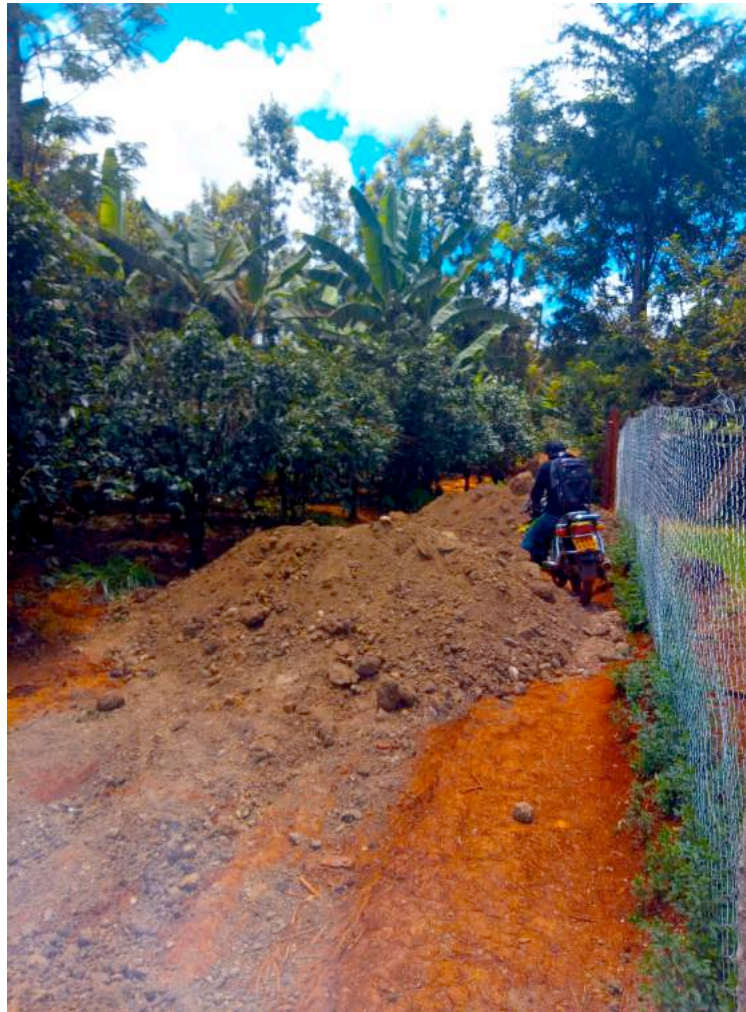


Figure 13: Job - field officer at Limbua - driving past road works;
Source: Photographed by the author during field research 2018

We still have a long way to go –
Certainly stones might be put in our way,
but we should appreciate them as they come,
learn from them and find us stronger and smarter than before,
- when rising above them.
We should never give up the protection of planet earth,
humanity and all creatures
by following a positive, sustainable and true path.
- Stones will soon become milestones.
(Julia Alba Auer 2019)

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9 Appendix

9.1 Macadamia processing: Limbua

Macadamia processing is quite complex, expensive, and needs a lot of effort at every stage. After one kilo of macadamia is purchased from a farmer in Kenya, it takes almost two months to reach Europe (Luka Kirungu 21.08.2018). Additionally, the requirements of Limbua's organic certificates, like the fact, that traceability of the nuts needs to be given at every step, makes the process more extensive. Below are the steps of Limbua's macadamia processing, explained by Limbua's management (19.09.2018):

- **Step 1 - PICK UP OF PRODUCE:** At first, the farmers inform the field officers when to pick up their produce. Limbua then sends their buying team to pick up the nuts from the farmers by motorcycles or other vehicles. The nuts are weighted manually and the data is going into Limbua's database.
- **Step 2 - DELIVERY TO FACTORIES:** Again, the nuts are weighed at the factories, after receiving.
- **Step 3 - PRESELECTION:** Then good quality nuts are preselected and the small percentages of bad ones are separated. Nuts that have insect damage, holes, are broken or immature, are counted as less or bad quality nuts.
- **Step 4 - WASHING:** The good quality nuts are washed, to remove dust and the shell.
- **Step 5 - COLD DRYING:** Then the nuts are sent to cold drying for about 24 hours, to remove the water content after the washing.
- **Step 6 - SECOND COLD DRYING:** From the first cold drying the nuts are taken to another cold drying, whereby now the moisture content is reduced to around 10 per cent, which takes approximately five days.
- **Step 7 - HOT DRYING:** After the moisture content of 10 per cent is reached, the nuts are taken to the hot drying for seven to ten days, depending on weather and temperature. A moisture analysis is done, to identify if the moisture content is reduced to 1,5 percent.

- **Step 8 - PROCESSING:** Once the nuts have reached 1.5 per cent moisture content, they are taken into processing. They are cracked by hand (Figure 14), unlike most other processors in Kenya which use mechanical cracking. Through the hand cracking the whole nuts are recovered (around 75 percent; 25 percent loss), and more local employment is created.



Figure 14: Hand-cracking machine for macadamia nuts, developed by Limbua;
Source: Photographed by the author at Limbua factory 2018



Figure 15: Macadamia nut shells;
Source: Photographed by the author at Limbua factory 2018

- **Step 9 - GRADING:** At the pre-selection stage the bad quality nuts, which are visible from the outside, are removed and the different grades are selected. There are good quality, nuts which are perfect in terms of the canals (grade A); insect damage nuts (grade B); nuts with holes (grade B); immature nuts (grade B); and nuts with changed colour (grade B), which may not have been visible during pre-selection.
- **Step 10 - SIZING:** The grading proceeds to the sizing of the nuts. There is style 1 - which is a combination of whole nuts and style 2 - which is a combination of the broken nuts and small pieces, or maybe small whole nuts. Then there is style 4 - which are broken pieces, smaller in size, and the final size, which is style 6 - which are very small pieces.
- **Step 11 - PACKING:** The nuts are packed in aluminium foil according to their styles into three to four kilo packets.
- **Step 12 - SHIPPING:** Before the shipping, the second packaging is done. The nuts are packed into cartons; the code for traceability is marked on the outside of the cartons and scanned through the system. After all this processing and packing, the nuts are mainly taken to Germany and from there distributed to the final markets.

9.2 Process of becoming a Organic Limbua Farmer

Most of the farmers who start working with Limbua do not know about organic farming initially. The process of becoming an organic farmer with Limbua takes a total of three years (Luka Kirungu 21.08.2018). Once a farmer wishes to join Limbua, the whole farm has to be certified as organic, not just the macadamia trees. The steps for becoming a member are briefly explained by Luka Kirungu (21.08.18) from Limbua's Management:

- **1st Step - TRAINING:** The farmer gets trained in organic farming by Limbua during general training days or by the field officers.
- **2nd Step - DATA COLLECTION:** Every farmer has their own field officer, who is responsible for training the farmer in organic methods and to give general support. The field officer has to do the registration of the farmer in Limbua's system and record the size of the farm, number of trees and when they were planted, other crops like coffee and details about livestock.
- **3rd Step - FARM VISITS:** The field officer is required to visit the farm once per month. Every month he or she has to be there to see what is happening, what the farmer is using and assists, if necessary with organic fertilizers (from Limbua's stores or local agro vets).
- **4th Step - INTERNAL INSPECTION:** After several months, an internal inspection is done by another field officer (who is not in charge of this particular farmer). There is an inspection questionnaire for the farmers, which is recorded at Limbua's data system. The inspector is also allowed to move around the farm, to especially make sure the farmer is not using any unallowed chemicals. If the inspector finds out that this farmer is using unallowed chemicals, either by a farmer saying or by seeing, the farmer can be stopped for a certain period of time from selling their produce to Limbua.
- **5th Step - SUCCESSFULLY COMPLETED FIRST YEAR:** If everything is fine and the farmer has not used any forbidden chemicals, this farmer has successfully completed the first year.
- **6th Step - OFFICIAL LIMBUA FARMER:** After the third year of not using any unallowed chemicals, the farmer then officially becomes one of Limbua's farmers.