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## Bachelor of Science Programme in Development Studies (BIDS)

*Exploring one approach to food sovereignty:  
A case study of a Kenyan community-based organization*

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Photo by Philip Munyasia, 2014, Shamba Mpya, Bidii, Kenya



## **Abstract**

This ethnographic case study analyses social and ecological practices taking place in a community-based organization (CBO), Organic Technology Extension and Promotion of Initiative Centre (OTEPIC), in rural Trans Nzoia County, Kenya, in order to understand how food sovereignty is promoted for community members and local small scale farmers in the given geographical context. Through a nine-week-long fieldwork, which incorporated participatory observation, semi-structured interviews and a focus group discussion, I reached findings that describe the ways in which OTEPIC promotes food sovereignty. OTEPIC's ecological and economic practices and teachings are based on self-sufficiency in food, water, and energy, through a mix of various techniques from: agroecology; permaculture; bio-intensive and organic farming; green technology and water retention landscaping. The methods based on using locally available resources, and thus depending less upon the corporate food regime, are applied both on OTEPIC's own land and taught in demonstration courses for small scale farmers in Trans Nzoia. Through building a social security network and providing a peaceful community meeting space for members, OTEPIC is creating a place-based culture of locality based on ethnic equality. The case study demonstrates that there is a need for capacity building, an economic plan for slowly cutting down external monetary funding, as well as an allocation of responsibilities among members, in order for them to connect with the food sovereignty vision and secure the sustainability of the project.

**Keywords:** *food sovereignty, agroecology, permaculture, subsistence farming, ecovillages, intentional community, self-sufficiency, bio-intensive agriculture, rural development, community-based organization*

## **Abbreviations**

**CBO** Community-Based Organization

**GEN** Global Ecovillage Network

**KSC** Kenya Seed Company

**LVC** La Via Campesina

**OTEPIC** Organic Technology Extension and Promotion of Initiative Centre

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To me OTEPIC is like a child existing in a space and time where there are so many threats to its healthy growth that depends on an infinite amount of factors such as the people carrying it out, the surrounding society and nature, politics, climate, economy etc. It is not a protected entity, thus it will be affected. The question is how it can grow into an integrated natural part of its surroundings in order to carry through its aim. I hope this research can provide important considerations on the development of this project. My hope is that OTEPIC will be able to stand alone, persistent, in order to take its place in a world where it is needed to create life that can sustain.



## 1. Introduction

### 1.1 Problem formulation

We live in a world of rising inequalities and threatening ecological crisis. In 1973, the wealth gap between the richest and poorest countries was 44:1, while today it's close to 80:1 (Hickel, 2015). According to Oxfam's study from 2014, inequality has reached such extremes that the richest 80 individuals in the world own more wealth than the poorest 3.5 billion (Elliot, Larry, 2015). It is now beginning to be acknowledged that international development is failing because it fundamentally misses the point about poverty (Plumwood, 2002: 237). It has, for years, been argued by popular scholars such as Jeffrey Sachs (2005), that poverty can be viewed as a natural phenomenon, disconnected from the economically rich world – this might have to do with bad climatic conditions, tropical diseases or lack of appropriate technology – but various scholars (Pyhälä, 2013:196; Escobar, 1993; Wallerstein, 2004) argue that economically rich countries benefit from artificially cheap labor in economically poor countries, by holding them locked into a system, which keeps them dependent on servitude. Plumwood (2002) explains how this social inequality is connected to environmental degradation: *“the neo-liberal order profits from and normalises ecologically irresponsible and unaccountable systems of production and consumption that inflict massive biospheric degradation and suffering”* (Plumwood, 2002:237).

On a global scale, ecosystems are being exploited for natural resources more rapidly than they can renew themselves. At existing levels of average global consumption, we are overshooting our planet's regenerative capacity by about 50 per cent each year (Global Footprint Network, no date; Hickel, 2015). Some scientists define our current era as the Anthropocene because, for the first time in the history of Earth, human beings are the most influential force, creating the largest, most significant geological impact in our time (Steffen et al, 2007). To put it more succinctly, it is ironic that we, who view ourselves as the pinnacle of evolution, have become the most destructive force on the planet (Litfin, 2014:3).

Yet, despite the evidence that we live on an earth with finite resources, the majority of affluent, industrialized countries continue to advocate for a development model based on infinite economic growth. This approach to development is problematic, first of all, because infinite growth on a finite earth is impossible, and second of all, because it does not address the fundamental underlying problem of world system inequality and dependency in the first place. In order to address the

ecological crisis and restore the resources upon which all life depends, a model for development should aim at deconstructing the ideological separation of humans from nature. Paradoxically, we human beings are the one species in the natural world with the capacity of separating ourselves, mentally, from the whole (Litfin, 2014:4) and this human-nature dualism, it is argued by (Plumwood, 2002) and various other scholars, is the fundamental misperception that initiated our global crisis, augments, and perpetuates it. The important conclusion to studies of this dualism of human-nature perceptions is that our social and ecological crises are not disconnected - thus neither are solutions. The premise is that humans are inseparable from nature, hence models for development must find a way to operate harmoniously within the natural life circle in order to be sustained.

Today many scholars (Wallerstein, 2004; Escobar, 1993 and Plumwood, 2002), as well as civil society organizations and social movements, are searching for ways in which to create a model for development that enhances ecological and social justice – working with nature instead of against it and restoring natural resources and ecosystems instead of depleting them – while increasing disempowered individuals’ and communities’ access to and control over resources (Veteto et al, 2013:107). The Food Sovereignty Movement is one such phenomenon, which radically promotes the right of all people to healthy food, produced through ecologically sustainable methods, such as agroecology and permaculture, while simultaneously aiming to free consumers and producers from involuntary dependency on the corporate food regime. A social phenomenon that can be regarded as operating within this framework is the Global Ecovillage Movement. Ecovillages are intentional communities working holistically, as living laboratories, for a transition towards social and ecological justice, by down-scaling unsustainable consumption in a way that decreases their ecological footprint and restores the natural environment. In the Global South, the first priority of many ecovillages, such as the one at the centre of this research, is to promote food sovereignty through self-sufficiency (Dawson, 2013).

## **1.2 OTEPIC**

The Organic Technology Extension and Promotion of Initiative Centre (OTEPIC) is a non-governmental CBO (community-based organization) situated in Trans Nzoia County, Western Kenya, currently developing into an ecovillage and permaculture training centre. The vision of

OTEPIC is to be a food, water, and energy self-sufficient community, where people from different ethnic tribes live together peacefully and where visitors come to partake in permaculture training. The community wishes to be a model for a new culture of ecological and social sustainability, replicable elsewhere.

OTEPIC was founded in 2008 by Philip Munyasia, who is originally from the area of Kisumu, but has lived in Kitale for many years. After finishing a one-year scholarship training in bio-intensive agriculture in the U.S., Philip was introduced to the concepts of permaculture and ecovillages in Europe. Inspired by different ecological and social approaches to growing food, Philip started OTEPIC in the slum area of Kitale, called Mitume, where he grew up. With the financial backing of private donors from the U.S. and Europe, OTEPIC grew, from one small holding in Mitume, to encompass two larger plots in the outskirts of Kitale – Amani Garden (Kiswahili for Peace Garden) and Shamba Mpya (Kiswahili for New Land).

The CBO consists of 72 members who, on a voluntary basis, work on the on-going projects of the organization. Every day from 9am to 6pm, Monday to Friday, between ten and twenty community members of OTEPIC gather, either in Amani Garden or Shamba Mpya, to work on the prearranged projects of the week. Current projects include managing Amani vegetable garden, watering, planting, mulching, harvesting etc., and in the preparation of Shamba Mpya, cultivating farmland, building a community kitchen, a seminar house and community housing, constructing lakes and a pond, producing a water borehole (for drinking water), and implementing a garden irrigation system. Besides working on their own property, OTEPIC teaches private initiatives – especially youth and women’s groups – communities, and individuals how to use ecologically sustainable and locally available resources with the aim of reaching or at least increasing self-sufficiency in food, water and energy supplies (OTEPIC, 11.05.15). All together the team, which I refer to as community members, have trained more than 2500 local small scale farmers (non-OTEPIC members) within the county of Trans Nzoia. This training has taken place in the towns of Kitale and Maili Saba, both through demonstrations on OTEPIC’s land and by visiting the land of specific farmers.

OTEPIC is part of a larger network of ecovillages, Global Ecovillage Network (GEN), which connects projects like OTEPIC in order to share knowledge, experience and collectively spread awareness about ways *“to reverse the gradual disintegration of supportive social/cultural structures and the upsurge of destructive environmental practices on our planet”* (GEN, 23.05.15).

Although many practices are inspired by external movements and approaches, active members are all from Trans Nzoia. Hence, OTEPIC can on one hand be described as a local grass-root initiative, since all decision-making and labor is carried out by local community members, and, on the other, a global social movement making its way through Kenya. A further explanation of the different places where OTEPIC operates is given in 3.2 *Places of OTEPIC*.

### **1.3 Research objectives, motivation and purpose**

Evidently from the introductory text, I, as author of this thesis, have an opinion of this Anthropocene era in which we find ourselves as humans. I believe that in order for human life to be sustained, a fundamental cultural paradigm shift of human-nature perceptions and practices is necessary. If we can find viable alternatives to the current system, which are integrated into the circle of life, such a transition might be possible. This opinion is the motivation behind my researching of a CBO placed within the framework of food sovereignty and ecovillages. However, even though I have a clear opinion about our current global crisis, I do not know the specific solutions to it - and this my reason for doing this research. Therefore, I stay objective on the role of OTEPIC, as one place- and time-specific agent of food sovereignty, so as to be able to provide a feasible analysis. I do not want to glorify the practices of OTEPIC, but to understand them, position them in a conceptual framework, and analyse the outcome that is accessible to me, with the intention of describing one example of how food sovereignty can be addressed.

Of the many prevailing initiatives trying to find solutions to our current system of social inequality and degradation of nature, ecovillages are significant because they aim at providing complete, holistic alternative models that exist here and now. Ecovillages differ significantly in both specific aims and practices depending on their geographical contexts - the motivation behind researching an ecovillage in the Global South is that it, first of all, might serve as inspiration for an alternative to mainstream development projects that, generally, do not meet their long-term stated goals, and, secondly, the ecovillage model is, in many ways, a new concept in Africa, thus there exists almost no research upon this topic in the given context.

The fundamental reason for choosing OTEPIC as centre research is that the CBO is integrated into the GEN network and well connected to larger and older ecovillages in Europe, out of which many practices are inspired. Since the African Ecovillage network is very new, OTEPIC is one of the few

projects, which is both managed and founded by local people, active within this network. An additional aim of this research is to give voice to this organization, as it is exceptional in South-East Africa, in terms of its vision, practices and approach. Fundamentally, the motive behind this research is as Graeber (2004) puts it: *“to look at those who are creating viable alternatives, try and figure out what might be the larger implications of what they are (already) doing, and then offer those ideas back, not as prescriptions, but as contributions, possibilities...”* (Graeber 2004 in Veteto et al, 2013:23). I hope that this research can contribute, with relevant reflections and suggestions, to the work of OTEPIC.

This research is concentrated on several key-concepts: food sovereignty; agroecology; permaculture; ecovillages and their construction of local culture. These concepts are applied in order to help explain the practices of OTEPIC and thus place the empirical case within a broader conceptual framework. The concepts permaculture and ecovillages are known to community members, and stated in the public vision of OTEPIC: *“To be a peace/eco-village and permaculture training centre”* (OTEPIC, 11.05.15). However, food sovereignty and agroecology are unknown phenomena to OTEPIC’s members, though the essential meanings of these phenomena are, according to my analysis, very-well known, and indeed what form its vision. Hence, for the purpose of this thesis, I place the empirical case within a conceptual framework of food sovereignty, in order to analyse how ecological, socio-cultural and economic practices, principles and strategies are promoted by the CBO and show the conceptions of which it is an example.

It is important to mention that I am analysing a work in progress; OTEPIC is far from self-sufficient at time of writing, and there is not yet an existing ecovillage, as houses are unfinished and people go home or elsewhere to sleep. I am not analysing a finished outcome of the strategies OTEPIC uses, but instead documenting the work of OTEPIC as they are trying to realize their vision.

The research approach I use is a qualitative, single case study method, in order to acquire a detailed, in-depth understanding of the ‘how’ of food sovereignty promotion, and its attendant challenges, based on a comprehensive examination of the setting (Bryman, 2012:67). The analysis focuses on socio-cultural, economic and ecological aspects of how the CBO functions in order to answer the central research questions. Furthermore, this research will serve as an instrumental case study, by being an empirical example of how food sovereignty can be promoted in order to help solve the experienced consequences of our current social and ecological crises in a specific time and space.

## 1.4 Research questions

Central research questions:

1. *How does OTEPIC promote food sovereignty among community members and small scale farmers in Trans Nzoia County?*
2. *What are the challenges for OTEPIC to promote food sovereignty internally in the ecovillage and among small scale farmers in Trans Nzoia County?*

Sub-questions:

1. *What ecological approach and specific practices does OTEPIC promote among community members and local small scale farmers? // How and why?*
2. *What socio-cultural and organizational principles and approach does OTEPIC promote among community members within the CBO? // How and why?*
3. *What economic strategies does OTEPIC apply internally within the CBO, and what economic strategies does OTEPIC promote among local small scale farmers? // How and why?*

Approaches and practices are regarded as ecological when they are concerned with relationships and interactions between living organisms and their environment. I define principles and approaches within the group of OTEPIC community members as socio-cultural when they are concerned with interactions between individuals and the group, and the ideas, beliefs and norms which play out in this spectrum. Strategies are regarded as economic when they concern management of production and consumption of goods and services that determine how resources are allocated.

## 2. Conceptual framework

For the purpose of this paper, I place the three concepts, agroecology, permaculture and the ecovillage model, within the wider Food Sovereignty Movement because I assess the deeper vision of OTEPIC to be food sovereignty, and more specifically self-sufficiency. Agroecology, permaculture and the ecovillage model can, in this context, be viewed as strategies towards food sovereignty, although they are generally also perceived as autonomous phenomena that can be

applied for other purposes. For an overview of how this case is situated within the conceptual framework see *Figure 1*.

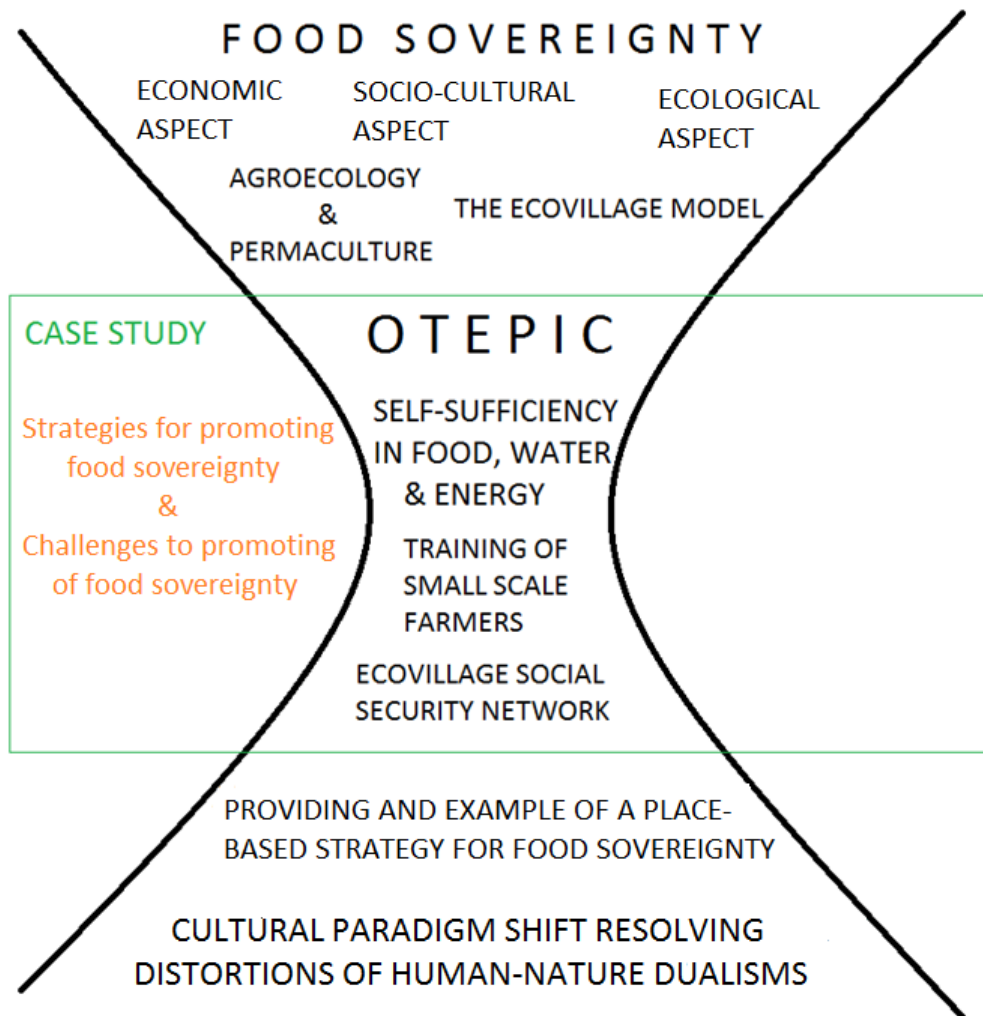


Figure 1

Before exploring the concepts that exist as a foundation for the analysis, the concept of sustainability should be defined, as it is a generally reoccurring concept within the framework of food sovereignty, agroecology, permaculture and ecovillages. Sustainability is, in this paper, used as a name for something that can be perpetuated in the long-run. Therefore, when talking about social and ecological development, it goes without saying that this concept of sustainability should be the aim since, hypothetically, no development projects aim at being a short-term bandage to a wound. Ecological sustainability is, in the global development arena, often used as an unspecific and vague buzz-word; in this paper it specifically refers to an ecosystems capacity to maintain its biodiversity and functions long-term, into the future.

## 2.1 Food Sovereignty

Today's corporate food regime is characterized by monopolistic market powers controlling virtually all of the world's food systems by dominating the governments and multilateral organizations that construct and enforce the regime's rules for trade, labor, property and technology (Holt-Giménez, 2010:1-2). This food regime is currently in crisis, as it has lost its legitimacy in convincing the world that food security through free trade is a viable option (McMichael, 2014:933).

Food sovereignty is a social movement, referring to an alternative agrarianism, which challenges the corporate food regime and intends to place the peasant at the centre of the food regime (Jansen: 213-214). In February 2007 in the Nyéléni Declaration of the Forum for Food Sovereignty, LVC (La Via Campesina) defines food sovereignty as following: *“the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture system. (LVS in: Agarwal, 2014:1248).”* La Via Campesina is an international movement that defends small-scale sustainable agriculture as a way to promote social justice. It comprises 164 local and national organizations in 73 countries from Africa, Asia, Europe and the Americas, altogether representing around 200 million farmers (LVC, 14.03.15). The definition of food sovereignty has, during the last 20 years, moved from focusing on the right to self-reliance of nations, to a focus on the rights of peoples to define domestic production and trade and to determine the extent to which they want to be self-reliant (Agarwal, 2014:1248). Supporters argue that *“...peasant agriculture has the best potential for meeting food sovereignty largely because it has the capacity to produce (more than) sufficient good food for the growing world population and that it can do so in a way that is sustainable”* (Van Der Ploeg, 2014:999). This topic, however, is broadly debated by other scholars (Jansen, 2014) and will be discussed in the last part of the following section: *2.2 Agroecology*.

## 2.2 Agroecology

Agroecology is simultaneously viewed as a scientific discipline, movement and practice. It is an alternative to conventional industrial agriculture, promoted by, amongst others, LVC and the Food Sovereignty Movement. Altieri (2012) argues how traditional peasant practices and techniques tend to be knowledge-intensive rather than input-intensive, but also that not all are effective, and that modifications and adaptations therefore often prove to be necessary. According to Altieri, this is



where agroecology plays a key role in revitalizing the productivity of small scale farming systems (Altieri, 2012:7). Due to the lack of knowledge on how natural ecosystems function that dominates conventional agricultural management, agroecology emerged as a science that provides: “*ecological principles for how to study, design and manage agroecosystems that are both productive and natural resource conserving, and that are also culturally sensitive, socially just and economically viable*” (Altieri et al, 2000:110).

Agroecosystems differ from natural ecosystems in that they are managed by humans for an agricultural outcome. Agroecology began as a discipline that analysed the relationships between ecosystem components, a plant or an animal, for example, and the surrounding environment, with its effects on agricultural management (Altieri et al, 2000). Due to the obvious negative implications for the ecosystem stemming from conventional agricultural practices, agroecology emerged as the scientific basis of alternative agriculture, which applies “*ecological concepts and principles to the design and management of sustainable agro- ecosystems*” (Altieri et al, 2000:30), including energy and technology - where external inputs are replaced by natural processes (Altieri, 2012:9). Instead of a narrow focus on short-term yields and economic returns, agroecology considers environmental and social factors of food production (Altieri et al, 2000). Emphasis is placed on ecological interactions between biological components in order for the system to sponsor its own soil fertility, productivity and crop protection – in short, mimicking nature (Altieri and Rosset, 1995).

Altieri and Nicholls (2000) provide an agroecological framework that involves fundamental ecological principles, out of which various specific practices and methods have emerged. These principles are: *1. Enhance recycling of biomass and optimizing nutrient availability and balancing nutrient flow. 2. Securing favorable soil conditions for plant growth, particularly by managing organic matter and enhancing soil biotic activity. 3. Minimizing losses due to flows of solar radiation, air and water by way of microclimate management, water harvesting and soil management through increased soil cover. 4. Species and genetic diversification of the agroecosystem in time and space. 5. Enhance beneficial biological interactions and synergisms among agrobiodiversity components thus resulting in the promotion of key ecological processes and services* (Altieri et al, 2000:32). Depending on the environmental context, the available resources and opportunities, different practices can be applied. Acknowledged agroecological

methods are, for example, crop rotation, polyculture, and agroforestry systems – these methods are further explained in *5.1.1. Practices used on OTEPIC's land*.

Advocates argue that agroecology has the potential to avoid the negative social and ecological consequences of input-intensive production, however, transitioning to agroecological production is a complex project (Ferguson et al, 2013: 251). Yields from regenerative methods of agroecology are recognized, by many, as often exceeding conventional yields because they restore soil quality and crowd out weeds; fertiliser and herbicide inputs can thus be reduced, resulting in higher profits for farmers (The Guardian, 2015). Jansen (2014) provides a critique to this claim, as he argues that there exist no proof that agroecology, seen as an autonomous process of low external input farming, can beat capitalist conventional agriculture in terms of productivity. Jansen argues that due to the lack of comparisons on productivity, concepts such as agroecology function utopically for social movements in their search for alternatives to conventional agriculture (Jansen, 2014: 223). It can be argued that, as the aim of agroecology not only is to feed all peoples, but to do so in a way that increases the health of the ecosystem, such a comparison would not justify a preference to conventional agriculture, as high productivity is only part of the target. As argued by Roberts (2013), none of the world's top industries would be profitable if they paid for the natural capital they use – hence, because this long term perspective on the availability of natural resources noticeably lacks emphasis in the conventional approach to agriculture, outcomes from conventional practices and agroecology cannot be compared as motives diverge significantly (Roberts, 2013).

### **2.3 Permaculture**

Permaculture is simultaneously viewed as an agroecological movement, design approach, and even philosophy, and, as stressed by Ferguson et al (2013), permaculture principles and topics largely complement and even extend principles and topics found in agroecological literature. Both concepts are seen as movements supporting the vision of food sovereignty by enhancing natural processes in order to shape a biodiverse agroecosystem. Both concepts also entail general principles for the design of the agroecosystem, from which various specific practices can be used, depending on the specific context. The largest difference between the two concepts is, to my knowledge, that agroecology originates from South American and is as a scientific discipline very well researched and represented in academia, while permaculture originates from Australia and is seen less as a scientific discipline than as a design technique (Ferguson et al, 2013: 251). Therefore, I will, in this

research, refer to permaculture as a broad design technique, together with bio-intensive agriculture and organic farming, within the wider discipline of agroecology.

As a concept, permaculture was coined by Bill Mollison and David Holmgren in the mid 1970's, but draws on traditional indigenous knowledge from local cultures throughout history, and is in this sense a very old concept, gaining popularity in a time where transitioning to a resilient culture is seen as vital. Permaculture encompasses a set of ethical principles as well as design guidelines and techniques for creating sustainable, perennial or permanent agroecosystems, and can be defined as: consciously designed landscapes, which mimic the patterns and relationships found in nature (Veteto et al, 2013: 96) or :“*integrated, evolving system of perennial or self-perpetuating plant and animal species useful to man*” (Holmgren Permaculture Design for Sustainable Living, no date). Rather than segregating cultural and natural systems and working ‘against’ nature through over-cultivation, permaculture works *with* nature. To draw on an example, while weeds in modern agriculture are seen as disturbances, weedy, mixed landscapes are what make up a large part of what we consider biodiversity, and is therefore an integrated part of permaculture (Aistara, 2013: 117).

Permaculture is based on the idea that—with the application of ecologically informed holistic planning and design—humans can meet their needs while increasing ecosystem health (Ferguson et al, 2013: 266). At the core of permaculture as an ethical concept are three principles: care for earth, care for people, fair share (Birdbaum et al, 2013:15), which is the foundation of the 12 more concrete design principles: “*Observe and interact; Catch and store energy; Obtain a yield; Apply self-regulation and accept feedback; Use and value renewable resources and services; Produce no waste; Design from patterns to detail; Integrate rather than segregate; Use small and slow solutions; Use and value diversity; Use edges and value the marginal; Creatively use and respond to change*” (Birdbaum et al, 2013:18).

## **2.4 Eco Villages and their constructions of places**

Geographer and anthropologist Arturo Escobar (2008) notes that the last few years have seen a resurgence in interest in the concept of place in anthropology, geography, and political ecology, and he defines two general strategies for the production of place:

“1) *Strategies of global localization by capital, the state, and technoscience. Capital, state and technoscience engage in a politics of scale that attempts to negotiate the production of locality in their own favor. Nevertheless, to the extent that these strategies are not place-based, they inevitably induce a delocalizing effect with respect to local places, despite their efforts at articulating with localities*” (Escobar, 2008:32).

“2) *Subaltern strategies of localization by communities and, particularly, social movements. These strategies are of two kinds: place-based strategies that rely on the attachment to territory and culture; and **glocal strategies through meshworks that enable social movements to engage in the production of locality by enacting a politics of scale from below.** Social movements engage in the politics of scale by engaging biodiversity networks, on the one hand, and through coalition making with other place-based struggles*” (Escobar, 2008:32).

This research is concerned with the second strategy for constructions of place, as OTEPIC is an example of a CBO within the wider social movement of ecovillages, aiming at producing locality through specific socio-cultural, economic and ecological strategies.

Escobar argues that the most essential question social movements can be working with is: “*to what extent can we reinvent both thought and the world according to the logics of multiplicity of place-based cultures?*” (Escobar in Veteto et al, 2013:22). The ecovillage model is concerned with exactly this question, being based upon reinventing self-sufficiency in its four dimensions: ecology, economy, community and worldview, through creating a holistic alternative to unsustainable management of natural resources and monetary dependency (GAIA, 2014; Dawson, 2013). It is a model for intentional communities, which functions as living laboratories for a transition towards social and ecological justice, through downscaling unsustainable consumption in a way that decreases the community’s ecological footprint and restores the natural environment. Hence, an ecovillage is a gathering of individuals into a cohesive unit that is large enough to be self-contained, - and this phenomenon is emerging all over the world (Litfin, 2014:3). Globally, ecovillage constructions differ significantly, as they are place-based constructions, which must adapt to their political, social, cultural, economic and environmental surroundings. Additionally, it shall be stressed that the definition provided in this thesis is more aspirational than descriptive, as it describes a utopia that ecovillages are striving for (Dawson, 2013:218).

By definition, the ecovillage is a way of integrating a human settlement into the cyclical ecosystem, just as agroecology and permaculture are ways of integrating agriculture into the ecosystem. In

natural ecosystems no actual waste is produced, as everything is reused in the natural circle of life; it is this that ecovillages strive for. This means that the limits of nature, with its finite resources and capacity for absorption of waste, are translated into the limits of the ecovillage. No waste is produced that cannot be absorbed by earth, because there is no ‘away’ in which to throw it – this is what is meant by ecological sustainability (Litfin: 2014:3, 75).

In the East-African African context, ecovillages also exist under the name peace villages, and though their practices contain high differentiation, their common aim is to provide a model for social and ecological sustainability, including food sovereignty. It can be argued that many traditionally indigenous villages, both in the global North and South, originally come close to the definition of ecovillages, as there was much higher autonomy within villages and less dependency on externalities before our era of globalization (Dawson, 2013). But as globalization affects larger and larger parts of the planet, these villages are integrated into the world system of core-periphery interdependence, and practices tend to become unsustainable (Wallerstein, 2004). Ecovillage advocates stress that the idea is not to go back in time to our primitive, traditional villages, but to integrate new knowledge and technology into a way of life that is ecologically sustainable (GEN, 23.05.15; Dawson, 2013).

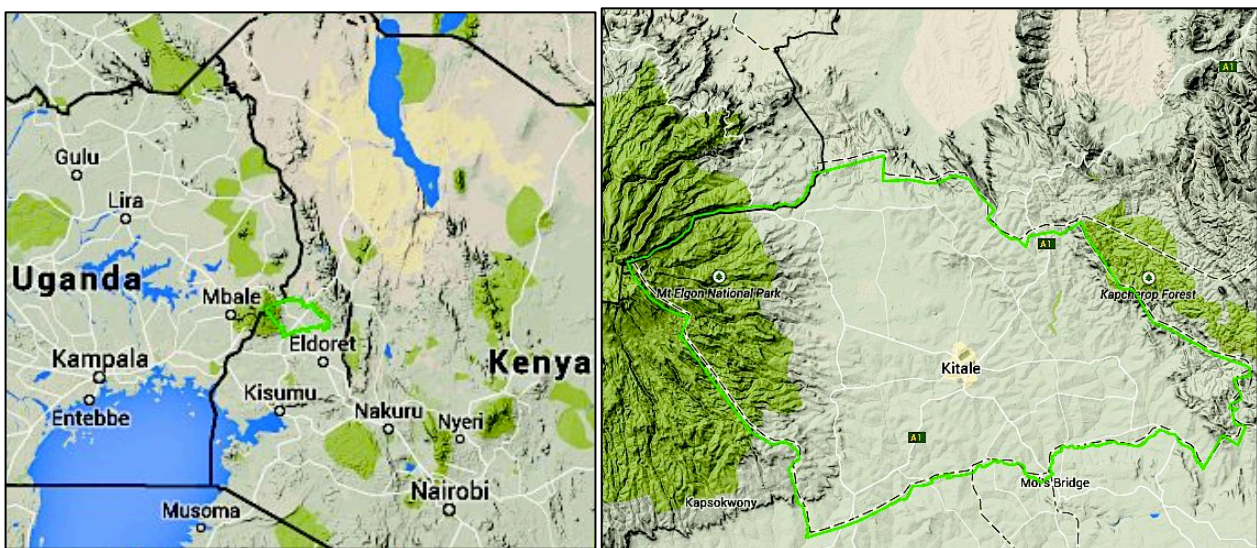
Both in the Global North and Global South, it is demonstrated that ecovillagers are living comfortably on incomes that place them well below the poverty line, in monetary terms, due to an economic strategy encompassing self-sufficiency in food, water and energy, combined with sharing of materials, goods and services with the rest of the community, while downscaling consumption that is based on unrenovable resources (Litfin, 2014: 81). The reasoning behind this simplistic mode of living, for many ecovillagers, is that, the true cost of most goods produced within our current global economic system, is not reflected in their prices. The true cost of manufactured clothes bought in the Global North are, in many instances; borne by the children who work up to 14 hours a day in factories in countries far away; by the people supplanted by international corporations that grabbed their land; and by the surrounding ecosystem that is being exploited in the name of economic growth. For example, the costs of our local coal or nuclear power plants might be borne by people we will never meet, but that does not make the costs any less real. Therefore, the economic idea behind downscaling is to only use what you can actually pay in real costs – because, as Litfin (2014) writes: “*if we don’t pay the real costs of our goods, we are essentially thieves, aren’t we?*” (Litfin, 2014: 83). In many areas of the Global South there is a need for an

upscaling of sustainable consumption to converge upon a middle-way between downscaling in the Global North and upscaling in the Global South – the point being for some to live simple, so that others can simply live (Litfin 2014:107).

The ecovillage phenomena has moved from being a form of isolated social and ecological experiment, trying to transform its bioregion, to forming a largely expanding network, GEN, that has emerged from a need of such projects to share strategies and experiences in order to build collective strength (Dawson, 2013). Generally, it can be said that the production of locality by social movements, such as GEN, provides alternative localization strategies by promoting specific place-based socio-cultural, economic and ecological principles. Escobar (2001) explains how subjects like biodiversity, sustainability, traditional production systems, cultural rights, and ethnic identities are interwoven by various social movements into a discourse for the construction place that enables them to articulate a political strategy - *“Social movements of this type actually engage in a novel politics of scale that is yet to be studied ethnographically”* (Escobar 2001:169)

### 3. Background

#### 3.1 Trans Nzoia County



Map 1

(Google Maps, 2015, authors edit).

Trans Nzoia County is located in Western Kenya between Mount Elgon and the Rift Valley (see Map 1), it covers an area of 2,495 km<sup>2</sup> with a population of about 818,757. With the new constitution of 2010, Kenya was divided into 47 Counties, 290 Sub-Counties and 1450 Wards. Trans Nzoia County consists of 5 sub-counties; Cherangani, Kwanza, Saboti, Endeless and Kiminini (County Edition Kenya, 22.05.15). This research is concerned with the two sub-counties where OTEPIC operates; Kwanza and Kiminini.

### 3.1.1 Ecology

Annually temperatures in Trans Nzoia range from 10°C to 37°C, with an average annual rainfall of 11,200 mm. Agriculture is the leading economic activity in a county that is considered the ‘bread basket’ of Kenya, due to its large scale maize farms. Other economic production includes horticulture, wheat, tea and coffee, with Kitale town being the main commercial centre (My Aspirant My Leader, 22.05.15). Kenya is divided into four main ecological regions (see *Figure 2*). Trans Nzoia County is situated in the most Northern Kenyan part of Lake Victoria Ecoregion. This ecoregion includes most of Uganda, the whole of eastern Rwanda and Burundi, and small parts of Kenya, Tanzania and the Democratic Republic of Congo, and is, in Kenya, characterized by high rainfall and the highest proportion of cropland, representing more than 20% of Kenya’s land under cultivation (Brink et al, 2013).

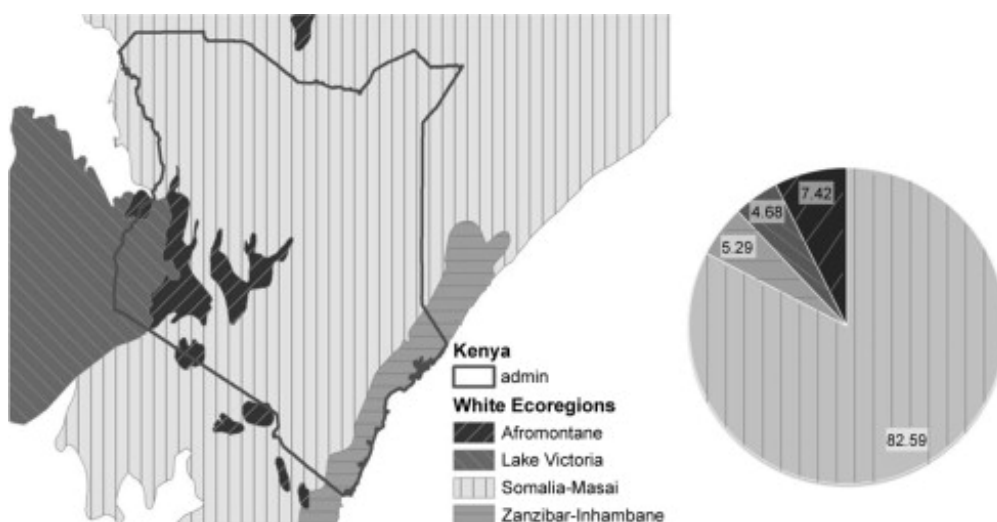


Figure 2: Kenya's 4 ecoregions as defined by White (1983) in Brink et al (2013). The pie chart represents the percentage that each ecoregion covers within the country.

Currently only few forest areas remain in the region. These are concentrated primarily in Kakamega Forest Reserve and to some extent around the Mount Elgon not far from where OTEPIC is situated, covering less than 2% of the ecoregion. According to the study of Brink et al (2013) Kenya has lost nearly 7% of natural vegetation which has been converted into other vegetation cover (agriculture, grassland including pasture, barren and artificial surfaces) over the 1990–2010 period (Brink et al, 2013). Even though Trans Nzoia is a naturally fertile region but due to continuously excessive deforestation and ecologically unsustainable agricultural practices, the ecosystem is collapsing, causing starvation during dry-season droughts (Member 3:I, interview 09.02.15). A study focused on evaluating indicators of land degradation in smallholder farming systems in western Kenya addresses the need for restoring soil fertility, arguing that natural soil nutrient reserves should be build up through organic matter in order to improve productivity on small scale farms (Waswa et al, 2013).

Consequences of the depletion of ecosystems are visible in agricultural outcomes in Trans Nzoia. An informant described the rampant deforestation in Maili Saba before she planted trees: *“You see, before there were no trees here - when the rain and wind came, the houses were blown away and the soil was completely eroded”* (Farmer 1:I, interview 26.02.15). This deforestation has meant that during dry season there is no shade for crops to grow beneath and no larger roots to keep the water inside the ground, while during rainy season huge areas become flooded; the soil is eroded of nutrients and water runs off the ground too quickly for it to sink into the deeper layers; *“the water that we have is very little; it’s always drained away before the plants have used it. And even if you dig a well, you can only use it during the rainy season. During dry season it dries up”* (Farmer 2:I, interview 03.03.15). Several informants mention that the climate has changed significantly: *“you find that now when we have the change of climate, the dry-season is long, and you might end up not getting anything [a yield] because of climate change”* (Farmer 1:I, interview 26.02.15); *“Now farming is a risky business”* (Farmer 6:F, Focus group 18.03.15) and; *“people they just sit back and wait for the rain to come. They have put their seeds and used all their money and everything. And then it’s gone completely [if rain comes later than expected]”* (Member 1: interview 27.01.15). Observations show how small scale farmers desperately depend upon rainfall and also how little knowledge they have about what they can do to improve capacity of their land to obtain and retain water.



### 3.1.2 Lack of agricultural information and improved practices

The colonial legacy on agricultural practices in Trans Nzoia is well articulated by an informant; *“You know in Trans Nzoia, people originate from someone else. Trans Nzoia was mainly for European farmers. And when we [the indigenous people of Kenya] came from the original homes, we were told not to use hoes - you should use the tractors instead. Only tractors. And then they were told that you cannot use organic manure, but you have to use the chemical fertilizer. This is what our farmers were told. **They ended up knowing only this**”* (Farmer 1:I, interview 03.03.15). This loss of indigenous knowledge on agricultural practices and colonialization of the mind has resulted in what several informants define as brainwashing; *“The biggest problem here is, let’s say ignorance. Because people are really not poor, but people are not aware about what already exists around them and how they can take advantage of it and develop themselves”* and *“You can find someone who is much older, really old, who was doing more natural farming from before. But now people have been brainwashed”* (Member 1: interview 27.01.15). The outcomes of predominantly continuing conventional agricultural practices of the British colonizers after independence in 1964 have become more and more visible in soil quality: *“The chemical has made the soil acid, and it is really bad”* (Farmer 1:I, interview 03.03.15); *“you were seeing people were complaining about that their soil is poor. [Yet] They keep on buying chemical stuff”* (Member 1: interview 27.01.15).

The yields currently obtained from prevailing conventional agriculture are clearly inadequate for small scale farmers, thus the majority of young people migrate to urban areas and away from farming: *“Young people here they don’t want to farm. Because we were told, when we came to Trans Nzoia, to buy chemical fertilizer and seeds and pesticides from the Kenya Seed Company and just use tractors. And you see now, **you have to have a lot of money in order access those things.** And we were told that we could only plant maize, no other things. And when we plant maize, it only stays for 8-9 month, and in the other months you have nothing to eat or sell. The youth just see how farmers are struggling and in the end they get nothing. This is why young people don’t want to be farmers”* (Farmer 1:I, interview 26.02.15). This statement demonstrates the disadvantages, for small scale farmers with little economic capital, of dependency on buying agricultural inputs – production outcomes are inadequate because inputs are inaccessible. Generally farmers state a lack of income to manage the farming as their largest challenge, because too much money is spent to produce food, whereas relatively little money is gained from selling this produce (Focus group, 18.03.15).

### **3.1.3 Divisions and loss of land**

A dominating perception of small scale farming as an inefficient activity in Trans Nzoia has led to extensive urban migration and an expansion of slums around urban centers. In the village of Maili Saba, when farmers die, their land is divided between the children into such small plots that conventional farming makes absolutely no sense. Often land is sold for profit and slowly more and more young people leave the area; *“Here parents would not want to divide the land between their children, because many of them would just sell it for money, and maybe buy a car. And some of the children whom would keep the land they will rent it out. Most of our older people are not willing to give land to the youth. They say that they will remain with the land until they die - but then the chiefs sit and subdivide the land between the children”* (Farmer 1:I, interview 03.03.15).

### **3.1.4 Ethnicity**

Kenya is subdivided into five large ethnic communities covering all in all 42 different tribes. In 1963 a Kenyan historian Bethwell Ogot described the implications of transferring Kenyan multiethnic politics and institutional trust into an independent national state: *“The African masses have to be persuaded to transfer their loyalties from an association they know and understand – the tribe – to something impersonal, abstract and as yet non-existent, called the nation”* (Willis, 2013: 448). According to Steeves (2011) political parties tend to be established upon ethnic foundations and, due to the power and resources associated with it, electoral competition becomes a struggle for ethnic dominance. As a result of the political power of tribalism, a pattern of political violence to destroy ethnic opponents arose in 1992, 1997 and in 2007 following political elections. After independence in 1964, the Kikuyu tribe took over supreme political power. In 2007, two politicians– Mwai Kibaki of the Kikuyu and Raila Odinga of the Luo fought an electoral campaign which ended in a deeply flawed vote count and initiated severe ethnic violence between the tribes (Steeves, 2011). During this brutal period in 2007, many people from Western Kenya fled to Kitale, as this town was known to be the least violent due to its relatively long history of multi ethnic solidarity (Member 1:I, 27.01.15).

Segregation of the Kenyan population, visible during tribal conflicts, continues to play a restraining role in cooperation between different ethnicities and fuels discrimination. One member gives an example of how ethnic segregation, especially in rural areas where different ethnic groups live further apart, continues to constrain cooperation and thus development in general: *“if there is water*

*leaking in my tribe, and somebody is capable [of repairing it] he [might] not be given the opportunity to help because he is from another tribe. So that is something that is a big problem here”* (Member 1:I, interview 27.01.15). Although Kitale is known to be one of the safest places in all of Kenya when it comes to tribal conflicts, members explain that these issues of ethnic discrimination are always hidden, lingering beneath the surface.

### **3.1.5 Social insecurity**

The expansion of slums is evident in Kitale, the main urban center of Trans Nzoia, where most of OTEPIC community members live, and also in the rural areas in the outskirts of Kitale. If people own a property, the space is very limited and most people, if they work, do so in the informal sector on a day-to-day basis. Many people are left without a family or social security network, children cannot attend school if they cannot pay school fees, and abuse of drugs and alcohol is an increasing problem. Many people are driven into criminality or prostitution in order to provide for themselves or their family. In general, insecurity dominates these marginalized urban and rural areas. For all OTEPIC members I have interviewed, these issues have affected their lives. An informant explains this social insecurity as having roots in cultural perceptions of gender roles; *“...most of our husbands were running away from their homes, because they were overburdened with the women and their children. The husband is expected to take a role of doing everything in that home. It was too much for them. Most of them were running away from their homes, and they ended up staying somewhere else for good, leaving these women alone with their kids. And we had so many cases, so many cases.”* *“It was terrible. The children could not go to school, they ended up going to work for people so that at least they could earn a living at least for that day. And you find that in most cases within these villages here, so many young youth have not finished their school”* (Farmer 1:I, interview 26.02.15).

Other issues include, for example, corruption, which influences innumerable sectors, as well as constrains OTEPIC as an organization from realizing its aims, or public health which is decreasing due to consumption of unhealthily and unnatural produced foods. Informants mention this issues as visible in outbreaks of serious stomach ache and cancer (Focus group 18.03.15, Farmer1:I 26.03.15, Member 1: 27.01.15). All in all, problems existing for local people in this region of Kenya are highly complex and interconnected between sectors.

### 3.2 Places of OTEPIC

OTEPIC owns three different places in and around Kitale town: Amani, Shamba Mpya and Mitume centre. These properties, according to the CBO's policies, belong equally to the 72 official community members. The funding, which has made it possible for OTEPIC to own and construct these places, comes from private companies and individuals in Europe and the United States. Funding goes to all on-going projects of OTEPIC, such as buying land, accessing technology, building, producing a water borehole etc., as well as paying wages for the three, full-time employed community members – all other members participate as volunteers. *Figure 6* gives an overview of the places constructed by OTEPIC in Trans Nzoia County.

Additionally, within Trans Nzoia County in Kiminini Sub-county in Kiminini ward, around 19 km South-West of Kitale, is a demonstration garden and farmers' training centre to which OTEPIC is closely connected. This property is owned by my gatekeeper and key-farmer, Nancy Opele, and located in Wehoya village – also referred to as Maili Saba (which means seven miles). In Maili Saba, OTEPIC has been training local small scale farmers in agroecological strategies for household food self-sufficiency.

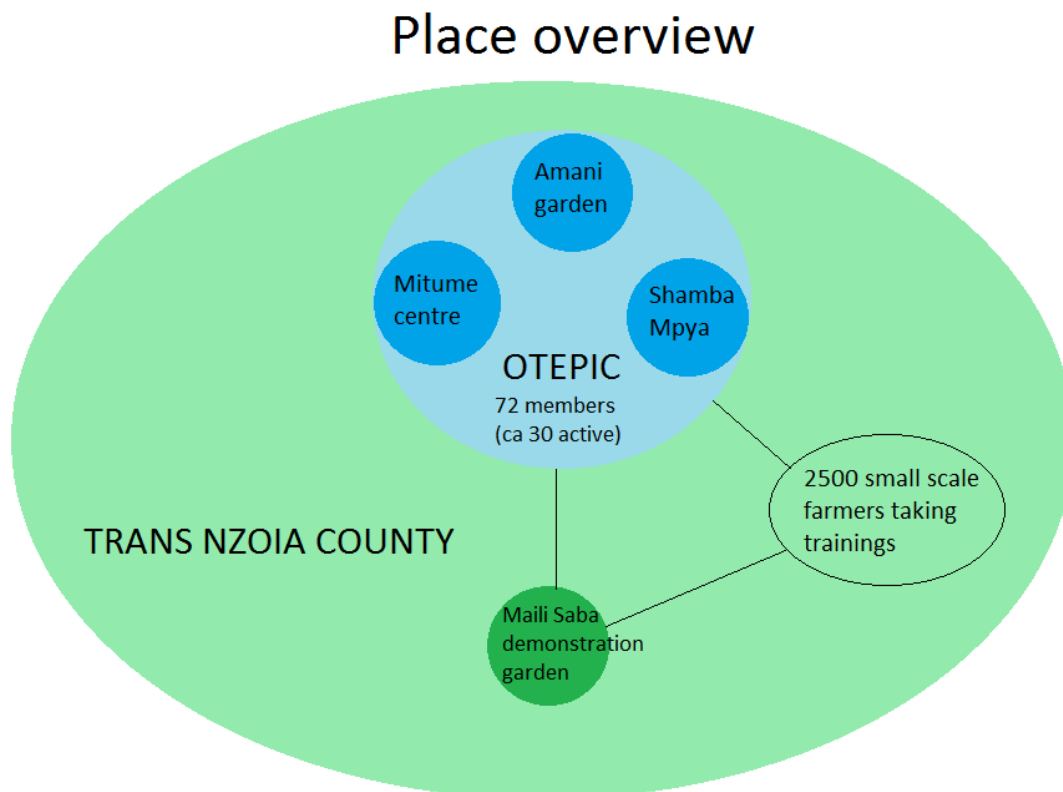


Figure 3: Places of OTEPIC

### ***3.2.1 Mitume centre***

Originally OTEPIC began as a CBO in 2008 with a seven-by-twenty-one-metre-square permaculture garden in Mitume, in the slums of Kitale, where most community members currently live. Mitume centre, which is now combined with a small indoor area, is used for farming, community meetings and is, furthermore, a place where several young children from Mitume come to practice dance and theatre during weekends.

### ***3.2.2 Amani Garden***

Situated two kilometres North-East of Kitale town in Bidii Village, Bibii Ward, Kwanza sub-county, OTEPIC currently has its main headquarter, Amani Garden. This half-acre of land consists of a garden of mixed agricultural methods, renewable energy systems such as biogas and solar energy, and a common house where community members eat lunch together every day. The food production of Amani Garden currently consists of: 43 raised, intercropped vegetable beds (with tomatoes, onions, sukumawiki, kale, jute plant, carrots, cabbage, cow peas, coriander, three different kinds of beans, spider herb, spinach, sweet pepper, amaranths, black night shade, aloe vera, sweet potatoes, Irish potatoes, maize and pumpkin), various fruit trees (banana, avocado, passion, guava, citrus and zamarau), a fish pond, a dark cooling house for growing mushrooms, a greenhouse, tree nursery, compost, chickens and rabbits. Water supply comes from OTEPIC's own borehole, pumped up through solar power. Energy for cooking is produced by two bio-gas digesters and solar cookers. These methods and activities are further explained in the analysis *5.1.1 Practices used on OTEPIC's land*.



Map 2: Amani Garden, author's creation, 2015

### ***3.2.3 Shamba Mpya***

In April 2013, OTEPIC bought a ten hectare plot of land around five kilometres from the Kitale town, in a rural area between the villages of Bidii and Sabwani (next to Bidii Primary school). This land is currently being reshaped into a miniature ecovillage or peace village with: a water retaining landscape, a garden for food self-sufficiency, an animal area, a seminar house, a community living area, etc., while one third of the property is meant for re-naturalization of a naturally 'wild' area. In 2014, the building of the first house was finished and in March 2015, the production of a water borehole was completed. OTEPIC wishes for Shamba Mpya to be a community where people from different ethnic tribes of Trans Nzoia County live together peacefully and where external visitors will eventually come to participate in permaculture training (OTEPIC, 11.05.15). The vision of OTEPIC is that this place can be a model for a new culture of ecological and social sustainability, replicable elsewhere (Member 1:I, interview 27.01.15). *Map 2* shows the vision for this land as of February 2014. When I visited Shamba Mpya between January and March 2015, one house was finished, while three others were under construction, the garden beds were being shaped and a water borehole was drilled, one pond had been built, while three lakes remained incomplete.



Map 3: Shamba Mpya, created by Julia Datzko, 2014



## 4. Methodology

### 4.1 Secondary data construction

To compliment primary data, which is the major data source for this research, I have used all the secondary data concerned with OTEPIC that I could get my hands on. This secondary data is information provided by OTEPIC on their homepage, otepic.org, and in two ‘newspapers’ from 2014, which OTEPIC sends out to donors. Additionally, I have at hand the membership list, list of organization policy, minutes from the most recent community meeting in January 2015, and as well as literature on the many different ecological techniques practiced at OTEPIC.

### 4.2 Primary data construction

For primary data construction, I have used an ethnographic approach based on participatory observations, semi-structured interviews and one focus group discussion during a nine-week long field work. Ethnography is preferred for its flexibility and in order to maximize reliability and validity by thoroughly describing the experienced reality of informants (Bryman, 2008:436-437).

#### 4.2.1 Participatory observation

Participatory observation requires that the researcher is simultaneously observing and participating in the social actions, which she/he documents. I use this method to come as close as possible to understanding and experiencing an ‘insider’s point of view’, regarding the values, beliefs and practices taking place in OTEPIC (Hume et al, 2005). Since an important feature of this research is to understand the social aspect of OTEPIC’s strategy for promoting food sovereignty, I find that the best way to examine this is through experiencing it myself. Participatory observations took place in Amani garden and Shamba Mpya together with the ten to twenty members of the CBO who come daily between 9am and 6pm. The majority of these members are not farmers, but do still take part in the majority of the activities in the organization, including cooking, building, planting, harvesting, watering, the construction of bricks for building, planning, etc. Observations have been noted down in an observation protocol and used both for data construction in itself and for validating data collected from interviews in order to identify possible biases (Flowerdew, 2005:112). As stressed by Eriksen (2001) *“it is generally agreed that the anthropologist [or ethnographic researcher] ought to stay in the field long enough for his or her presence to be*

*considered more or less 'natural' by the permanent residents, the informants, although he or she will always to some extent remain a stranger"* (Eriksen, 2001:24). I chose to stay at OTEPIC for all nine weeks of my fieldwork in order for my presence to be regarded as as natural as possible in order to be able to observe ecological, economic and socio-cultural structures and practices under their naturally informal circumstances.

#### **4.2.2 Interviews**

I have used semi-structured, in-depth, life history interviews with eight OTEPIC members in order to access subjective information regarding perspectives on social-cultural, ecological and economic aspects of life in OTEPIC and its meaning for the individuals through a flexible and informal interview situation (Bryman, 2008:438,440). The aim was to gain an understanding of why each person was involved in OTEPIC, and how they relate to food sovereignty and the practices taking place within OTEPIC. The interviews focus on how the informants interpret their own situation regarding food sovereignty, and the role that OTEPIC plays for them personally (Hesse-Biber et al, 2007:118). Participatory observations and interviews support or disprove each other's validity and by pointing at possible biases or misunderstandings implicated in the interview data (Mack et al, 2005:13).

Individual interviews with four small-scale farmers, who are not OTEPIC members but have all taken agroecological training through OTEPIC four years ago, were carried out during narrative walks on the farmland of the informant, in order to have described and to observe how farming is done. The aim of the farmers-interviews is to, first of all, empirically observe the farms, and secondly understand farmers' own perspectives on the practices they have been taught and how they themselves relate to them. Present during all these interviews, were initial open-ended questions such as: *"How did you use to farm before the training?"* and *"What have you learned from the training?"* Intermediate questions, such as: *"What do you think about the practices you have learned? And why so?"* were asked. And concluding questions were posed such as: *"How has your farming practices changed after training?"* and *"Can you mention some further challenges to your farming practices?"* (Bryman, 2008: 448). Hence, the interviews are focused on 'before and after' training; what has changed, how, and how this change is perceived by the farmers. I used the semi-structured approach as my aim is, not only to acquire answers to my questions, but a thorough understanding of all issues relevant to the informant (Bryman, 2012:401; Hesse-Biber et al, 2007:115,123).

### **4.2.3 Focus group**

Furthermore, I have used a focus group discussion with a larger group of local small-scale farmers who have taken agroecological training through OTEPIC, in cooperation with a translator. The participants were seven, Luhya, small-scale women farmers from Maili Saba. Six of them have participated in a fourteen-day-long agroecology course in 2011, and are part of the government supported Joyful Women's program, which facilitates the training of women in table banking (microfinance). The seventh farmer is from the neighboring village Bikeke, she is 20 years younger than the other farmers, well-educated, and programme officer for the Joyful Women's group.

The agroecology course, facilitated and initiated by OTEPIC, was taught by a professor of agriculture at the Manor House University in Kitale. The professor visited the farms of all the participants in order to be able to give advice according to their specific needs and conditions. Currently, my gatekeeper, Nancy, who is the training facilitator in Maili Saba, meets twice a week with different farmers-groups from the area. She explains: *"In most places we have key-farmers. If the area is far, the key-farmers just come here. I tell them the latest news about what do here, and they go to their area and teach their farmers. We have 12 key-farmers, and uncountable farmers"* (Farmer1:I, 26.03.15).

The focus group discussion provided me with insight into the spectrum of views that the individuals hold regarding the training and its outcomes, as well as the nature of their interaction and dialogue over the issue. Furthermore, it complements the individual statements found in the interviews through allowing a debate between participants (Flowerdew, 2005:129,131). The focus group was built around the same questions as the farmers-interviews (see section 4.2.2 *Interviews* above), but formed as a discussion and drawing attention to the difficulties of the agroecological practices the farmers had been taught as well as implications with their implementation.

### **4.2.4 Sampling**

Hypothetically, I'd wanted to interview every single member of OTEPIC as well as all farmers who'd ever undertaken training, but since these are more than 2600 individuals, it would be impossible in two months. Instead, when it comes to OTEPIC-members, I have used a purposive sampling method in order to choose a representative sample, and had in-depth interviews with the eight members who together represent the CBO most realistically (Bryman, 2008:459). During data collection I had two important gatekeepers and key informants: Philip Munyasia who is the founder

and secretary of OTEPIC, and Nancy Opele who is the owner of the demonstration garden in Maili Saba. Philip was my gatekeeper to all members of OTEPIC, while Nancy was gatekeeper to the small scale farmers who have taken training in Maili Saba.

I have interviewed four farmers individually and had one focus group discussion with seven (two of whom also informed the interviews). All are small-scale farmers situated in the area of Maili Saba, Trans Nzoia County, and have (apart from one) taken part in the agroecological training in 2011. All these informants were chosen by my gatekeeper, Nancy Opele, as she invited all farmers with whom she is in contact, within the area of Maili Saba. Bryman (2008) refers to such a sample as a snowball sample, which cannot be claimed to produce a statistical representation, since it relies upon social contacts between individuals to trace additional respondents (Bryman, 2008:459) – see next section 4.4.1 for reflexivity and limitations regarding sampling methods.

### **4.3 Reflexivity**

#### ***4.3.1 Sampling***

When choosing informants for the individual farmer interviews, I encountered some practical difficulties regarding sampling. A limitation in the sampling is that I have only interviewed farmers who live in walking distance from the home of my gatekeeper in Maili Saba. This is due to the fact that I came in contact with her late in the fieldwork process, and thus did not have time to visit more than 4 farmers in the area. Therefore, I cannot claim that these farmers represent all the 2600 farmers who ever took the training. Nonetheless, they are examples of local small scale farmers who have all used the agroecological methods taught by OTEPIC around four years ago, thus the farming outcomes based on the new methods are visible.

Additionally, the seven farmers who were part of the focus group (two of whom were also informants for individual interviews) were all women who are part of a government-supported table banking or so-called microfinance project named “Joyful Women”. These farmers meet once a month to discuss how best to meet individual and community needs, both through table banking and farming. This means that the farmers I have met gain the benefits of table banking, which might facilitate better of farming outcomes, and are also part of a larger social network that facilitates information sharing and support, both when it comes to farming and in many other areas. The data gathered might thus represent the more privileged women who have undertaken training through

OTEPIC – the women who can borrow money and who can easily share information on improved farming methods and exchange seeds. Hence, farmers whose livelihoods are situated in excluded places of Trans Nzoia are not represented in the data. Reflections regarding representations are essential in understanding that collected data represents single cases in a specific time and space as well as the individuals interviewed, thus findings cannot be broadly generalized (Bryman, 2012:69-70; Sultana, 2007:382).

#### **4.3.2 Positionality**

As mentioned, I used a translator for the focus group, as most farmers only spoke their tribal Luhya language and Kiswahili. My translator translated from Kiswahili to English. She was a woman in her fifties from another tribe; Kikuyu. She was well-educated and dressed a bit more formally than the informants, but she quickly made a humble impression on them as she was very interested in their practices and aware of the benefits of being polite and humble in an unfamiliar setting. I believe that she fitted comfortably into the group of farmers, as she was a woman of around the same age as the informants, although her ethnicity might have affected matters in that the farmers may have wanted to seem more active or productive than is actually the case. I acknowledge this possible bias because the Kikuyu tribe is known as a well-privileged and hardworking tribe, and as one farmer told her in the end: *“you see, we are working as hard as you Kikuyu people”* (Farmer1:I, 18.03.15).

Hume et al (2005) stress how through participatory observation, with the aim of forming and maintaining intimate relationships for professional purposes and by deliberately attempting to simultaneously position oneself as insider and outsider, the researcher is put in a socially awkward position. I found that, during participatory observations, it is very important to take a reflective ‘step back’ from the formed relationships for long enough to identify and analyse some of the rules and expectations taken-for-granted in the social space, which I am researching (Hume et al, 2005). In practice, I did this by reflecting upon the influence of my positionality in interviews and observations and noting this down in a fieldwork diary. I find that the category I initially seemed to be placed in by community members changed remarkably, from being superior to being seen and treated as an equal (Flowerdew, 2005:174). Participatory observations and reflexivity upon my own as well as informants’ positionalities has provided me with some deep understanding of the social

structure of OTEPIC, which I would probably neither have identified were I a ‘pure’ outsider or insider.

#### **4.3.3 Ethical considerations**

Before arriving in the field, I had planned to bring a translator for semi-structured interviews with the community members, since most of them speak limited English. The aim of these interviews was to acquire an understanding of what participating in OTEPIC has changed for the different community members personally, and what role social structures play in their participation in promoting food sovereignty. After participatory observations and semi-unstructured interviews with community members on this topic, I started to realize how sensitive it was. Some people joined OTEPIC after living on the street, the death of close family members, having problems with alcohol, drugs, partnerships or criminality. This contemplation made me attentive to act appropriately to the situation, hence, it became obvious that bringing a translator (who would be a person from the outside) for such personal interviews would, first of all be ethically inappropriate, and, secondly, most probably not provide me with the in-depth information for which I was searching. Due to these considerations I chose to have the interviews myself with the members who spoke some English, relying on my own interpersonal skills and the relations I had built with informants. I did this towards the end of my fieldwork, as I felt that my relationships with members was the strongest then and because the motive of the interview would not be purely academic, but at least as much personal interest from my side (Hume et al, 2005). Therefore, data will not be generalizable for all members of the community, nevertheless, it provides unique examples of how working at OTEPIC can change lives (Bryman, 2012:69).

## **5. Research question 1**

**How does OTEPIC promote food sovereignty among community members and small scale farmers in Trans Nzoia County?**

### **5.1 Ecology**

**Sub-question 1: *What ecological approach and specific practices does OTEPIC promote among community members and local small scale farmers? // How and why?***

OtepIC's purpose, as expressed on their own home page is: *“Training for Farmers and Communities for **Food Sustainability**. OtepIC supports the local communities to use the local available resources in the best way. This means to teach them to use open pollinated seed varieties, to grow food in diversity, in water harvesting and many other sustainable skills”* (OtepIC, 11.05.15). Through interviews, combined with observations of how OtepIC members and the farmers in Maili Saba save and exchange local seed varieties and use animal manure and compost as energy sources and fertilizer instead of buying these inputs, and also of how they grow diverse vegetable gardens instead of only relying on one crop, it becomes clear that the overall aim of OtepIC, generally, can be described as creating independence from the corporate food regime. The aim, ‘food sustainability’ as OtepIC writes, can in this context therefore be understood as: self-sufficiency in both food water and energy.

A slogan of OtepIC is *“Join the real Food Revolution”* (OtepIC, 11.05.15) by which they mean: *“to help communities to grow ecologically sustainable and healthy food”* (Member 1, Interview 05.02.15). This statement shows that there are two motives behind the aforementioned aim: producing food, which is healthy for human consumption, and producing it in a way that is ecologically sustainable. Both aim and motive resonate with LVC's definition of food sovereignty as *“the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture system* (Agarwal, 2014:1248).” As argued by Agarwal, the definition of food sovereignty has, during the last few years, moved towards a focus on the rights of peasants to determine the extent to which extend they want to be self-reliant (Agarwal, 2014). In the case of OtepIC, the determination is to be totally self-sufficient in food, water and energy supplies in order to provide a holistic alternative to conventional food production.

The secretary and founder of OtepIC, Philip Munyasia, explains in a life-story interview about the different ecological practices that have inspired OtepIC, *“I studied organic farming here in Kenya for three years. After I finished that I started working with the communities around Mitume and some other places, working on their gardens.”* Philip explains how one day a professor in bio-intensive agriculture from the U.S came to visit the garden where he was working and offered him a scholarship: *“It was a year. Bio-intensive agriculture. And then when I came from there, I was given a contract by them, to go to South Africa, to teach there, to help the universities with some gardening projects. And that is where I met somebody who was doing this permaculture. So I*

*thought: okay, organic farming I really like, but still I was missing something. And some things I don't agree with. In organic farming they say: you use only organic stuff, but chemicals as the last resort. So you can grow things in an organic way, but when the pest comes and hit everything, and you have tried everything, and no way - then you can use a little bit of chemicals. I don't agree with this; if it's organic it has to be organic.*" Through his work, Philip got in contact with the ecovillage Tamera in Portugal, where he and another community member, have been participating in permaculture courses concerning agriculture, 'appropriate technology', and water retention landscaping. The practices taught in Tamera are inspired by the Austrian permaculturalist, Sepp Holzer, who Philip eventually got to visit and take courses from: *"So, then I listened about permaculture: it's just a combination of everything - its animals, its water, its food, energy, its building... We are part of it, its permaculture, it's a permanent culture, it is permanent... It's a flow of energy."* When he explains about the practices used in OTEPIC he says: *"I took everything that I think is more sustainable food production, so I combined parts of organic farming, parts of bio-intensive, parts of this..."* *"Whatever fits the environment, the available resources, and the need of the people."* Hence the ecological practices of OTEPIC are not bound to one concept or approach, but a combination of methods that is found suitable to the environment, available resources and the need of the people. In Philip's perspective, this is the most sustainable approach to becoming self-sufficient in supplies of food, water and energy (Member 1:I, interview 27.01.15).

Biointensive agriculture is a whole-system farming method that focuses on attaining maximum yields from a minimum area of land through organic methods. Organic farming is, in its broadest form, agriculture with use of purely organic materials, with definitions depending on the specific context and certification policies of the country. Permaculture, as already explained in the conceptual framework, focuses on mimicking nature's own patterns in order to be 'permanent'. All three approaches can, according to the definition of Altieri (2012), be defined as agroecological methods, since they all focus on using ecological principles for managing agroecosystems, where external inputs are replaced by natural processes (Altieri, 2012:9). All ecological practices of OTEPIC are connected through this agroecological red thread of mimicking nature, as will be clear in the next sections where all practices within the three areas of water, food and energy, are thoroughly described.

### **5.1.1 Practices used on OTEPIC's land**

#### **5.1.1.1 Food**



The production of food is done through methods described by Altieri et al (2000) as the main fundamental agroecological techniques: crop rotation, polyculture, or what OTEPIC calls intercropping and agroforestry systems (Altieri, 2000:32). Crop rotation means that the crops are moved to a new space after one season – this technique ensures a constant provision of nutrients for the crops while it breaks the life cycle of insect pests, diseases and weeds. Polyculture, or intercropping, means that a variety of complementary, diverse crop species are planted together in symbiotic relationships. Agroforestry systems demand that trees are grown together with crops that can benefit from their shade and the binding of water and nitrogen in the ground. These methods all enhance the beneficial biological interactions, which are found in natural ecosystems – thus these are clear examples of agroecology in practice. When observing the practices in OTEPIC, the use of some of the permacultural design principles (described in 2.3 *Permaculture*) become obvious: observe and interact, apply self-regulation and accept feedback, use and value renewable resources and services, produce no waste, integrate rather than segregate, use small and slow solutions, and use and value diversity (Birdbaum et al, 2013:18). These principles are not only applied to food production, but also in the areas of energy and water management as well as building with natural materials (see 5.1.1.2 *Water* and 5.1.1.3 *Energy*).

Amani vegetable garden consists of 43 raised beds intercropped beds. Raised beds is a method well-known in permaculture and agroecology, where elevated garden beds are built higher than the surrounding soil in order to optimize nutrient availability. Since the soil is not very compacted as you don't step on it, and as organic mulch can be constantly added to create a small closed system of high soil fertility, the biotic soil activity is enhanced. The mulch used by OTEPIC is often maize stock which is cut into small pieces and spread over the vegetable bed in between the crops in order to balance nutrient flow (Altieri et al 2000). In addition to vegetable beds, OTEPIC uses recycled bottles and bags in which to plant crops, as well as trunks from banana trees, as these contain high concentrations of nutrients useful to the crops. Furthermore, in Amani Garden mushrooms for eating are grown inside a small dark hut and watered once a day.



Picture 1 from top left: the raised vegetable beds in Amani Garden with trees in between and inside beds, 2) intercropping of onion, amaranth, cow peas, black night shade and sukumawiki, 3) small tree-nursery, 4) spinach and sukumawiki growing in recycled bottles and banana tree trunks.

### 5.1.1.2 Water

As explained in the background section *3.1.1 Ecology*, farmers in Trans Nzoia are threatened by incessant rainfall and floods during rainy season and hurricanes and droughts during dry season. OTEPIC is constructing a water retention landscape, which is supposed to fill up slowly from the rainwater, in order to collect as much water as possible to recharge the earth waterbody. The idea is to work with the movement of water to slow it, spread it and sink it. Keeping the water for as long as possible on the land has many benefits, including soil improvement, enhanced biodiversity, and increased yields, and is, inevitably, the whole foundation of an agroecological system – no water, no life (OTEPIC Newsletter 2, 2014). Two community members have participated in water

retention landscaping courses in Tamera, Portugal, focused on water harvesting and reshaping the landscape in a natural manner so that water can be slowed down, spread on the whole land, and sunk into the deeper layers of the earth. Construction of lakes on Shamba Mpya is still progressing; the idea is to have three large connected lakes which will fill up during rainy season and save the water for the dry season.

Both on Shamba Mpya and in Amani Garden, OTEPIC is now self-sufficient in drinking water as is has received funding to dig water boreholes on both pieces of land. In Amani Garden, a plant water-cleaning system of bamboo and aloe vera cleans the waste water before it sinks into the ground. The water will be pumped from the ground by solar energy.

### **5.1.1.3 Energy**

OTEPIC uses different methods for achieving self-sufficiency in energy supplies. For cooking-gas, they use a biogas system, where microorganisms digest animal manure and transform it into gasses in a container, through which a pipe to the kitchen is connected. This system demonstrates a cheap alternative to the ongoing deforestation and pollution of the air caused by burning firewood. Additionally, different types of solar cookers have been introduced in OTEPIC, as sunlight is, in general, a stable energy source all year round in Trans Nzoia. The water pump connected to the water borehole in Amani Garden, is energized by a solar panel, as the pump in Shamba Mpya will be too, shortly.

Even though these methods are free of use – as long as sunlight and animal manure is freely available – the solar panels and bio digester are, in themselves, technologies which are economically inaccessible to the average small scale farmer in Trans Nzoia. Furthermore, even though the technologies are completely environmentally-friendly in use, with absolutely no carbon emissions, the production of these technologies are not taken into account. This is an issue often unrecognized when it comes to alternative ‘green’ technologies, which should be taken into account if the aim of OTEPIC is, as Litfin (2014) puts it: to pay the real costs of production.

The buildings on Shamba Mpya are all built with manual power, from recycled or naturally available material from the area. One house is made from plastic bags filled up with soil, another is made from wood and mud, and the coming seminar house will be made from bricks of sand and water, produced through a manually-powered compressing machine.



Picture 5 from top left: Biogas digester in Maili Saba demonstration garden, 6) Solar cooker (made from a carton box and silver foil), 7) solar panels, 8) manually making bricks, 9) building earth-bag-house, 10) kitchen house made of wood, mud and straw.

### ***5.1.2 Practices promoted between local farmers (non OTEPIC territory)***

This section concerns the agroecological training OTEPIC has been offering small scale farmers in Trans Nzoia County. Almost all farmers who participated in the focus group discussion and individual interviews have been farming for over twenty years on areas between one to three acres, and support their households of between three and ten people. For a detailed table of details for farmers, who all gave consent to participate in this study with their full names, see *Appendix 1*.

The general practices taught in the farmers' training in Maili Saba, were all the agroecological methods which are also used on OTEPIC's own properties - clarified in 5.1.1.1 under the heading 'Food.' Yet, the main practices which the farmers explained that they learned are: to use animal manure and compost as fertilizer, to raise the vegetable beds and to save and exchange local seed varieties. Before training, all farmers used to buy and use chemical fertilizer, but now they only use the animal manure they have available. The farmers who don't have animals to produce manure use the maize stock leftover from harvesting maize, leaves or compost, or are provided with manure from neighbouring farms. The organic fertilizer, the women explained to me, are good for two things: *"it nurtures the soil and makes it soft instead of poisonous, and it makes the vegetables 'sweet' and healthy to eat"* (Farmer 2:I, interview 03.03.15).

The farmers also explained how they learned to plant different crops, that they did not use to grow, for example, sweet potatoes, which they now know how to bake bread from. They told of learning to use leaves for the feeding of farm animals, of making hay, preserving maize stocks for animals and compost, how to keep chickens etc. They explain that, *"before everybody was doing their methods, many different styles"* (Farmer 5:F, focus group 18.03.15), but now they have knowledge of how to farm more efficiently; *"we improved after being taught"* (Farmer 3:F, focus group 18.03.15). Before training, most of the women were growing vegetables for their own consumption, but they were not growing enough to be self-sufficient. Now, after training, they grow enough for their own consumption and at times surplus enough to sell. When asking the farmers about the outcome of the training, answers were positive, both in the individual interviews and in the focus group – the soil is healthy, the vegetables are better, and the yield is higher. Findings show that the positive outcome definitely comes from the practices the farmers have learned, but another advantage, which should not be underestimated, is the network of farmers meeting, helping and advising each other; *"If you don't do well, you go to the neighbour to see and learn"* (Farmer 4:F, focus group, 18.03.15).

Findings clearly suggest that small-scale farmers have benefitted from agroecological training – now, four year later, they attain higher yields on a variety of crops, which makes most of them self-sufficient in vegetables. They have gained knowledge on practices that improve soil fertility and free them from dependency on buying chemical fertilizer and seeds from KSC. Findings also show that the ecological methods aiming at food sovereignty are enhancing biodiversity of the ecosystem, thereby addressing the regional challenges of its exploitation and depletion described in 3.1.1 *Ecology*, while providing an alternative to conventionally produced food, which farmers express suspicious views on health wise.

## 5.2 Socio-culture

**Sub-question 2: *What socio-cultural and organizational principles and approach does OTEPIC promote among community members within the CBO? // How and why?***

Another strategy for food sovereignty used by OTEPIC, but not yet openly part of any teachings is the social community aspect of being an ecovillage. The vision for OTEPIC, according to key-informant and founder of OTEPIC, Philip, is to be a permaculture training center and a peace ecovillage. About Shamba Mpya, he says: “*We call it the community land... A place where, I was thinking, I can restore an African dream of prosperity, abundance, **hospitality** for people. A place where I want to talk about ecological and **social sustainability**. A place where I want to speak about the issues that matters: food, water, energy, **community-living**... And bringing people from **various tribes** to come and live there to form a prototype-system, to show people how people from different tribes can really **co-exist, and promote peace**. To form an example which can be copied to somewhere else... So, that we can show people, how together they can work together and create something*” (Member 1, Interview 27.01.15). Even though the physical ecovillage built, the social bonds which will hold the prospective ecovillage together, in my opinion, already exist in the group of members who come to OTEPIC every day – and this social security network is just as much a strategy for food sovereignty as agroecology and permaculture is.

A clear vision of OTEPIC is addressing the challenge tribalism and ethnic discrimination poses to peace and cooperation between different ethnicities in Trans Nzoia, by being an ecovillage for anybody who shares the vision of OTEPIC, regardless of ethnicity. Currently, there are only two different ethnicities represented in the group of members that I meet during my fieldwork; Luo and

Luhya. Observed on an everyday basis I saw no difficulties in the cooperation between people from the different tribes. In general it was to me an invisible issue, although it was mentioned as an issue that is always bubbling just beneath the surface, ready to resurface during time of conflict. The impression of OTEPIC members' social interactions is that they are focusing on inclusion of everyone present, disregarding their ethnicity, in order to promote peace between tribes. In this sense, OTEPIC engages in a strategy of production of locality and socio-culture through enacting a politics of scale from below - what Escobar (2008:32) describes as a general strategy for social movements. This politics is based on ethnic equality and social inclusion.

The social challenges OTEPIC clearly addresses – and which, according to this analysis, is a main reason for members to participate in the everyday activities of OTEPIC – are the ones elaborated in *3.1.5 Social insecurity*. Most community members live in the slums of Mitume, where abuse of drugs and alcohol is an expanding problem, together with rising criminality. Many of the youth members have not been able to stay in school, mostly due to economic difficulties in paying school fees, and have ended up with no social security network, vulnerable and exposed to the problems dominating the area of Mitume. As they have no educational background, the reality for these young people becomes much as described by an informant: *“The children could not go to school, they ended up going to work for people so that at least they could earn a living at least for that day”* (Farmer 1:I, 26.02.15). A community member explains that there are three main reasons why he is engaged in OTEPIC. Firstly, it *“keeps me away from bad things going on at night in Mitume”*, secondly, you *“get to know many friends here, and interact with them,”* and *“the things we do here, I can use in the future and on the new land [Shamba Mpya]. We learn a lot about farming”* (Member 2:I, 18.02.15). The first reason shows that OTEPIC basically gives these young people a place to be, and a purpose, while the second reason given by this informant clearly demonstrates the importance of social interaction.

The main reason that community members mentioned as to why they are engaged in OTEPIC is the social bonds and security net that it provides. Another member explains: *“when we are here together, and working together. When everybody is happy”* as the reason for her being part of the CBO (Member 4:I, 15.02.15). According to observations, and through hearing the personal stories, the real impact that being part of OTEPIC has had on these people's lives is transformational. To respect the privacy of members, stories will not be explained in detail in this paper, however, life history interviews demonstrate how the clear majority of members have each been subject to at least

a few of the social challenges described in *3.1.5 Social insecurity*. From hearing these individual stories, it became evident that being part of OTEPIC has changed and is changing many lives by slowly integrating individuals into the group.

Members' primary reason for being part of OTEPIC is the social interactions and network it creates for them, the secondary reason for them is that it keeps them away from all the trouble in the area from which they come, and that it does so in a way that is actually useful for them, because they gain practical knowledge in agroecology. Hence, according to my analysis, the aim for food sovereignty is, for most community members, secondary to the aim of being part of a social security network which supports each individual in taking their place in the group. If OTEPIC was not a community project and if the members were not building their future home together through this project, I believe that food sovereignty would be impossible. Had OTEPIC not had the strong sense of community and provided a safe space for the individuals, all the ecological practices are unlikely to have taken place, because the primary reason for people to come would be gone. In this sense, the ecological and social aspects are closely linked – one cannot function without the other.

### **5.3 Economy**

**Sub-question 3: *What economic strategies does OTEPIC apply internally within the CBO, and what economic strategies does OTEPIC promote among local small scale farmers? // How and why?***

#### ***5.3.1 Within OTEPIC***

OTEPIC promotes an economic strategy focussed on total self-sufficiency in water, food, and energy within the ecovillage for all community members living there. Surplus from farming on OTEPIC land is intended to be sold on markets, to generate capital for, for example, the paying of school fees for the children and young people of the community. As the construction of a sufficiently large garden, water retention landscapes, and renewable energy sources is still in progress, OTEPIC is self-sufficient in water supplies but not yet in food and energy supplies, thus they depend on funds to provide these goods for community members.

Three community members are employed by OTEPIC and receive a salary, while the rest of community members participate on a voluntary basis but are provided with the benefits that come



from working at OTEPIC, such as lunch every day and a social security network. Findings show that the economic aspect plays an essential role in why people are engaged in OTEPIC, as the gains of a socially inclusive security network are clearly economic, with goods and services being shared between members. One member describes how he used to be employed as a carpenter but chose to leave the job in order to be employed at OTEPIC, despite the decrease in monetary salary (Member 4:I, 15.02.15 and 14.03.15). For this informant, the economic and social benefits of being part of OTEPIC were greater than the benefits of a higher monetary salary. These economic benefits, which are unconnected to monetary capital, but instead connected to the allocation of other resources such as food and services exchanged between members, play a preeminent role in the motivations of members to participate in OTEPIC. As stressed by Litfin (2014), these interconnected economic gains of participating in a social community are what motivate individuals to live in ecovillages (Litfin, 2014).

Regarding external monetary funding of OTEPIC, the vision of independence on external funding is in total opposition to the current reality. Currently, the practices of OTEPIC are economically unsustainable, as OTEPIC is completely dependent on external funding in order to pay for implementation of food and energy systems. At the moment this is, seemingly, the only economic strategy possible in order for OTEPIC to reach its future vision, but is not an economic strategy it wishes to maintain. As for many other development organizations dependent on foreign aid, the funding OTEPIC receives is completely instable, insecure and unsustainable because it is based on a concept of charity where donors decide the rules of the game, but have no standing responsibilities - they are simply perceived as voluntary givers, while fuelling dependency and other unintended consequences for which they have no responsibility (Dicher, 2003:290). In practice, the funding OTEPIC receives tend to come when a newsletter is sent out to previous donors, based in Europe and U.S, explaining about ongoing or planned projects OTEPIC wishes to realize through future funding. The funding network is based on personal connections to the secretary and founder of OTEPIC, Philip, and these funds are currently neither continuous nor completely accountable, as is often the case of 'foreign aid projects' and predominantly the reason for their insecurity and unsustainability (Member 1:I, interview 27.01.15). While the ecological and social practices in place seem sustainable they have not yet generated self-sufficiency in food water and energy supplies, thus funding continues to be necessary. When there is no further need for funds to buy land, drill boreholes for clean drinking water, build houses etc., OTEPIC plans to be independent of external funding.

### ***5.3.2 For local small scale farmers who are not part of OTEPIC***

The economic strategy applied by small scale farmers in Maili Saba after they took agroecological training, are based on becoming more self-sufficient in production of vegetables on the individual farms. Findings have shown how agroecological methods, applied by the small scale farmers in Maili Saba, practically promote food sovereignty; however, the motive behind it is more complex.

Findings regarding motives behind agroecology for small scale farmers are not identical to the motive concerned with environmental conservation behind agroecological practices taking place on OTEPIC's land. Among the farmers in Maili Saba, the motivation of conserving biodiversity for ecological reasons is not as strongly articulated as the economic rationale. When I asked the farmers why they preferred agroecological methods to the farming methods they used to employ, they all agreed that the vegetables produced this way are healthier and also taste better because the production process is natural. Farmer 1:I explains: *“People say that they like my vegetables, they are more tasty. But where they use the chemical fertilizer, they didn't like the taste. There is a difference”* and *“Nowadays if you have your own farm, then you can have enough food, and that is the best. Because you don't know where and how the food was growing, if you just buy in the market. Here we have ended up getting several diseases, because we don't know how the food we buy was grown. So it's better to grow your own organic, rather than depending on buying”* (Farmer 1:I, 03.03.15). The farmers also mention that agroecological methods help to it keeps the soil soft, less acidic and easy to work with, which can be interpreted as an awareness of conserving biodiversity - however, topic is always mentioned in relation to prudential aims of producing more and better.

Cow manure, for example, is used as fertilizer for its economic benefits (it is free if you own a cow) which, as a consequence, has ecological benefits (it restores soil quality) that again tie into economic benefits for the farmers (people want to buy it because it's healthier and tastier). Thus, the main motive behind adopting agroecological practices, I surmise to be economic. For the majority of the farmers, the aim is to produce enough vegetables for own household consumption so that they are not dependent on buying vegetables from the market, and can thus save the money which would otherwise be spent there. All farmers used to buy vegetables before they took agroecological training, but now most are self-sufficient when it comes to vegetables. Furthermore, the majority of the farmers regularly sell the surplus crops they gain from farming - and if people think their vegetables taste better, they can sell more.

## 6. Research question 2

### What are the challenges for OTEPIC to promote food sovereignty internally in the ecovillage and for small scale farmers in Trans Nzoia County?

#### 6.1 Ecological and economic challenges

Even though agroecological methods show positive outcomes for farmers, challenges regarding implementation persist, as changing years of what several members call “*brainwashing*” on agricultural knowledge is a long-term task and, because agroecological practices tend to be labor-intensive, as one farmer stresses: “*they have learned a lot of things, but the problem is implementation – it is too much work*” (Farmer 7:F, focus group 18.03.15).

As founder, Philip explains: “*the methods we use are cheaper, but labor intensive. It’s cheap because it is for example cow manure, maize stocks etc. But at some point then you have to leave it, to turn it, or to take it to the garden...you can now put the compost and maybe this compost cannot be utilized now, maybe it can only be utilized next year, when the naturalization process have taken place. So it takes a lot of time. It is a long-term thing. In the beginning when you start doing this, because the soil here is completely broken, like the neighbours land there. He uses a lot of chemical every year, now the soil is very acidic. If you plant anything there, you have to put a lot of chemicals there, like he does, to get more. If you put less than what you always put, you get nothing. So the soil is very acidic, and to turn this soil you need a lot of compost to make it more basic*” (Member 1:I, 27.01.15). Consequently, agroecological methods are labor intensive, especially in the beginning, since the natural condition of the soil and biodiversity needs to be reconstructed, after the devastating use of unsustainable agricultural methods.

Most farmers agree that the labor intensive part is the most challenging of agroecological farming: “*It was hard in the beginning, but now it is better. They started with just two beds, but when they see the outcome they extend the beds*” (Farmer 2:I, interview 03.03.15). Thus, as a farmer stressed when I asked how long it took before she noticed that the yields were higher: “*I didn’t reach that level the first year. The second year I increased the farm size, and also the third year, I made it bigger and bigger. Now there are around 120 beds. When I have money I hire people to come and help me, because there is a lot of work. When I don’t have a lot of work, I do it myself with my children and grandchildren. Organic farming is more work. I have to look for somebody for example to move the compost from that hole and spread it to the beds*” (Farmer 1:I, interview

26.03.15). Farmers explain that when they don't have labor or money to pay for labor they cannot proceed agroecologically as the work load becomes too heavy for them and their families alone.

Farmer 7:F is the only farmer in the focus group who did not participate in the trainings in 2011 and who is not practicing agroecology on her farm. She describes how her father, when he lived, only practiced agroecology on the farm; he always saved his own seeds for the coming year and used animal manure as fertilizer, just like the farmers learned through trainings: *“My father was doing really well, really well. He was doing much better farming than what we are doing are now, but he was working a lot”* (Farmer 7:F, focus group, 18.03.15). She, as opposed to all the other farmers, explains how she buys seeds from KSC and has turned away from agroecological practices - because: *“this way of farming is too labor intensive”* (Farmer 7:F, focus group, 18.03.15). Hence, if the taught methods in agroecological trainings are too different from what the farmers were used to, and especially if they are too labor intensive, chances are that they are not implemented. When asked about the problems of using agroecological methods, farmers explained that; *“we want these short-cut things”* (Farmer 2:F, focus group 18.05.15) and *“labor is money”* (Farmer 7:F, focus group 10.03.15). Thus, even though economic benefits of agroecology are evident for farmers, agroecological practices require high labor inputs and if these input cannot be provided, farmers have no other choice than to turn to KSC for seeds, chemical fertilizer and pesticides in order to compensate for labor inputs.

## 6.2 Organizational challenges

The socio-cultural aspect of the community plays a much larger role than previously expected. Despite the distressed backgrounds of most community members, they have been reintegrated into a collective of social security while simultaneously acquiring skills in agroecology. According to findings of this research, OTEPIC is a social success because social bonds are demonstrated to be the vital root holding the organization together. However, one challenge, to the organizational structure of OTEPIC regards internal decision making and divisions of responsibilities. Even though members have equal rights in decision making and own equal stakes in OTEPIC's properties, there is a social hierarchy to be detected. This hierarchy seems naturally based on knowledge, skills and interests and as a continuously changing and flexible social structure. Members do have different areas of expertise and interests and therefore responsibilities are divided suitably. Nevertheless, I find that much responsibility regarding initiatives, decision making as well

as administrative and monetary management is resting upon the shoulder of too few people. These important responsibilities for managing an organization, especially a community based one, should be divided among a larger group of people in order to be sustainable and efficient. More equal distributions of responsibilities, I believe, could enhance the engagement of members and thus strengthen the collective foundation and sustainability of the project.

### **6.3 Dependency on external monetary funding**

The largest challenge for OTEPIC to promote food sovereignty internally in the ecovillage I consider being dependency on external monetary funds. The aim of OTEPIC is to gain self-sufficiency in food, water and energy, and when this is reached, the aim is to be independent on external funding. Findings show that currently the majority of activities taking place in OTEPIC is dependent upon funding from private donors that is neither continuous nor accountable. Dicher (2003) stresses how consistently external development assistance has proved to fuel dependency and economic vulnerability in development projects both on the level of communities and whole countries (Dicher, 2003: 290). If practices in OTEPIC are not determinately steered towards independence from external funding it becomes difficult for OTEPIC to gain the autonomy for which it aims. Additionally, once OTEPIC will cut external funding completely, it might lose its members if they participate for economic benefits which they themselves do not generate, but which are instead generated by external funding. To avoid this it should be assured that the areas currently covered by monetary funding can be covered by labor from within the CBO or the self-sufficiency systems currently being implemented. I suggest that OTEPIC develops an economic plan for how to slowly cut down funding and replace dependency on externally provided monetary capital with dependency on the ecological, socio-cultural and economic systems they are promoting. While transitioning into an ecovillage through the different approaches, principles and specific practices described in this thesis, external funding should simultaneously decrease, in order for OTEPIC to reach food sovereignty, self-sufficiency and independence of external funding within the ecovillage.

#### 6.4 Prudence versus ethics

Findings of this analysis emphasize one main challenge, which is concerned with the vision behind OTEPIC. The analysis of activities and perspectives demonstrates that food sovereignty is the driving vision behind the project as this is both expressed in interviews and observed as the foundation of practices. The motive behind the food sovereignty movement is producing healthy food for humans in ways that are also healthy for the agroecosystem. Both these motives are mentioned by Philip, as he explains: *“the priority here [in OTEPIC] is to get enough food in a cheaper way, without buying lots of inputs and chemicals. Then the second priority now - people are becoming more enlightened, with a lot of cancer – [is the health issue]”* and *“People always think about growing food. But I always think about the basics: grow the soil for the food to be able to grow. Not just for consumption, but foundation matters”* (Member 1:I, interview 27.01.15). However, when talking to the farmers who have taken agroecological trainings and also with most of OTEPIC members, only the health issue is mentioned as motivation behind agroecological practices. Hence, according to my analysis, in most OTEPIC members’ perceptions, agroecological methods are used for prudential reasons - not for ethical reasons. Plumwood (2002) argues that our ethical ecological failures are closely linked to perceptual and prudential failures in situating human beings as ecological beings. This is due to the fact that when we separate ourselves radically from nature, we simultaneously lose ability to respond to it in ethical terms (Plumwood, 2002:238). This consequence of dualistic human-nature understandings is visible in the motives behind adoption of agroecological practices by farmers and community members.

In my view, for self-sufficiency to be reality in OTEPIC, members should have better knowledge on the damaging practices of conventional food production in order to understand the whole motive - both ethical and prudential - behind food sovereignty. There is a need for information on climate change and other environmental consequences of our globally unsustainable management of natural resources in this Anthropocene era. If people do not have access to information on what is going on both globally and locally and how it affects their environments, then it cannot be expected from them to reach on it. This issue again ties into the lack of education and colonial legacies, and is thus an issue, which OTEPIC cannot solve alone. OTEPIC aims for self-sufficiency in food, water and energy, but it is not an organization disconnected from the contemporary time and space in which it exists - contrarily it is heavily influenced and reproduced by time and space. Challenges for OTEPIC will always be concerned with responding to implications of the surrounding society and

environment, and the capability of OTEPIC to do so in sustainable ways, depends on community members' engagement and cultural understandings of human-nature relationships. Thus food sovereignty is not just a matter of changing practices; it is a matter of changing cultural perceptions. If perceptions of self as disconnected from nature shift to understanding humans as ecological beings, then ethics can help guide human evolution, instead of prudence alone (Plumwood, 2002).

## 7. Conclusions

Food sovereignty is promoted through agroecological and permacultural methods for food, water and energy production, and through building a social security network among members who work together to realize the vision of self-sufficiency internally in the CBO and to promote a higher level of self-sufficiency among small scale farmer who are not part of OTEPIC. OTEPIC's ecological practices aims at self-sufficiency in food, water, and energy, through a mix of various techniques from agroecology, permaculture, bio-intensive and organic farming, green technology and water retention landscaping. These methods are promoted due to their health qualities and economic benefits of high yields throughout the year as well as and self-reliance on seeds and fertilizer. As a socio-cultural approach, OTEPIC attentions marginalized youth through providing them with a social security network and a peaceful meeting place embedded in a culture of ethnical equality, where they are encouraged to learn the ecological practices described above. Challenges to the promotion of food sovereignty should be addressed through focusing on creating economic stability and independence of external monetary funding, deepening engagement of members to the motive behind food sovereignty through education, and broader distribution of management responsibilities. Evidently OTEPIC it is a work in progress and currently, as a member puts it: *"like a small child that is just learning to walk. You hold the hand in the beginning, and take it slowly slowly"* (Member 1:I, 27.01.15).

OTEPIC is an example of a CBO, which in many ways are inspired by global tendencies and responses to our social and ecological crises, but which also is a place-based outcome of the need of local people in Trans Nzoia County for a holistic alternative to dependency on the corporate food regime. This need, emphasized by Escobar (2008) and Plumwood (2002), to develop small scale place-based cultures that situate humans ecologically is both the aim and challenge for OTEPIC. These scholars, however, also call for a large scale cultural paradigm shift that resolves distortions

of human-nature dualisms in our dominating culture, to understanding humans as members of a global ecological community (Plumwood, 2002:239). As the ruling elite has a powerful stake in keeping the systems in place, this elite will never change policy to support the ecological message of this cultural paradigm shift - thus according to Plumwood (2002): *“our best hope is to change the basis of democracy so that more fully egalitarian forms of democratic economy and culture can give everyone an equal stake in benefits and an equal risk of adverse consequences”* (Plumwood, 2002:239-240). Because, as he argues: *“Our present course may be ‘rational’ (in the sense of self-interest), for these elite groups, but it is entirely irrational (in all senses) for the rest of us. Eventually, no doubt, it will be irrational for them too. But we in the losing 4/5ths cannot pin our hopes on waiting until the abuse of the earth catches up with these ‘winners’, as it eventually must, because, given the abilities of elites to evade or postpone negative consequences and move assets, they may well be the last to feel its fatal effects. In this version of the Titanic, the rich seize the lifeboats by allowing the market to decide who can get in them, but it can only be a short time before they are overtaken by the same fate as the others”* (Plumwood, 2002:237). OTEPIC attempts at providing a model for changing the course of our current system, by being a holistic example of how food sovereignty can be promoted ecologically, socio-culturally and economically sustainably, before we must run to the life boats.

**Word count: 17,055**



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## **Oral Sources**

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Member 2, 13.02.15 and 18.02.15, Amani and Mpya

Member 3, 09.02.15, Amani

Member 4, 15.02.15 and 14.03.15, Amani and Mpya

Member 5, 20.02.15, Amani

Member 6, 02.02.15, Mpya

Member 7, 27.02.15 and 04.03.15, Mpya

Member 8, 10.02.15, Amani

### ***Individual Farmers interviews***

Farmer 1:I: Maili Saba gatekeeper, Nancy Opele, 26.02.15, 03.03.15, 18.03.15 and 26.03.15, Maili Saba

Farmer 2:I: Knight N. Kisabuli, 03.03.15, Maili Saba

Farmer 3:I: Antonia Wabomba, 03.03.15, Maili Saba

Farmer 4:I: Rose Naomi Khataba, 03.03.15, Maili Saba

***Focus group***, 18.03.15, Maili Saba

Farmer 1:F, Benetta Shamia

Farmer 2:F, Antonia Wabomba

Farmer 3:F, Elizabeth Khayesi Munyobi

Farmer 4:F, Rose Naomi Khataba

Farmer 5:F, Agneta Emali Kihira

Farmer 6:F, Naomi Obukui

Farmer 7:F, Doris Nyongesa

## Appendix 1: Famers details, focus group

Farmer nr	Name	Year of birth	Occupation	Land size	Number of people in your household	How many years have you been farming?
1	Benetta Shamia	1948	Farming vegetables, (1 cow, 2 sheep, chickens)	1,6 acres	9	Since 1978
2 (Interview with daughter + farm visit)	Antonia Wabomba	1950	Farming large maize plot and small vegetable plot	3 acres	5	Since 1984
3	Elizabeth Khayesi Munyobi	1949	Farming vegetables (no animals)	1,5 acre	5	Since 1978
4 (Interview + farm visit)	Rose Naomi Khataba	1958	Totally self-sufficient in farming (dairy, honey, vegetables etc)	3 acres	5	Since 1980
5	Agneta Emali Kihira	1950	Farming vegetables (chickens)	1 acre	3	Since 1983
6	Naomi Obukui	1960	Farmer and teacher	2 acres	10	Since 1982
7	Doris Nyongesa	1981	'Joyfull Women' program officer and farmer	2,7 acres	5	Since 2009



Focus group, Maili Saba, 18.03.15, authors photo