Towards a Stewardship Economy

Case Analysis Lake Dembel, Ethiopia

Krista Kruft, Thirze Hermans

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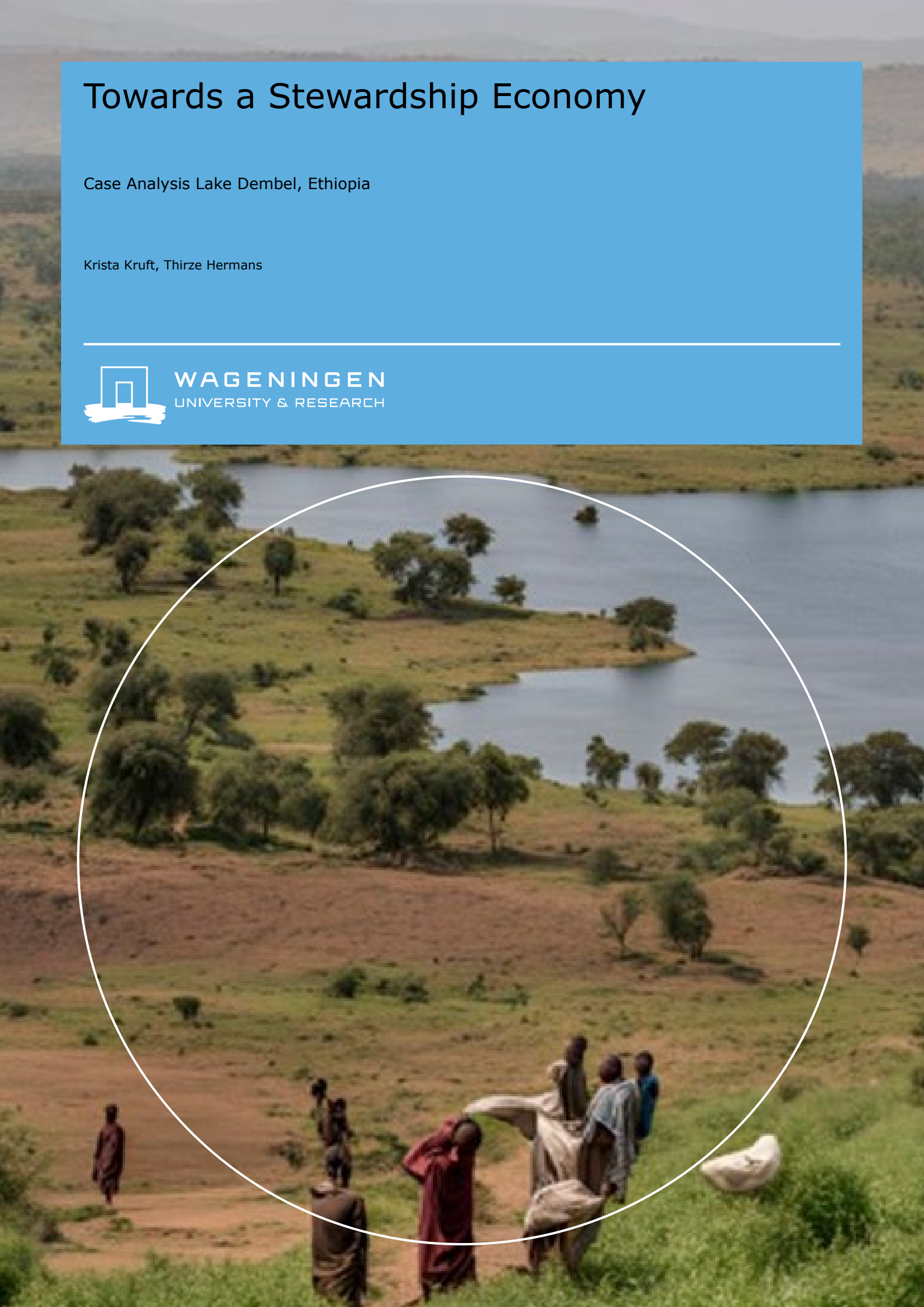

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Contents

1 Introduction

It is increasingly acknowledged that the current dominant global focus on short-term profits and economic growth without taking externalities into consideration has brought the world to the brink of mass extinction, rampant pollution and the increasing threat of climate change. The current triple crisis of biodiversity loss, food insecurity and climate change is undeniably caused by human activities (e.g., increasing fossil fuel emissions, consumption, land use change). The current institutions in the market economy have not been able to take responsibility to protect and conserve nature and biodiversity, in order to pass it on to future generations. Institutional configurations do not allow for systemic change, while 'taking care of nature' is largely left to the discretion of individual citizens. In order to fundamentally change this negative trend, new institutional mechanisms are needed to guarantee that all societal decisions are based on the principle of net-positive impact on biodiversity, and to secure long term longevity of the planet. This is the basic idea of a stewardship economy, which aims at building an economy in which all decisions should reduce negative impact on biodiversity as little as possible, as a good steward would do.

Whenever reduction of biodiversity is inevitable, specific biodiversity losses should be compensated with biodiversity improvements of equal value. However, how are these values defined, and more importantly, who defines these values, and who ensures that biodiversity values, social-cultural values and economic values are correctly weighted, especially in cases of unavoidable trade-offs? Currently, some companies work on more inclusive accounting systems that try to represent the effects of their decisions on biodiversity and to create 'net zero' or 'net positive' biodiversity. Meanwhile, NGOs work with communities to implement stewardship programmes in their landscape and pro-active civil society initiatives, such as stewardship councils, serve as 'watchdogs', to change corporate and civic behaviour towards more nature-inclusive behaviour. Many governments have committed to global conventions such as the Convention of Biological Diversity (CBD) and the Framework Convention on Climate Change (FCCC), giving rise to national policies supporting biodiversity. While these developments are helpful, it is not enough. In order to secure a future, a different economic paradigm is needed that considers biodiversity as a key asset of any economy and humanity's current and future wellbeing.

This case study is part of the 'Stewardship Economy for Biodiversity' project which aims to provide knowledge support to a transformation from an exploitive economy to a stewardship economy that takes biodiversity systematically into account in all its decisions. To bring in a multi-scalar institutional perspective, a number of case studies were selected to represent different contexts such as Ethiopia, Indonesia, Europe and Bonaire. The purpose of the case studies was to identify existing stewardship practices; to assess the effectiveness of different stewardship approaches and solutions in their local contexts and their relationship with the local economy.

This report focuses on the Lake Dembel (also called lake Ziway) as a case study in Ethiopia. It set out to identify local stewardship practices for biodiversity inclusive decision making; to understand the drivers and motivations that influence stakeholders' behaviour towards stewardship practices; and to assess the role of institutions that are relevant for biodiversity inclusive decision-making when working towards a stewardship economy.

2 Case description

Ethiopia's Central Rift Valley is an important producer of food for the local/national market as well as for global commodities (flowers, vegetables, and wine). The area is rich in natural resources and harbours a complex regional food system. due to diverse agro-ecological zones, water resource challenges, and climate variability. The region's mix of smallholder and commercial farming creates competition for water, while inconsistent rainfall and droughts threaten agricultural productivity. Additionally, socio-economic factors like land use conflicts further complicate food security in the area. These increasing pressure on land and water has led to environmental degradation, which implies the need for either trade-offs or new synergies to be created. Both smallholders and international companies are forced to reconsider their production models, and experiment with technological and socio-institutional innovation. In this case we consider the Dembel-Shala Sub-Basin (DSSB) as a landscape around lake Dembel, where multiple stakeholders partnerships has been formed to promote sustainability including both livelihood development and biodiversity improvement. The wider Dembel-Shala Sub-Basin includes lake Dembel Lake Langano, Lake Abijata, Lake Shala, and Lake Hawassa (Figure 1).

Lake Dembel, located in the Oromia Region of Ethiopia, is surrounded by several districts (woredas) and towns (Figure 1). To the east of the lake is Ziway Dugda Woreda in the East Shewa Zone, with Meki as a prominent town. On the southern and western shores is Adami Tulu Jido Kombolcha Woreda, also in East Shewa Zone, where the town of Ziway (Batu) is a major center. To the southwest lies Arsi Negele Woreda in the West Arsi Zone, with Arsi Negele town as a significant settlement nearby.

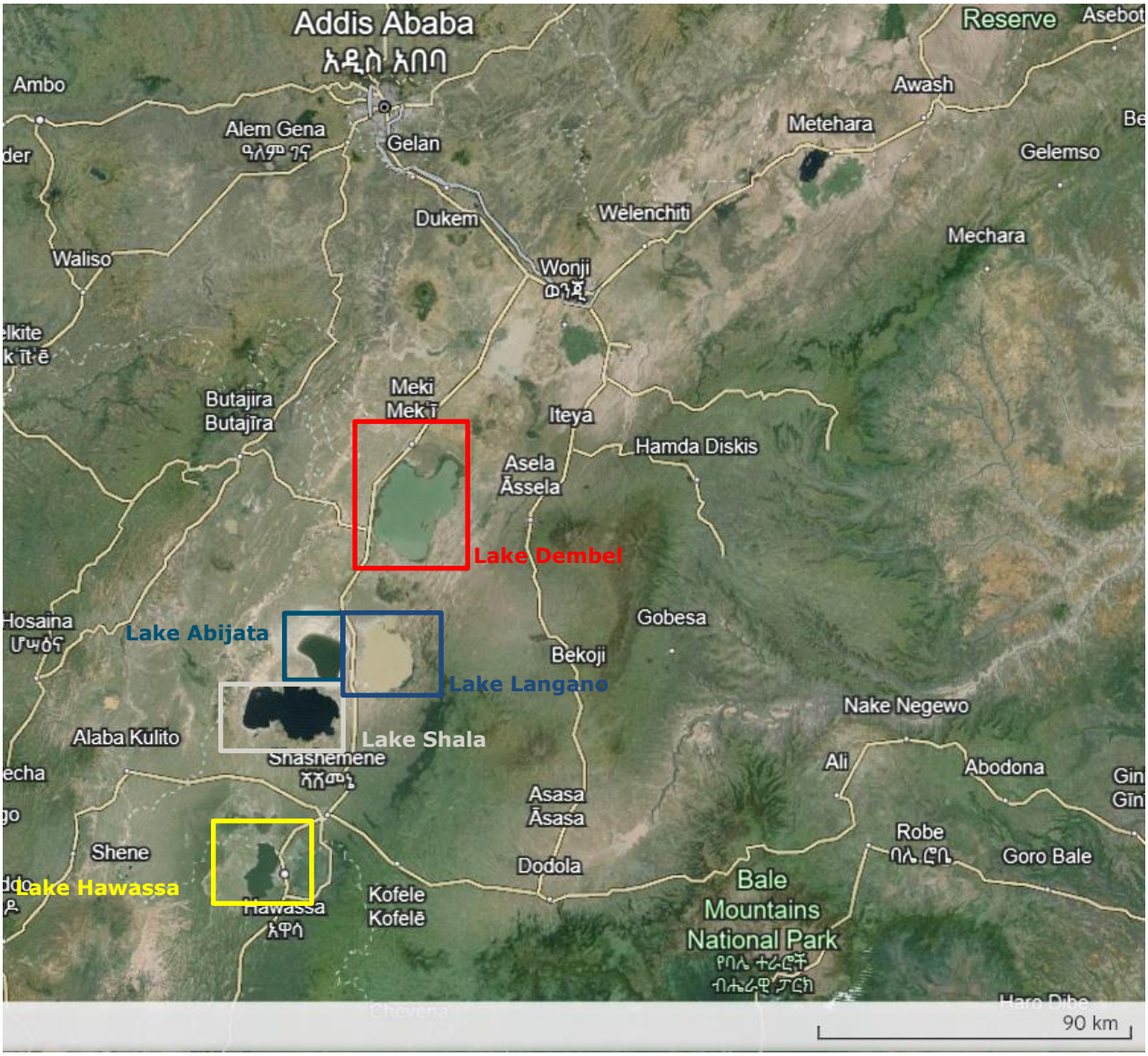


Figure 1 *Map of the Dembel Shala Sub basin including lake Dembel, Lake Langano, Lake Abijata, Lake Shala, Lake Hawwasa.*

The higher areas in the Eastern part of the region (Arsi, Assela) are dominated by smallholder farmers producing for the local market. They increasingly struggle with erratic rainfall, soil depletion, erosion, and run-off. Farmers associations, together with the support of government agencies and NGOs have started a multi-stakeholder partnership (MSP) called Tiyo-Hetosa, for landscape restoration through reforestation, agroforestry, enhanced crop diversity and otherwise stewardship practices to restore ecosystems and maintain food security (Figure 2).

Figure 2 *Tiyo-Hetosa partnership workshop. Source: Authors.*

The lower areas directly around Lake Dembel are dominated by international companies producing flowers, vegetables, and winegrapes for the export market. Also here, environmental degradation has led to a MSP called Dembel Shala Sub Basin, striving for landscape restoration through recycling of water, composting of flower residues, and the establishment of eco-corridors within and between farms/fields. In both cases, local stakeholders from public and private sector have taken the initiative to search for transitions towards more sustainable landscape management.

Both MSPs are marked by technological innovation aimed at transforming production systems from 'doing no harm' to 'taking care' of the environment. They do, however, differ in terms production system characteristics (e.g., scale, agro-ecology, plant/animal genetic diversity, etc.),complexity of the technologies used and level of investments made. They also use different tools for stakeholder collaboration and participatory spatial planning. Both MSPs have met in 2022, and decided to learn from each other. This materialized through the TH MSP visiting the flower farm.

This case study, consisting of the two MSPs described above, operating in the same region and representing public, private and civil society actors, will help us understand how actors in a landscape differ and/or interact in their stewardship strategies. By placing the two firmly in their local economic context, we can assess which technological, social, and institutional innovations either hamper or foster a transition to a stewardship economy, what role different stakeholders play, and which pathways of change are sustainable, fair, and just. In addition, this case study shows how stewardship for biodiversity plays out in a context of political and social unrest and tension. Working on agendas such as biodiversity restoration may be highly affected and require different transition pathways.

2.1 Nature Challenges around lake Dembel – What should stewardship address?

The sub basin consists out of multiple Lakes. Driving south from the capital Addis Ababa, the northern most lake is Lake Dembel, followed by Lake Langano, which is commonly called the golden Lake. Lake Abijata, which is almost dried up due to high drought frequency and deforestation, is to the west of Langano, and Lake Shala just south of Abijata. Abijata is known for its diverse bird species and is part of Abijata-Shala National Park. Lake Hawasa is the southernmost lake found in the rift valley. Of all those lakes, Lake Hawasa and Lake Dembel are the only fresh water lakes used for agriculture, such as production of vegetables and fruits as well as fishing. There are around 400 bird species, some of which endemic, and 12 fish species around the lake systems. Of those bird species, there are migrant birds which come from Europe during winter time.

Figure 3 *Landscape around lake Dembel. Source: Authors.*

As per the stories told by the interviewees, twenty years ago, the landscape around the lake system was mostly forest, including various animal and tree species, and contained only a few settlements. There are multiple factors at play around the lake system leading to a significant loss of nature and biodiversity. The main factors are climate change, agricultural expansion, land scarcity and degradation, overgrazing, deforestation and agricultural production causing pollution and overuse of water. Some of these factors are driven by an increase in tourism, commercial farms, and population.

In the overall watershed system, there is low flow in the dry season, but flooding in the rainy season due to the degradation of the watershed. Climate change plays a major role as it is normally a semi-arid region, but now there are long droughts, and heavy rains leading to flooding in the lower catchment area. Drought has become a major problem in the area to the extent that some community members are suffering from food insecurity. Additional challenges accelerate the impacts of climate change. Issues such as deforestation, loss of ground water, wind and soil erosion, and sedimentation.

Figure 4 *Landscape around Lake Dembel. Source: Authors.*

As the lake system is based on a slope there is an upper and lower catchment. For example, Lake Dembel gets the water supply from the high land of Arsi and Gurage (via Keter and Meki rivers) and currently there is high level of soil washing away from these high lands to the lake which is forming a delta, creating gully erosion (i.e. process where water runoff removes soil along drainage lines, creating large channels) in the upper catchment, and decreases the amount of water in the lake (2m depth now). Previously, the upper catchment area was covered by forest (e.g., on mount Chilalo) and formed the major water tower. Through time, as the population increased in the area, the trees in the rift valley were being cut down for firewood and charcoal (especially the Acacia which went from 70% to 20% of coverage), thereby decreasing biodiversity. Freed up land was used afterwards for agricultural expansion.

In terms of agricultural activity, there are multiple irrigation pumps using the water for larger agricultural production and these are not regulated or charged. The pollution is increasing due to agricultural waste water flows from small holder and commercial farms back into the lake, leading to problems for the aquatic life due to residues of chemical fertilizers and pesticides and algae accumulation due to high concentrations of nitrogen and phosphates. The waste discharge from agricultural activities or urban areas goes directly into the lake without waste treatment. The water quality of the lake is therefore also degrading, and negatively affects fishing activities (dominant fish species has changed from Tilapia to Catfish). In addition, an overuse of water for agriculture in the context of lower water inflow (due to climate change and water use) and droughts, has led to a decrease in the water level.

3 Methodology

The data collection consisted out of 1) a scoping trip to connect with partners from the Dembel Shala Sub Basin and Tiyo-Hetosa MSPs between October 16-20 2023, 2) a work visit to conduct semi-structured interviews between November 13-17, 2023 and 3) a local consultant conducting semi-structured interviews with partners in the Tiyo-Hetosa landscape MSP in November 2023. Due to safety concerns, after the scoping trip, the work visit consisted out of semi-structured interviews (Appendix 1) with the Dembel Shala Sub Basin partners and independent experts in Addis Ababa. During the same time, the local consultant conducted follow up interviews with the Tiyo-Hetosa landscape partners around lake Dembel. Applying a mixed methodology including semi-structured interviews, field visits and engaging a local consultant enabled the validation of generated interviewee responses.

The semi-structured interviews were based on four elements: 1) the Stewardship Economy definition in practice, 2) the role of stakeholders, their interest, influence and motivation, 3) the drivers that steer stewarding behaviour and lastly 4) the perspectives on future pathways. The interview guiding questions can be found in Appendix 1. For the first element, a definition of stewardship economy was provided to enable interviewees to reflect and relate it to their own context. This definition was:

"*A Stewardship Economy may be defined as an economic system that:*

- *Takes responsible management of land use, environmental pollution, natural resources, and nature, including biodiversity, systematically into account in its decision-making.*
- *This means organizing itself in a way that it takes care of land, natural resources, and biodiversity and creating livelihood that regenerates natural resources and nature.*
- *Stewardship economy can therefore be a way to improve biodiversity and take care of people's sustainable livelihoods (local economy)."*

For the second and third element discussion tools were used, namely the interest-influence matrix and the force-field analysis (Appendix 2). Based on the discussion for the second element (using the interest-influence matrix), we have positioned each of the discussed stakeholder within a triangle of people, planet, profit (see Figure 3). This triangle represents the different motivations stakeholders have. The coloured area in each stakeholder triangle (see section on stakeholders), represents the positioning of the stakeholder according to the interview discussions.

For the section on the drivers of Stewardship Economy for Biodiversity, the results have been organised using the institutional categorisation of the project's vision paper, namely institutions of action (products and services), control (policies and strategies), association (organizations and networks) and meaning (beliefs, norms and values) (Woodhill 2008).

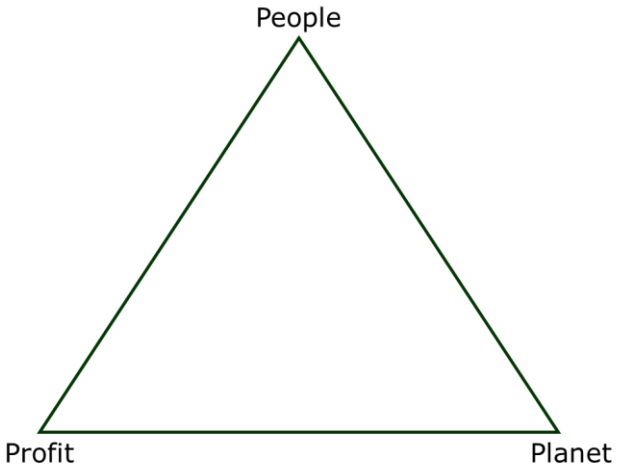


Figure 5 *Example of the people, profit, planet triangle in which stakeholders were positioned based on the discussion on stakeholders interests and influence.*

In addition, the interviewees were selected to represent different stakeholder groups around the lake to support the analysis of the role and motivation of different stakeholder groups. In total, 5 knowledge institutes, 6 (I)NGOs, 7 government offices, 3 private sector companies, 1 bilateral partner and two independent experts were interviewed. All discussions were recorded through note-taking in English. Within each of the interview elements, coding was done based on grounded theory (Charmaz and Thornberg 2021) to identify major themes and topics. The results section is a reflection of the perceptions, understandings and opinions of the interviewees on each of the interview elements, as interpreted through the lens of the two researchers. The discussion section presents the viewpoints of the researchers themselves. Ethical approval was granted by Wageningen University & Research (approval number 2023-038). Consent was obtained from all participants before the interviews. It was clarified that the interview had no influence on the participation in any programme and that no real names are used.

Positionality

Authors, both female, are currently based in high income countries, although one has lived in Ethiopia. The authors have received mostly scientific knowledge based education. Based on this position, our study does not delve into local knowledge and does not assume to understand the epistemic processes. Our experiences in LMIC can enrich our research, but we are still outsiders to the lived experiences as described in this case study.

4 Results

4.1 Stewardship Economy definition

During the interviews, Stewardship Economy was presented as an economic system that takes responsible management of land use, environmental pollution, natural resources, and nature, including biodiversity, systematically into account in its decision-making. This means there is a system in place that takes care of the land, natural resources and biodiversity and also creates livelihoods that regenerate natural resources and nature.

Historically, the meaning of stewardship in Ethiopia comes from Orthodox Church teachings, which stress taking care of nature as a way of taking care of life. In the current Ethiopian context it is often associated by NGOs with ecosystem or landscape approaches. One interviewee pointed out that the terms 'stewardship' is used in different ways by different stakeholders in Ethiopia. The government mostly uses a natural resource management framing, NGOs mostly an ecosystem or landscape framing and the private sector is frequently using a standards framing.

There is not an Oromifa or Amharic word specifically for stewardship, but various organizations have worked with the concept of stewardship, which is also often referred to as 'safeguarding'. In some cases this also referred the stewardship economy and in other cases to a specific domain such as water stewardship. Some example definitions from interviewees are 'an economy that provides incentives to prevent negative and stimulate positive impacts on biodiversity, as a good steward of the earth would do', environment first as everything starts from there, nature inclusive working, taking care of life and everybody or holistic environmental protection. An example of water stewardship are programmes on nature stewardship and water stewardship that consider different uses of water and actions to protect the scarce resource[1]. Their definition of stewardship refers to how to take care of something you do not rightfully own. For one project the concept of water stewardship, which is framed as the use of water in a way that is equitable, environmentally sustainable and achieved through an inclusive stakeholder process. In their work raising the voice of the community is important since these are often forgotten during investment processes (e.g., often they are displaced or denied access to water or land).

Reflecting on the different stewardship definitions, we can see reoccurring definition elements. The first one is about taking care of nature, which has been part of the culture for a long time and has become reignited as people experience the impact of climate change (e.g., drought). Taking care of nature also implies connection to the land, as something that one is responsible for. In the context of Lake Dembel, Ethiopia, interviewees mentioned this connection is mostly lost. This change most likely occurred over time due to, amongst others, the policy change on land ownership during the Derg regime when all land became government property. Currently this means that taking care is strongly intertwined with the need for livelihood and food security. For example, a local NGO mentioned that stewardship for them means taking care of elements such as soil, and also organizing events for farmers to show forest products and showing how it can reward farmers - this means rehabilitation work and livelihood security are connected. Mentioned examples of taking care are: the soil not to be eroded, water not to be lost, plants or trees not to be cut down but rather maintaining and keeping them in a way it supports and improves the livelihood of the community. Economic consideration and food security on the short term often come first for communities. In the context of Lake Dembel, many economic activities are highly integrated with nature, for example the tourism representative mentioned one cannot differentiate between nature and tourism. Other NGO representatives mentioned the need to reduce the burden on the

[1] Case study Restoring balance in Ziway-Shalla sub-basin; Documentary Drops of Hope – restoring balance in Ziway-Shalla sub-basin (Wetlands International Ethiopia)
Improved water allocation and irrigation efficiency in the Ziway-Shalla basin (Waternet)
Water Stewardship for sustainable growth in Ethiopia (Water Witness)
Nature Stewardship (GIZ)

forest, but that people are also depend immediately on natural resources in the forest. This implies that culture-nature and economy-nature are highly connected.

A second important element in the stewardship definition is the need to connect stakeholders. For example, a NGO mentioned that they aim to connect people with each other to define actions and strategies to support a nature and people positive future for the landscape. The consequences of biodiversity loss, climate change or pollution create a shared risk that affects different stakeholders in lake Dembel area (i.e. landscape scale), which is why various participants refer to multistakeholder approaches as a core part of stewardship. Individual action or stewarding is often insufficient to solve environmental or related economic challenges (e.g. food security) on a landscape level and it requires coordination and collaboration. To this end, the economic element in 'stewardship economy' was also often referred to as reflecting this common responsibility and connection between stakeholders for the same agenda. This does require a shared sense of priority, motivation and knowledge.

In a few cases, it was also mentioned that to get to a stewardship economy there is a need to understand the consequences of biodiversity loss and possible incentives. This is embedded in the idea that 'taking care of nature' cannot be assumed to be possible or a priority for all people. A university member mentioned that in a stewardship economy people need to be aware of the ecosystem services that nature provides, and the consequences when they harm nature (e.g., consequences of cutting trees). In addition, they mentioned it is important that stewardship is associated with incentives. Such incentives can be based on money for livelihood security (e.g., payment for restoration) but also based on health (living longer) and benefitting from ecosystem services.

4.2 Stewardship Practices

When discussing stewardship and stewardship economy, various practices were mentioned in the context of Lake Dembel. Here we share some of the examples to give a sense of what stakeholders focus on and in some cases implement. The efforts can be clustered into (1) sustainable management of natural resources, with a focus on water, forests and agriculture, pollution reduction, sustainable fishing, restoration (e.g., tree planting, gully fixing); (2) Financial/economic interventions and incentives; (3) socio-cultural interventions; and (4) policy interventions.

Sustainable management of natural resources:

- **Nature based solutions** to res tore ecosystem services; e.g., efficient moisture conservation, silt trapping, and flood protection.
- **Restoration activities**: eye brow basins, deep trenches to collect water, gully fixing. Tree planting in the upper catchment area and high land, to decrease the amount of soil moving down into the lake.
- **Actions to reduce waste (water) dumping** into the lake by industry, e.g., regulation.
- **Actions to reduce chemical spray** in agricultural practices, e.g., regulation.
- **Reduce Acacia tree cutting** for firewood and charcoal. Unless the necessary support is given to the community in the area, the cutting of acacia trees will not be stopped. In line with that, **Alternative energy sources**, e.g. fuel saving stoves, solar power. This can reduce tree cutting.
- **Buffer zones** around the lake should be identified as there are always conflicts of interest in resource utilizations on the lake between individuals, communities (kebeles), and regions as the rift valley cross two regions. Before the flower companies came (2014 saw a big boom) the lake area was pastoralist based. There used to be a buffer zone which protected the lake. Now because of urbanization of towns and big farms around the lake, there is no buffer zone.
- **Area closure (e.g., forests or ecosystems that need to be restored)** to avoid grazing. In 2021, large area of the upper catchment was restored due to area closure.
- **Integrated watershed activities**: Some are done via the productive safety net program, but there is a risk of developing dependency syndrome by the community. The local Agricultural Office also aims to activate and mobilize the community to take part in the watershed activities (natural resource management) by actively by providing them the necessary materials and professional support in using small budget allocations.
- **Landscape approaches**: if you work in the lower catchment area and ignore the upper catchment the work is meaningless. The Agricultural office mentioned the need to coordinate stakeholders to work on landscape management.

Financial/economic interventions and incentives:

- **Rules and payment for water usage**. Currently using water resources from the lake is free, making it also favorable for companies to work in this area.
- **Diversifying livelihood income** through alternative practices such as goat and poultry rearing with market linkages. Especially women often go to the forest but with the animals they go less in the forest. In addition, **Improving livelihood practices** such as soil fertility positive farming, improved seeds, and beekeeping. For example, women are organized and produce seedlings in a nursery site, which are both shade trees and edible trees. They also play big role in planting those trees, vegetables and fruits at their back yard. Women especially who were very poor were screened and given small ruminants like goats, sheep, and hens to improve their livelihood rather than going to the high land areas for cutting trees.
- **Ecosystem restoration payments**: Wetlands International as an organization pays the people working on regreening areas. The local committees consist of youth user groups, and other support groups (e.g., elder, local administration kebele, religious). They monitor the day to day community based work and ensure that there is no livestock in the regreening area or any tree cutting. The local Woreda government (Agricultural and Cooperative Office) organizes the community and provides them with a certificate for implementation indicating what is allowed and what not. They have a common saving account, they get paid based on their performance. The committee decides how it is used. In another case people are paid to create eyebrow basins, trench digging or gully fixing.
- In realm of **tourism**, 24 parks and 18 ecotourism locations have been established and upgraded.
- **Bilateral agreements between factory and farmers**: e.g. the malt factory gives trainings on how to produce better barley with soil and water conservation, which could be inputs for the factory by following up and providing them the improved seeds. They have made bilateral agreement to buy the products at the end at a reasonable price.

Socio-cultural interventions:

- **Reconnecting** with older ways of protecting nature (e.g., gada system).
- **Community based by-laws**: in one community there is a 500 ETH Birr fine for tree cutting and there is a 100birr fine if livestock is in the restored areas. These are community based by-laws.
- **Conflict resolution** on the usage of resources such as water, land, and animals using community governance structures (traditional leaders, elders, gada system).
- **Collaborating** and calling people together to discuss natural resource management in order to motivate and to implement practices together.

Policy interventions:

- **National Blue Economy (BE)** Strategy of Ethiopia 2023-2027 is aimed at promoting sustainable economic growth, improved livelihoods and environmental stewardship through the sustainable utilization of all water-based resources. The Blue Economy is regarded as the combination of socio-economic development activities with safeguards against environmental degradation and optimization of benefits which may be derived from marine resources. It covers all water instances, including lakes and rivers, in addition to oceans and the coast. The main sectors of concerned economic activities are fisheries, aquaculture, tourism, transport, ports, energy and mining with many links to other sectors.
- **The Federal Government's Green Legacy Program**, which includes: working on flood protection and reduction, arranging nursery sites for production of seedlings; preparing and arranging lands for planting different edible and shad trees; producing and supplying polybags for the seedlings; carrying out the capacity building activities by providing awareness and trainings to the community and concerned government officials together with different NGOs and environment concerned bodies; mobilizing the private sectors and investors in the area to take part in the resource management and protection activities; carrying out the reforestation activities on selected sites especially on the highlands; encouraging the integrated watershed management activities; working on ground water recharging.

4.3 Stakeholders' roles, interest, influence and motivations

There are various stakeholders active in and around the Lake Dembel area. These include: Government (various levels and departments), NGOs often backed by international donors, the private sector mainly through tourism sector or wine and flower companies, Research institutes, Cooperatives or farmers unions, media, churches and communities with small holder farmers, women groups, youth groups, elders and others.

The presence of multiple stakeholders in the area has also created tensions around natural resources. For example, organizations promoting biodiversity improvement are often perceived as anti-development (e.g., economic prosperity) by communities or government. Companies have friction with communities about the use of water in the lake or the question who contributes (most) to the lake's pollution (chemical leakage by small holder farms versus release of waste water by company).

Many interviewees emphasized that everyone needs to carry out their respective responsibility. For example, government should work on security issues, planning for different initiatives, implementing by mobilizing communities; NGOs and environmentalists should provide the necessary support like skills, knowledge, education, technology as well as financial resources; Researchers should come up with possible solutions and technologies. Despite a clear sense of the roles of each of the stakeholders, the facilitation of multi-stakeholder platforms or partnerships is unclear.

Many of these stakeholders connect via established platforms, such as the two MSP in this case study description. A major challenge has been to reach a common understanding about the risk and impact of using common natural resources. This common understanding and creating an 'equal level playing ground' for opinions and ideas, have been identified as important to make platforms successful. Platforms have improved the awareness of the different stakeholders, their understanding of each other (incl. their motivations) and helped built trust. They have also managed to reach agreement on the source of main polluters and the mitigation measures, however, there is still a lack of implementation of joint efforts and clear accountability mechanisms.

Below is a description of each stakeholder's roles, interest, influence and motivations in stewarding the environment and how this plays out in practice in the Lake Dembel landscape. The discussion on the role of stakeholders was guided by working through an interest-influence matrix. Based on these discussions we also placed each discussed stakeholder in the people-planet-profit triangle. This refers to what drivers the stakeholders, and in most cases is a range within this triangle.

4.3.1 Role of the Government

The government is the most commonly mentioned stakeholder and is referred to on different levels and departments. This ranges roughly from community (Kebele), to district (Woreda), to regional (e.g., Oromia) to national (federal) level and involves different departments such as Water and Energy, Agriculture, Women and Children Affairs, Tourism, Planning and Development and Finance. Interviewees mention that the departments have different visions on environmental 'sustainability', and that within the government there are different interests at stake, resulting in conflicting activities on the ground (see section below).

There have also been reforms in the ministerial and authority structures. For example, Dembel Shala Basin Development Authority used to be a separate entity, however this is now a Directorate under the Ministry of Environment, thereby reducing its mandate. There has been a lack of clarity on the mandates for some of the ministries, for example the formerly separate ministries of water and energy are now combined. The Environmental Protection Authority reports to the Ministry of Planning and Development, implying that the Ministry of Water and Energy works on water stewardship but the Ministry of Planning and Development is in charge of planning water resources.

In addition to the federal directorates/ministries, there are separate bureaus of the Regional Government: Water and Energy Bureau, Agricultural Bureau, Investment Commission, plus there is the involvement of the Dembel Municipality. This has created a lack of clarity about where the responsibility lies for managing

natural resources. Ideally the Regional Government of Oromia feeds into the policy developments at federal level, but in the current processes the federal government implements and designs policy and the regional government interprets/ adapts these to their context or makes their own policies. This has stimulated the independence of regional governments but also created a competition between the regions for federal budget. Regional governments also have their own institutes to implement and design policies.

The local government (Woreda) offices (e.g., Hetosa Agricultural office) are involved in various Dembel lake activities. These include: coordinating the concerned stakeholders to work on the landscape management together; activating and mobilizing the community to take part in the watershed activities(natural resource management) actively by providing them the necessary materials (although limited in budget); and sharing knowledge, skills and experiences to the communities on how to work on the protection of the environment. In addition, they also have to spend limited time coordinating with different departments such as watershed management, natural resource management, soil fertility department, office of agronomy and livestock office.

The government (both federal and regional) is often regarded responsible for implementing large scale activities, policies, legislation, and enforcement (accountability to policies/legislation). Current examples are the federal government's 'Green Legacy' program to plant trees in open spaces within communities. Other suggested government responsibilities are: enforcing corporate responsibility (i.e. obligation of a business to operate in a socially and environmentally, and economically sustainable manner) through taxes or implementing compensation payments for pollution, ensuring independent environmental impact assessments are done, creating a buffer zone around the lakes, construction of infrastructure that facilitates tourism or private sector development. The education system is also guided by government and is currently limited in teaching about historic ways of connecting to nature and the importance of natural resource management.

The national and regional government also play an important role in land allocation in Ethiopia, as land is publicly owned. This means that the government influences who can lease land (e.g., companies), on what scale and how it is managed. There is a lack of land use policy in the country although recently a land administration and use proclamation was enacted. This land management is strongly connected to their role in keeping the safety and security in an area, especially when there are conflicts of interest about resources such as water, land and/or minerals. A farmers union member noted that for this purpose creating a buffer zone demarcation is important and can only be done by the regional and federal government (implemented by Rift Valley Lakes Basin Authority).

In relation to the stakeholder platform, most stakeholders expect the national and regional government to lead in strategic thinking and facilitate these platforms. It was mentioned (by an international development partner) that if a NGO facilitates the platform, there is a risk that efforts stop when the project funding stops. This was indeed the experience of one of the MSPs of this case study. However, the government is often limited in their staff capacity and time to take up these roles and expressed the need to be supported with funding from development partners.

The government departments do work with community structures (and community NRM) and acknowledge the Gada system(Duressa, 2018) as part of the community structures including Gada leaders. However, the cultural expert referred to cases where there has been cooption of customary leadership by the regional government, which diminishes the impact and role of this local leadership.

4.3.2 Government Interest, Influence and Motivation

The government has many departments covering different disciplines and administrative levels, which may have different visions on environmental sustainability and stewardship. Therefore, there are also various motivations. Some argued that the government is mostly driven by economic benefits as there is a shortage of foreign currency and a need for jobs and food security. However, the various government departments at regional, woreda and kebele level are also affected by negative effects of droughts and floods on the livestock and crop development, and driven to protect areas.

Among the administrative levels there is sometimes a conflict of interest. Land use allocation is under the Regional Government, but land allocation is also strongly driven by the need for foreign currency and there are challenges of land grabbing. Therefore, one interviewee suggested land use allocation should be under Federal Government, which according to this interviewee is better equipped to deal with these challenges. Currently interviewees claimed that the government's main aim is to attract investors and supporting their needs. Land use and administration are governed by both federal and regional policies, with land constitutionally owned by the state. The Federal Rural Land Administration and Use Proclamation No. 456/2005 and the Constitution of 1995 establish that land belongs to the state, granting citizens use rights but prohibiting private ownership. Key federal policies include securing land tenure, promoting land certification, and ensuring environmental sustainability. Urban land is managed through a lease system, and the Urban Land Lease Proclamation regulates land allocation for housing and investment. Regional administrations implement and adapt these policies, often developing their own land proclamations to suit local needs. Regions like Oromia and Amhara have launched land certification programs to enhance tenure security, while pastoralist areas integrate customary land tenure systems with formal laws. Urban land management, including lease systems, is also handled at the regional level, with local adaptations. Environmental and land use planning, guided by federal policies like the Environmental Policy of Ethiopia, is executed by the regions Therefore the policies and regulations related to land use are also steered by both administrative levels.

The government also carries out environmental assessments for investors and companies around the lake. Economic interests are seen to supersede environmental concerns which leads to a lack of implementation of environmental regulations. There is a need to change towards 'take care of our resources'. An example mentioned is that federal policy should ensure that private investments cannot happen right next to the lake, or their presence needs to be guided (e.g., policy on land use, water use, pollution). Such federal level policy (e.g., on land use, pollution) needs to trickle down through the regional and local governmental structures. This perspective can also be a result from weak law enforcement, indicating that there is biodiversity positive policy and legislation, but that there is a lack of implementation. One interviewee mentioned that the environmental protection authority is enforcing environmental legislation but when the costs of for example waste treatment is higher than the project this enforcement decreases.

The government entities are mostly placed in the high interest, high influence categories. There are exceptions, for example departments not related to environment are often less interested, and local level government (e.g., agricultural office on woreda level) often has limited capacity/resources and therefore less influence. The agricultural officer explained that the *level of influence varies from office to office as the budget allocation for every office concerning natural resources protection is different.* The influence of the government is expressed in multiple ways, such as their role in mediating between farmers and investor, the green legacy program (tree planting), biodiversity policy, land allocation, and ensuring engagement of stakeholders in nature platforms. The Rift Valley Basin Authority (federal government) for example, has set a 15 years strategic plan, and opened up new branches in the lake areas to provide more direction for those *working on the protection, rehabilitation and sustainability of nature and biodiversity in the area.* Two NGO representatives also pointed out that the government may have influence but does not always use their influence. For example, not all policies are implemented and enforced by the government for various reasons (lack of accountability mechanisms) and in some cases land near the lake is still allocated for the building of new industrial parks. It illustrates the tension and conflict of interest that exists between the current economy and biodiversity. Competing economic, environmental and political interests and a lack of policy coherence result in inconsistent implementation of policies that could both protect biodiversity and the economic interests (livelihoods) of the people around the lake (Figure 6).

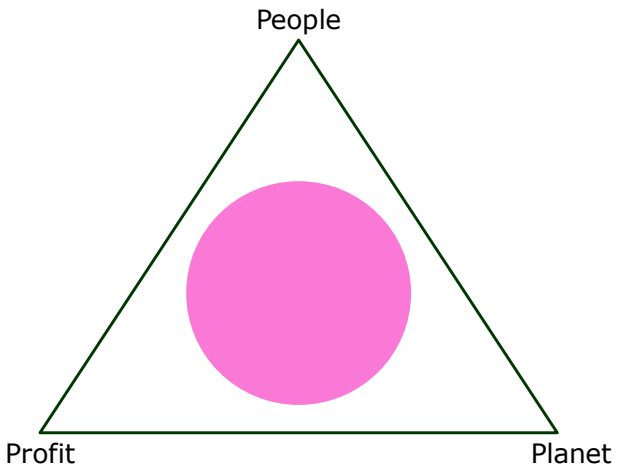


Figure 6 *The positioning of the government motivation in the people, profit, planet triangle based on the interview discussions. The diversity of the government motivation represented by the area that is covered by the colour pink.*

4.3.3 Role of Private sector

The private sector here refers to the part of an economy that is made up of businesses and enterprises owned and operated by individuals or companies for profit, excluding government-run organizations and non-governmental organizations (NGOs), which focus on non-profit, social, or charitable goals. The focus of the case study is on large scale companies that had a substantial impact on the lake. The main private sector stakeholders around lake Dembel area are flower companies and the tourism sector (e.g., hotels). In addition, there is a Malt factory in Assela, and a Winery at the south end of lake Dembel. A major pressure on the natural system by the private sector is the free use of water and pollution. While many of the companies have shown willingness to participate in multi-stakeholder platforms (formally by signing an MoU or informally by attending meetings to share information), there is a challenge to fully engage these partners. Furthermore, interviewees felt there was a challenge in holding the companies accountable to their negative environmental impact. They are a major provider of jobs in the area, which creates a dilemma between economic demands and the impact on communities and nature.

The private sector has provided investments for agriculture and tourism around the lake, and services to the community such as water pumps, clinics and schools. However, there was also more general shared view that these did not create real change but that these are rather quick fixes. To this end, one interviewee argued that they mainly provide quick fixes to show social responsibility. Many companies are attracted by the closeness to the markets in this area. The combination of free resource use and the market access makes it an attractive area. Some of the interviewees are concerned about the working conditions at the flower farms and imply these working conditions also impact the environment indirectly as people do not have the means to invest in their environment. There are however also companies who mainly cater for export and therefore do not have an immediate interest in the domestic market. To this end, the international market also plays a significant role in the area. Their consumers are not aware of the impact on the local environment or of the working conditions.

Some of the interviewees (from NGOs and the tourism sector) have tried to reach out to the companies but these efforts were not successful. Equally, some companies are part of a multi-stakeholder platform but their role in this platform is unclear. One interviewee from the NGO sector suggested that bylaws and signed commitment are need to really engage them. Both the tourism sector and agricultural sector companies are driven by their reputation and are therefore careful in their activities.

There are companies who are pro-active in engaging communities in natural resource management as they see the need to improve environmental protection. For example the Malt factory mentioned *'we do have the nursery site to produce different seedlings for distributing for community to plant by using our ground water in the compound we have. We are producing these as they contribute for protecting the environment. We do*

have also some budget for natural resource management that in case we are asked either by government or other body, we are willing to provide as we also concern for our environment. In fact, working on the natural resources management of the area is beyond our organization capacity as we are single organ and it needs area to work on, for example, land.' The company does not own the land which means that government involvement remains important. They see their role as providing seedlings or other resources.

4.3.4 Private sector Interest, Influence and Motivation

Two major motivations have been identified in the context of the private sector: economic benefits and reputation risk. Both can be motivations to actively engage in stewardship as the companies also need natural resources in the areas. There is a significant reputation risk associated with negative environmental impact. If consumers become aware, they may not buy their products or use their services. Currently, the challenge is that (mostly foreign) consumers are unaware where the products come from and how they are produced. Equally, economic benefits stimulate to continuous free use of natural resources and reputation risk have resulted in a cautiousness of the private sector through a protectionist attitude. Many investor are from Addis or are from outside Ethiopia and get assigned land by the government, meaning there is little connection to the area or land.

The tourism sector was often placed in the high interest, high influence category, since their work also depends on the biodiversity in the area. The best hotels are not in the big cities but located in areas with high biodiversity around lakes. One interviewee did mention that the tourism sector does not invest the equivalent of their impact. Since the interview discussions did show some differences in the private sector involved in horti/agriculture and those involved in tourism, they are represented by different purple and blue coloured areas. Tourism benefits from the environmental restoration, which makes it slightly more motivated for the planet element, see Figure 7.

A majority of the interviewees did allocate the agricultural companies in the low interest category, and high influence category. Mostly frequently the rationale was that their focus is on profit-making and their efforts in improving use of the lake or waste management has been minimal. In addition, their influence is high because they can influence others (power through resource use).

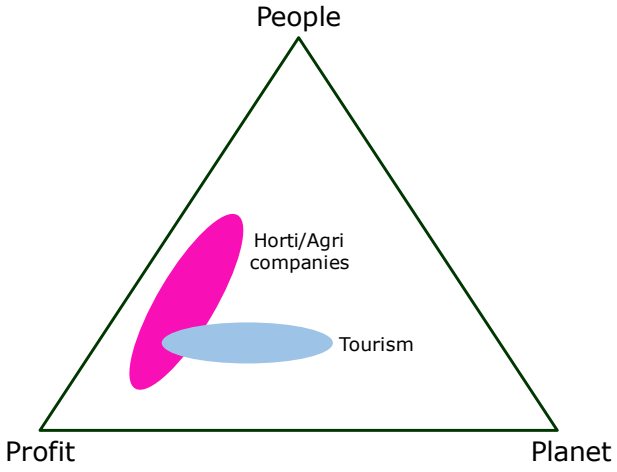


Figure 7 *The positioning of horti/agriculture (purple) and tourism companies (blue) in the people, profit, planet triangle based on the interview discussions.*

4.3.5 Role of Community

The community consists out of many groups and individuals, depending on how it is organized. Main reoccurring groups are the smallholder farmers, community leaders (e.g., elders), women groups, youth groups, and the general inhabitants of an area in individual household. Community members are mainly seen as users of natural resources, although on a smaller scale compared to the companies around the lake. In

addition, the negative impact on biodiversity and nature often impacts them most, due to their direct dependence on these resources such as land, forest, grazing land, or livestock. They contribute in terms of labour to conservation or restoration activities, but also need to meet short term needs such as food security.

At the community level, customary systems are present, of which the Gada system is the most important around Lake Dembel. The Gada is a traditional system of governance of the Oromo people in Ethiopia developed from knowledge gained over generations (UNESCO 2016)[2]. It involves various rituals related to nature (rain/sun) and approaches the community as part of the wider environment. It emphasizes that natural resources are shared and it appoints leaders associated with different resources. Their main role is to resolve conflicts and manage the natural resource. In this context, elders ('Abaga') or religious leaders have the role to discuss (mostly under an indigenous tree) and find solutions for conflicts and adhere to community by-laws. These by-laws are instruments that also support environmental protection (e.g., fine for grazing in protected areas). The younger generation, however, has less interest in learning about the Gada system and they are often said to focus on short term (economic) gains (due to land shortage, population pressure and unemployment). Interviewees mentioned they were unsure about the impact between an area with a strong or less strong Gada system. There have also been cases, such as the implementation of large scale irrigation, where the government has pushed Gada leaders to support new plans. This means Gada leaders have not always participated based on their own system and are sometimes coopted into government decisions. Therefore, a cultural expert emphasized that it is important to work with community systems, and not solely enforce policies or regulations.

Figure 8 *Hadhaa Siinqee women. Source: https://artsandculture.google.com/asset/women-of-the-siinqee-moti-pictures/HgHnN0wdAJFhyQ.*

Another customary system is the 'Hadhaa Siinqee', a woman married in the Gada system who carries a ritual stick and plays cultural, economic, political and religious roles in her community. The Siiqqee is a special kind of stick that is a symbol of both peace and female empowerment and ensures the protection of women's rights. The interviewees described the Hadhaa Siinqee as a wise woman who could punish the violation of local laws, such as the preservation of trees. In the past, if the Abaga or the Hadhaa Siinqee could not resolve a conflict between people or between people and their natural resources, the ultimate punishment was social exclusion from the community (no support system). interviewees remarked that this no longer works with the new generation. The focus is on politics and science and young people do not listen to elders. Social exclusion also does not work anymore because there are always people to connect to due to the population growth in the area. The community plays an important role in natural resource management or potential conflicts about natural resources. An example that was given concerns the establishment of a national park, in which certain communities were not allowed to live, collect resources or cultivate land. This

[2] The gada system regulates political, economic, social and religious activity serving as a mechanism for enforcing moral conduct, building community cohesion, and expressing culture (Unesco, 2016).

resulted in to various conflicts with the communities. To resolve this, the park management allowed community members to live within the park, agreeing with community elders to set up rules (by-laws) to preserve wildlife. Animals received names and the wildlife was integrated in the community, making the wildlife part of the community and making the community also responsible for them. One NGO representative mentioned that the people moving in from other places have a larger impact on biodiversity since they do not abide to community law and have no link to the land.

Providing another case, one interviewee (NGO) mentioned an existing conflict between the flower companies and the surrounding communities. Community members often go to the lake to fetch water for people and animals, but complain the water pollution due to chemicals waste from the companies. The companies state that they clean the waste water, and mention that farmers use open irrigation which consumes a lot of water and allow the remnants of pesticides to enter the water.

Social organization in the communities is often used to disseminate knowledge and stimulate new practices (on stewardship, nature positive or restoration). For example, lead farmers are trained and paid to train other farmers. Farmers also often work through community based cooperatives. Community groups such as women groups, youth groups or self-help groups such as the Idir[3] (Narayan et al. 2000) truly represent community interests and can flourish when they are not incorporated into a government structure. Women groups, supported by the government's Women and Children Affairs Office, are highly affected by environmental degradation. Women have to walk long distance for wood or water fetching, which motivates them to preserve natural resources. Gender dynamics were marked as important, for example women use most natural resources for household consumption. However men mostly make it commercial and scale up activities such as charcoal or sand production, impacting the environment.

4.3.6 Community Interest, Influence and Motivation

The main motivation for community members is food and livelihood security (Figure 9). Main drivers for stewardship are that the ecosystem provides them with water, food, fish, fodders and medicine. For some communities the Gada system is also guiding, indicating that there is also a strong social-cultural system in place which promotes taking care of natural resources. In some cases the traditional values protect certain animal species. Therefore, there are cultural and aesthetic values of land. Interviewees did mention there is a decrease in connection of people to the land due to the nationalization of resources and public ownership of land. To counter this the government now provides land certificates for 99 years but the cultural change is still present and this has negatively influenced the motivation to invest in the land.

On the position of the communities in the influence/interest matrix there were different lines of thinking. On the one hand it was mentioned that fishermen or farmers have high interest due to their daily dependence on the resources, but low influence. Local communities have a high interest for the area to be protected and maintained as they have been suffering from different challenges resulting from natural disasters. However, they do have medium to low influence as they do not have skill, knowledge and resources for rehabilitating the environment.

On the other hand, some interviewees stated that rural communities have a high impact because their practices are destructive to the environment due to low level of understanding and capacity. An NGO representative also mentioned that their interest is low because they have immediate economic needs to meet. For example, deforestation is ongoing because there are immediate benefits from it and not because community members do not understand the impact. This implies short term gain is more important than long term considerations.

In one case the local community was placed in the high interest and high influence category, because the stewardship work depends on them. The community members can contribute their time and labour for natural resource activities. Especially religious leaders are important as they can give their approval in the Gada system, which in some instances is more powerful than Government's Woreda system. In this system the greater wildlife's value is equal to human life and people are asked to pay if they kill wildlife.

[3] The Idir is a social institution (community based association) that primarily assists with self-help activities or infrastructure, and victims with bereavement such as funeral and other security issues in the community.

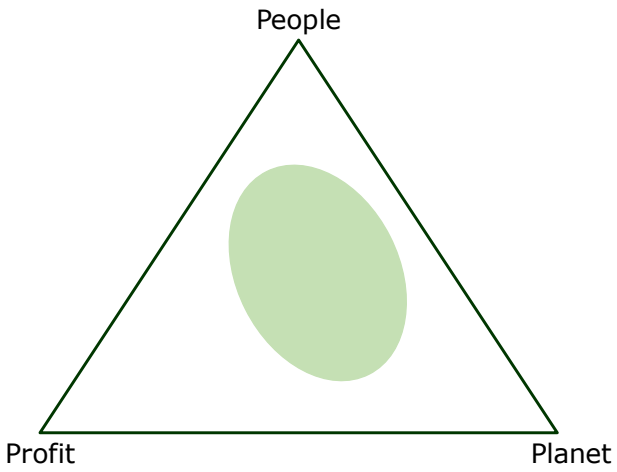


Figure 9 *The positioning of the community motivation in the people, profit, planet triangle based on the interview discussions. The diversity of the community motivation is represented by the large area that is covered by the colour green.*

4.3.7 Role of Cooperatives/Unions

There are a few cooperatives and farmers' unions present in the lake Dembel area. The forest cooperatives for women and youth maintain formal and informal rules and bylaws regarding forest use. These cooperatives also bring people together to organize business and provide training on sustainability. The forest management cooperatives are registered at the government to improve their involvement in nature governing. They cooperate with the government on forest management (participatory forest management - PFM), which has been perceived as more successful than the government closing off protected areas. Some of the NGOs, also tap into this form of organization. They organize cooperatives for farmers and create official management committees. They have found this to be more engaging to influence people's behaviour in the long term.

The farmers union also aims to enable the community to work together in a cooperative to use the opportunities and the resources available in the area. They organize the agricultural inputs in the area to make it easier for farmers to access. The other advantage of the union is to open connections in the value chain to enable the community to sell the products in reasonable ways and cutting out the illegal brokers in the area. Through the union they also aim to reach international markets. By working in this manner, communities develop a habit to work together on different initiatives. This also makes it easier to raise awareness and train on better use of natural resources, such as water and the use of chemical spray. Through the union, natural fertilizers, growing of different trees, and water/soil conservation practices are introduced.

4.3.8 Cooperatives/Unions Interest, Influence and Motivation

The unions motivations align strongly with the community motivations. The union or cooperatives structure mostly enable the community to better voice their concerns and to share information/knowledge (Figure 10). Therefore the union was placed higher on the influence axis compared to individual farmers. They can easily mobilize human resources for carrying out restoration practices. Since the union and cooperatives involve the interest of multiple community members or farmers there is a high interest in how natural resources are managed, although mostly to benefit the food/livelihood security of its members.

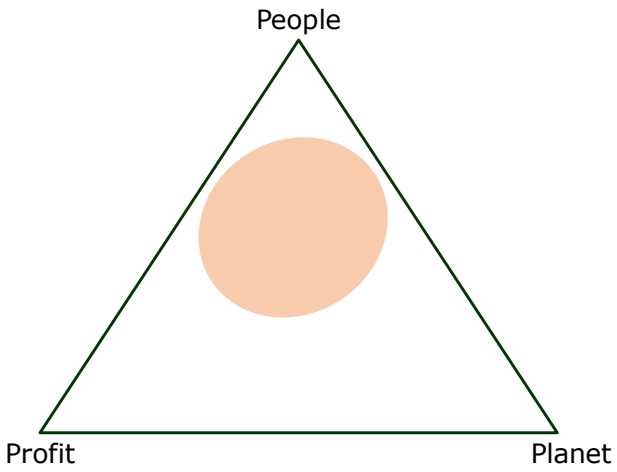


Figure 10 *The positioning of the cooperatives/unions motivation in the people, profit, planet triangle based on the interview discussions. The diversity of the cooperatives/unions motivation is represented by the area that is covered by the colour orange.*

4.3.9 Role of the Church

Churches were frequently mentioned as a space where nature and biodiversity are taken care of. They often provide and steward communal forest areas. In some areas churches also influence through informal law; for example by not allowing trees to be cut or providing names to wild animals to make them more like humans (preventing hunting). They are framed as sanctuaries for nature and patches of green in the landscape. It often helps that church areas are restricted and have assigned care takers. This is also the case for some of the schools, and shows that communal lands are mostly preserved and promote enclosed areas. An NGO representative emphasized that these areas can also be used as examples for farmers to see what works and inspire them to implement this on their own land. The churches interest is high based on religious scripture, and their influence medium as they may be able to influence some farmers (but most farmers face different conditions compared to communal church land).

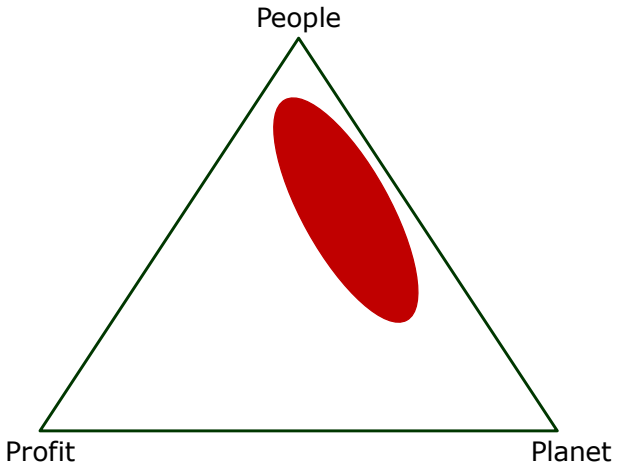


Figure 11 *The positioning of church motivation in the people, profit, planet triangle based on the interview discussions. The diversity of the church motivation is represented by the area that is covered by the colour red.*

4.3.10 Role of Research Institutes

Universities, are often involved in partnerships to provide technology (e.g., improved seeds, NBS), and know-how for stewardship. A university based researcher confirmed that universities or research institutes often supply technical solutions but that they are rarely taken forward. Through their technological developments they also aim to raise awareness with the government and the communities. Sometimes their projects involve resources to conduct trainings on how the community can support nature restoration. Therefore, they do have a significant role to play in influencing government and providing capacity building. Multiple interviewees from research centers and other stakeholder groups, describe the role of researchers as identifying problems, providing possible solutions or measures and demonstrating the application of solutions.

4.3.11 Research Institutes Interest, Influence and Motivation

The motivation of research centers is often identified as problem driven, with a focus on finding technical solutions for these problems. In addition, research institutes are often dependent on finding resource support for their research which means their work is guided by economic interests.

There was a twofold in the interest and influence of research institutes. A majority of the interviewees categorized the research institutes as high interest (problem solving) and high influences due to their knowledge and technological development. The level influence was contested by two interviewees based in research centers. They mentioned that influence is sometimes for short periods due to short project timelines and that the lack of capital also limits the influence.

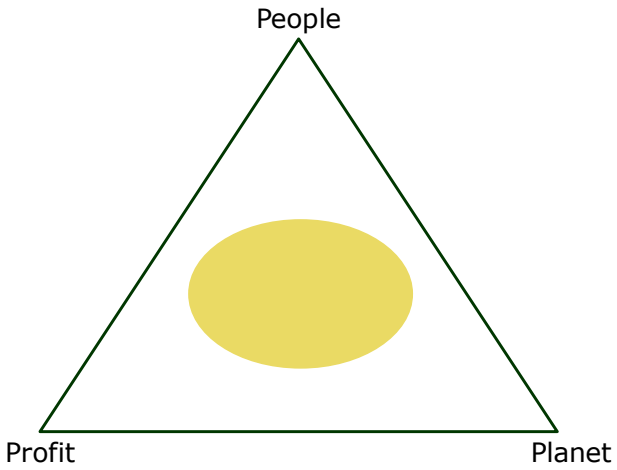


Figure 12 *The positioning of church motivation in the people, profit, planet triangle based on the interview discussions. The diversity of the research institutes motivation is represented by the area that is covered by the colour yellow.*

4.3.12 Role of development partners

Development partners (broadly defined as International NGOs, bilateral and multilateral agencies) in the lake Dembel area mostly focus on a combination of livelihood development for community members and natural resource management. Some development partners have plural agendas, whereas others have a specific domain such as stewardship for water, or fair water footprints. Therefore, there are plenty of ongoing activities covering different domains, from water access/usage, WASH, tree planting, to farming practices. Many development partners work directly with communities, for example to keep land areas free from livestock or settlements. Their main challenge is to lift people in a sustainable way out of poverty. For other stakeholders, development partners are often helpful to support on technical and financial capacity.

Development partner activities can take place as individual action, or as part of the partnerships with local government office, CSOs, research institutions and the local private sectors. Development partners focus on working with the community and also take the role to connect the community to other stakeholders. For example 'the Voice of the community' project aims to facilitate the community to talk directly to relevant stakeholders for resolving water challenges. This type of brokering is needed in their opinion since local groups promoting biodiversity are perceived as anti-development/anti-economic development by communities and are sometimes in conflict with the government. Other development partners focus on capacity building for the government to facilitate the (landscape) partnership.

Reoccurring challenges brought up by development partner employees are the institutionalization of partnerships or activities, in a context where projects are only 2-3 years. In addition, many organizations work in their own contexts, and are dependent on short term funding. Development partners are often linked internationally, which means their donors are international or they aim to connect to global agendas such as the Conference of Parties of UNFCCC or CBD. Especially those with international donor support are dependent on decision-making at their head offices outside Ethiopia

4.3.13 Development partners Interest, Influence and Motivation

There is a plethora of development partners, some international and others national or local. Some focus on nature restoration and others focus on livelihood improvement first. Their motivation often stems from their objectives and vision in which they want to contribute, such as water management, forests, agricultural practices, WASH, gender equality etc. This may also be influenced by international or national agendas or donors.

Development partners were always placed as high interest stakeholders, based on the assumption that they base their work on their interest in biodiversity. However, their influence was often perceived as limited – 'tiny drops'. Important to note that the diversity of development partners makes it challenging to place them in one place. Therefore some acknowledged NGOs as low influence since their activities are small scale and short term projects. Others categorized NGOs as high influence since they can provide technical and financial support, which is needed by communities to make things happen.

As a separate but related category, the role of civil society organizations (CSOs) were mentioned as important stakeholders in landscape partnerships. It was mentioned that CSO often have plural agendas in a similar way as the development partners. These can include Environmental Rehabilitation, Education and Advocacy and Women's empowerment (IGAs, curbing HIV/AIDS and HTP, reproductive health awareness activities, and food security, non-formal education). One interviewee made a comparison with Kenya where CSOs such as water committees are organized through the government and are frequently consulted. In the context of Ethiopia these CSOs are rarely brought on board during new project/landscape developments. There is therefore limited involvement of people and the government has a dominating role, according to the NGO employee.

The cultural expert also mentioned that community groups or self-help groups can flourish when they are not part of the state. They can also be effective if they are not politicized, which now happens and often risks that the state and market are dominant.

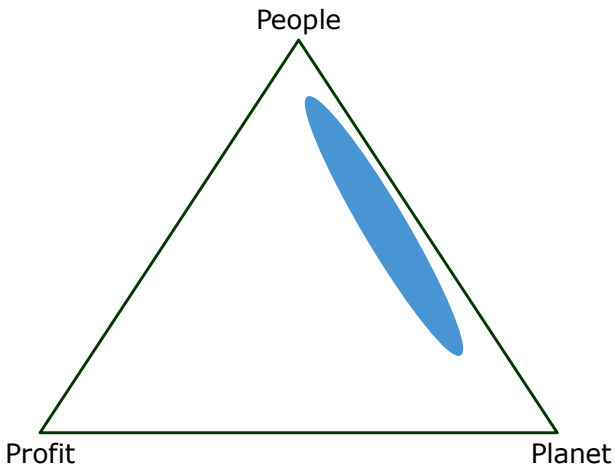


Figure 13 *The positioning of the development partners' and CSOs' motivation in the people, profit, planet triangle based on the interview discussions. The diversity of the development partners' motivation is represented by the area that is covered by the colour dark blue.*

4.4 Drivers for stewardship economy for biodiversity

When discussing the conditions supporting and restraining a stewardship economy for biodiversity, the key theme that emerged across the interviews is finding a balance between environmental and economic needs. In other words, biodiversity can be preserved, restored and regenerated when people have sustainable livelihoods and benefit from the region's economic development, providing jobs and services. People's survival comes first and meeting basic needs is often accompanied by short term perspectives, especially in a context of conflict. Stewarding the environment requires a longer term perspective and the guarantee that the return on investment will benefit people's livelihoods. This requires a certain degree of social and political stability and predictability which was absent at the time of the research. Nevertheless, the interviewees identified a number of drivers that (could) support stewardship for biodiversity, while also highlighting their restraining counterparts. In order to show the dynamical interplay between drivers for and against stewarding the environment in the DSSB and specifically around Lake Dembel, the findings have been organised using the institutional categorisation of the project's vision paper (Baayen et al., forthcoming), namely institutions of action (products and services), control (policies and strategies), association (organizations and networks) and meaning (beliefs, norms and values) (Woodhill 2008).

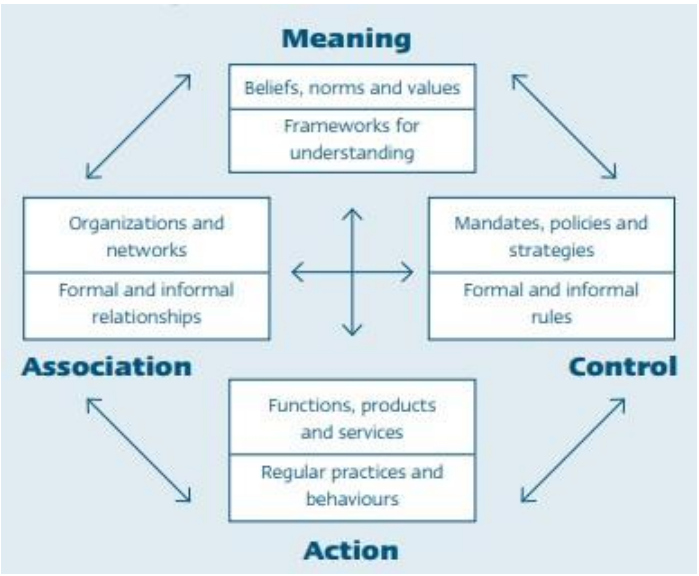


Figure 14 *Framework of institutions. Source: Woodhill, 2008.*

4.4.1 Institutions of meaning (beliefs, norms and values, frameworks for understanding)

Religion was mentioned by many interviewees as a key driver for stewardship of the environment. Most churches are surrounded by forest as they do not allow trees to be cut. The church was seen as the center of biodiversity which influences surrounding communities. One respondent mentioned that some communities, in line with the church's value on biodiversity, penalize cutting trees and name provide human names to wild animals to void them being targeted for hunting.

Customary systems, such as the Gada system and other customary laws were mentioned as another positive driver. While customary systems are seen as something 'of the past' and have been dominated by various governments, many of the respondents mentioned they are reemerging, partly because of an Oromo elite movement. The pride of the Oromo culture brings back some of the traditional systems and celebrates them. It was witnessed that over the past 5 years, the government has accepted the Gada system as part of community governance as community members listens to the Gada leaders. In Ethiopia in general, people (communities) are embracing their culture and are reinvesting in older systems. This was explained by the fact that the 'EU pathway ' which was initially followed by Ethiopia, does not lead to sustainable development and that something else is needed.

A key factor supporting stewardship is education and awareness raising. An example from the North, where schools teach about nature and conservation at a young age and children are taught how to build a sustainable house and cook on biofuel instead of charcoal, was mentioned as a good practice. Compared to the past, people have access to good education and the Environment is incorporated in the curriculum. However, there is still a lack of awareness of biodiversity as a system.

Advocacy, policy influencing and media were therefore mentioned as an important driver to create a broader awareness amongst all groups in society, from community to government. According to one interviewee, breaking norms and cultures requires persistent push. The media is an advocate for sustainability, however, they often create tensions with the government. The media has influence through their coverage and awareness raising, which favours the narratives of restoration, and nature/biodiversity preservation. Interviewees had witnessed unequal awareness on environmental management at different levels of the government system. Some stakeholders are relating the issues of natural resource management, for example the Green Legacy Initiative, with politics. There is a lack of sustainable awareness and trainings for concerned bodies, government officials and the community. Not all community members and stakeholders have an understanding about the loss of nature and biodiversity in the area. As a result there is some resistance and fear within the community to take the necessary measures in accordance.

The lack of connection to the land was also mentioned as a restraint to stewarding the environment. Nationalization of resources under the Derg regime and public ownership of land has led to a decline of people's association to land. This, along with a growing population and the division of land into small parcels, has decreased the incentive to invest in the land. This has been flagged as a problem by the government and currently land certificates are given for 99 years. According to one respondent, this has changed the farmers' relationship to land a bit, but if commercial investors come and give farmers compensation, they will still sell it. The absence of a deep sense of connection to the land was also related to a low sense of responsibility to contribute to or maintain the commons, such as the lake and its biodiversity.

4.4.2 Institutions of association (organisations and networks, formal and informal relationships)

As described in the section 'Stakeholder roles, interest, influence and motivation', a wide variety of stakeholders are active in the lake area. Respondents claimed a lack of coordination among stakeholders. *"Restoration requires a lot of coordination, not a single organization is responsible but currently everyone runs things independently."* Multi-stakeholder partnerships (MSPs) were therefore mentioned as an important driver for a stewardship economy for biodiversity. It allows stakeholders get to know each other and their respective interests and begin to build trust. According to government and INGO interviewees, there are huge industries, investments, natural resources like water, minerals and land, along with a big interest of the community, research institutions, educated man power, accessibility and due attention of the government to the area. *"So, by bringing those opportunities together, stewardship practice can be applicable."* Indeed,

bringing together the donors and implementers and specifying contributions to a common goal in a transparent way while holding each other accountable was described as the ideal way of working. Unfortunately, many existing MSPs around the Lake area had experiences a lack of ownership, resulting in discontinuity once the funding ended. This was mentioned as a driver against stewardship. In the case of the DSSB MSP, an international NGO had taken the lead. However, once the project period ended, the momentum was lost. The lack of ownership of MSPs also resulted in 'free riding' behaviours of some partners who attended meetings to access information and networks but failed to contribute resources. In addition, there was a lack of accountability in doing what each partner promised as representatives attending the MSP coordination meetings were often not the decision makers. Another complication to MSPs was that relationships between partners were intertwined. For example, companies and government officials could be collaborating partners in an MSP while, at the same time, they would be negotiating a difficult contract together. This would affect the openness and transparency of these partners within an MSP.

Local participatory governance, described as building on community structures and engaging them in policy development and implementation, was mentioned as another driver for stewarding the environment. Civic driven initiatives reflect the commitment of local groups and target the common good. Community groups were considered effective provided they are not politicised. According to interviewees, spontaneous community groups were playing an active role around the lake. It was observed however that once local groups organise themselves around scarce resources, they have to face competitors like the state and the market, thereby changing the impact the civic group could have. The power of local initiatives was illustrated by one interviewee by the domestication of Ensete (also called false banana). The Ensete plant, which needed longer term planning due to the 5 years between planting to harvest, resulted in more stable community settlements, which in turn contributed to funeral and credit associations with monetization as an outcome. Civic initiatives built on local structures support risk taking behaviour, which is needed when prioritizing the longer term gain of a regenerated environment above ones' own immediate survival. Women leadership was considered important as women are more likely to focus on environmental objectives. More women have come into leadership positions at kebele level. According to interviewees, they tend to be loyal, helpful, with a commitment to ecosystems. However, more effort is needed to increase awareness on the importance and ways of empowering women to engage and take up leadership positions.

4.4.3 Institutions of control (mandates, policies and strategies, formal and informal rules)

Ethiopia has a good foundation of environmental policies. A key driver for stewardship are therefore policies and regulation that reinforce biodiversity conservation and regional government institutions that set standards for product quality and for the environment. Policies covering global value chains, such as the EU deforestation regulation on the coffee value chain were also mentioned as helpful. Flagship initiatives driven by highest political authority (like the Green Legacy initiative, driving afforestation) are all considered positive drivers. This may be based on the model of 'competitive federalism', whereby regional governments compete for federal resources of new investments. In general, interviewees were confident that once policies were reviewed and revised, such as a draft policy on land use, most of the problems would be solved. Accessibility of the area (road and telcom infrastructure) was also considered an asset as it allowed stakeholders to implement in the area.

The potential of the relatively solid environmental policy framework to stimulate stewardship for biodiversity in Ethiopia is undermined by a number of factors, according to interviewees. A frequently sited factor is the weak law enforcement mechanisms. "There are good policies in Ethiopia but policies are not enforced." Every policy has implementation guidelines, however, there are no guidelines on how the implementation is checked or what to do when someone is breaking the rules and regulations. A key gap is therefore a system for checks and balances.

Another factor is the contradiction between policies. As one interviewee mention, income generation from the regeneration of biodiversity is possible but the ministries do not always connect – creating a lack of synergies among policies. The lack of policy coherence is ascribed to ministries and organizations staying in their own context and working in silos. As a result, there are conflicting policies related to nature conservation, agricultural production and industrial development. This was illustrated with an example of an industrial park which was built near one of the lakes. It was felt that if there had been a real environmental assessment, the industrial park would have been located somewhere else.

The lack of clarity on the mandates of different ministries and government offices is another factor undermining effective policy implementation. Regional governments are not obliged to follow federal policies and have their own institutes to contextualize federal policies or make new ones. This creates confusion about who is ultimately responsible for managing the natural resources and who can be held accountable.

Lastly, there is a disconnect between macro planning and micro implementation. As one interviewee put it: either national policy does not reach down, or there are local or private initiatives but no policy. Policies are drafted at a very high level and as a result, macro plans are made without looking into small holder farmers or communities. Local government offices experienced a lack of coordination from higher to lower level; there is always a break down or gap of information somewhere in the middle before it reaches the lower level, which is the community. There is no 'reading of each other' as it doesn't depend on the system but on political leaders. Another observation shared by many interviewees was that most of the focus is on planning and only a little on implementation by both government and other concerned body like NGOs.

4.4.4 Institutions of action (functions, projects, products and services, regular practices and behaviours)

When it comes to practices on the ground, community mobilization and engagement was mentioned as a key driver for stewardship for biodiversity. Natural resource management activities are being carried out by mobilizing the community and as a result, there are observable changes like the reduction of flood in the area, improvement of soil fertility, ground water being recharged, and the uptake of fuel saving stoves and solar energy resulting in a lower number of trees being cut. The local government at Woreda level operates from more than 20 sector offices. Hence, engaging the communities on various topics requires coordination within the Woreda government. Multi-stakeholder partnerships, such as the Tiyo-Hetosa MSP, are therefore useful ways to coordinate. Besides MSPs, other drivers for stewardship are the availability of human resources; promising rehabilitation activities which are promising and shared between communities; awareness of the community towards natural resources; and the indigenous knowledge shared by community. At the same time, it was witnessed that some communities display a dependency syndrome on support and food aid and resist new activities and technologies.

An important driver constraining stewardship which was mentioned frequently is the lack of institutionalization of development projects. Once the funding ends, organisations go back to their own context. A lot of projects are seen as income for NGO workers, and not for the community. The lack of implementation or sustainability of initiatives initiated by the federal government is also due to resistance from some offices and individuals in the community as they associate the activities with political issues. There is no sense of ownership during the implementation of the project; resources are used aggressively during the project period without any thought of the future generation.

Besides drivers for and against, interviewees mentioned larger contextual conditions that influence the way people and their institutions can steward their environment. One is the social-economic impact of climate change on the lake area. Climate change means that natural resources become highly competitive. Lake Dembel's fresh water is in high demand amongst the companies, farmers and families along the lake who all access the water freely. Water pollution is threatening the fish population and hence the nutritional value of family diets, including those of young children. The lack of access to basic needs (food security, nutrition, cash income to pay for health and education services) along with few opportunities to diversify livelihoods at community level, aggravated by increased population pressure (partially caused by migration flows due to shortages of natural resources elsewhere) and competition over land has turned the area into a pressure cooker. There is a clear tension between the economic needs of the country (investments, foreign currency and jobs), the livelihood needs of surrounding communities, and environmental needs, sustaining the lake's biodiversity. At the moment, economic considerations come first. Food comes first. Conservation practices come second.

This is a bridge to the second contextual condition mentioned by many if not all interviewees: the impact of conflict and instability. In the Dembel Shalla Sub Basin, competition for natural resources has led to conflict between the different ethnic groups. This is the main cause for the current conflict and it started earlier than the conflict at the federal level. The effect of conflict on environmental stewardship are grave. Conflict areas

are not farmed anymore; conservation efforts are interrupted; there is no preparation for flooding and people are displaced. Around the lake, the kidnapping which has accompanied the conflict can take away investments or people who want to work with the community. Political instability completely shifts attention of both the community and the government – large budgets go to managing the conflict and less budget is available for natural resource management. Various interviewees referenced the war in Tigray, where the advances in environmental conservation and developmental infrastructure has been destroyed. Given the war and the intermittent conflicts in various regions, interviewees witnessed a lack of necessary resources and technologies in the agricultural and environmental sector.

4.5 Perspectives on Future Pathways: Towards a stewardship economy

When asked about their future visions of the Dembel Shalla sub-basin with respect to nature and biodiversity, interviewees expressed views of an ecological system in harmony with human development, reminiscent of the way nature used to be before the land was developed. They also envisioned a society with a functioning government system, coordinated stakeholders that take their responsibility, empowered communities and women, and sustainable businesses. The visions are captured in the boxes below.

Visions of a flourishing rehabilitated ecology in harmony with human developments:

Green landscape, inspired people, wildlife, and understanding importance of nature. This includes the local economy. We need to build good infrastructure, and sustainable/stable income. If ecosystems are healed, it generates a lot, different cultural values, resource of water. People use climate smart practices and integrating poultry and beekeeping. The cows are good for milk. So we still have Income generation based on agriculture and diverse products of nature, creating Environmentally based business. Green, fresh air, inspired people, wildlife, human beings and nature co-existing, local economy is based on sustainability themes (food/ag, cultural values, water, climate smart Ag.) Creating environmental friendly businesses around Ag, poultry, beekeeping.

Seeing the rehabilitation of mother trees; Bringing sustainable development that could answer the issues of food insecurity; Having peaceful and well to do community; Treating and keeping biodiversity; Carrying out water soil conservation and seeing the changed and evergreen environment.

Our vision is seeing the rehabilitated evergreen environment with different enormous natural resources and biodiversity in the rift valley that could be the tourists destination from different corner of the world; and seeing the well advanced community free from political instability and food insecurity but prosperous well to do community.

Our vision is seeing a well advanced and developed community with protected nature and biodiversity in the area in sustainable way. We aspire to see evergreen and conducive environment for dwellers and visitors for their recreation.

We would like to have an evergreen area with multiple biodiversity and nature inclusive activities with the community having a better understanding about its environment and who protects well. As a result, we see a prosperous nation that the citizens love to live in.

Whole landscape functioning well in ecosystem language. Ecosystem services functioning well, downstream, middle stream and upstream. Ecosystem services: everyone access Socio-economic and bio-physical resources.

An integrated water resource system for supplying secured clean water and energy for citizen and Ethiopia in its prosperous way in 2032; a well-protected, secured and rehabilitated natural resources in the area, which can be utilized in fair way by its community in particular and the country at large.

Sustainable water system; including good water quality and the quantity being balanced between dry and rainy season.

Ecology based landscape restoration by closing the knowledge gap: technological options, capacity building, training. A socio-ecological practice journal: opportunities for multiple ecosystem services and environmental stewardship.

Our vision is seeing our area's nature and biodiversity to be rehabilitated and protected in a way it services its community and living of the community a prosperous life.

Buffer zone, conservation efforts, clean cities.

Visions of the restoring nature to how it was:

Seeing the coming back of previous nature and biodiversity in the areas which could serve the community by being the huge tourist destination in the country that enables the community in the area secured in food and well to do economically; we need to see the cleanest and most potential tourist destination area.

The area was covered by denser forest and there was plenty of water access everywhere.

It was completely ever green and attractive like the Garden of Eden based upon the story told by our ancestors. In fact, the area was the home of different wild animals, birds of different species and small number of settlement, which were scattered in different place.

Socio-economic visions:

A government system that is functioning well and is coordinated; development synergized and harmonized.

Social economics and natural environment in harmony. Land use being allocated appropriately. Pollution well controlled.

We do have also the vision of seeing women independent economically, socially and politically in a way they could influence every aspect by carrying out the nature and biodiversity inclusive activities.

Friendly environment for our women in particular and for scaling up the community in overall development which could secure their lives and livelihoods in general.

Sustainable food system regeneration through empowered communities and engagement of major stakeholders. I have already seen impact on the ground, although in small areas. In 5 or 6 years you can make a change, especially when empowering local community. Community participation is determining factor.

Business follows sustainable models, and the law enforcement is in place.

Destinations developed by adding value: accessibility, accommodation, amenities, tourist activities. Attracting responsible investment.

When asked what needs to happen to make their visions a reality, a number of themes emerged that can be considered pathways towards a stewardship economy around Lake Dembel and the larger Dembel Shalla Sub-basin. These are education and awareness raising; strong community structures and livelihood options; effective multi-stakeholder collaboration; supportive frameworks, guidelines and on the ground regulation; and peace and stability.

4.5.1 Education and awareness raising

The pathway of education and awareness raising contained three perspectives. One is to revive interest in and apply the knowledge of customary systems. This would imply initiating interest among younger people in the Gada knowledge system. Traditional knowledge on the environment is often passed down in a restricted way. Different age groups are needed to discuss the topics. Some universities are linking traditional knowledge with scientific knowledge through generational analysis (through interviews), observation, and community mapping. One expert suggested gradually bringing back the 'Abenet' schools which taught children theology, natural resource conservation, medicine and astronomy. This is now only in some monasteries, but is no longer part of the system. It was taken over by formal education in the early 20th century which changed the values in society, away from respect for nature, respect for elders. There is a need to shift back to owning the land, being pro-active and entrepreneurial.

Another perspective on this pathway is to integrate topics of biodiversity, natural resource management and climate change into formal and informal education from the national to the community level. Interviewees suggested having conversations about these topics at a very young age and integrate them into a learning process to avoid imposing the knowledge. One interviewee mentioned how children that grow up in the city study environmental science and become policy makers or extension officers without really knowing nature. The suggestion is to train local leaders to become the extension officers, creating a higher acceptance among

local farmers and also know technology. A train the trainer model, in which opinion leaders and farmers train other farmers and get paid for their services is a model for stewardship.

The third perspective suggested to connect research to practice, by connecting universities to companies, NGOs or government workers. A strategic plan for how to move the research findings to operational levels is needed in order to meaningfully impact policy makers. Awareness creation using science based evidence of the impacts of chemicals on the environment was deemed important. Currently, farmers use chemicals for marketing purposes as their vegetables look good after spraying. They need to become aware about the longer term environmental consequences, as do the agribusinesses selling the chemicals and cooperatives buying the farmers' vegetables.

4.5.2 Strong community structures and livelihood options

This pathway saw strong community structures and initiatives as a way towards stewardship economy for biodiversity. Community self-help groups such as the Idir have proven to flourish when they are not part of the government and truly represent community interests. The suggestion was to support the rights of local initiatives and link these to customary systems. As there may not be enough cultural leaders anymore to teach the younger generation about the value of customary systems, it was suggested that NGOs introduce local by-laws in line with customary systems, to fill the gap. In the end, the communities should be leading. As one interviewee said: "If they are focused on food security than you need to focus on that and connect it to nature conservation. When the community is empowered, the change comes. Therefore, we need more investment in empowering the community and technical skills support." Focusing on gender dynamics and involving women in conservation efforts was deemed paramount to be successful.

Another part of this pathway is ensuring there are diverse and alternative livelihoods for the community. People cannot conserve biodiversity without economic opportunities that do not involve the extraction of natural resources. This means creating ownership of land, taking responsibility, introducing traditional values in education, stimulating entrepreneurship and shift the attitude away from being too reliant on the government. The tourism industry was mentioned as an opportunity to promote biodiversity and to offer alternative livelihoods while addressing the high level of youth unemployment. Other alternative livelihoods that could be supported are honey making, Morenga and Aloe Vera production.

Supporting alternative livelihoods can go hand in hand with the promotion of stewardship for biodiversity. While the entry point is livelihoods, conservation techniques can be discussed with women, who mostly focus on Morenga and Aloe Vera production. Alternative livelihoods should address food security. Without food security, there is no attention to environmental stewardship.

Linking the communities clearly to the WB carbon trading projects and making conservation a means of earning was another alternative livelihood option. When communities earn money because of the existence of trees, it will place a clear value on nature: more trees means more money.

4.5.3 Effective multi-stakeholder collaboration

There are a number of MSPs focusing on environmental restoration around the lake. Most of them are project based and lose momentum as soon as the project ends due to the lack of funds and leadership. Nevertheless, interviewees considered multi-stakeholder collaboration a critically important pathway. Drawing from experiences, they raised a number of lessons learnt that should be incorporated in upcoming collaborations:

- Find an organization that agrees to be responsible for the MSP, that ensures partners come together and has the capacity to organize meetings every quarter. Ideally a local organization or government office is empowered to do this. It can even be on a rotational basis. However, capacity and funds need to be provided to take leadership and manage the MSP like a project. Within the responsible organization, someone needs to steer– a partnership broker.
- Create a common understanding of the problem by e.g. doing a risk and opportunity analysis together and agree on a common goal.

- Give specific roles to each stakeholder to ensure commitment. Being in the meeting alone is not enough; everyone needs to contribute something, e.g. specific projects that are monitored as part of the bigger goal. In that way, the MSP can form synergies. The MSP needs focus and partners need to plan and report together.
- Create a good governance structure based on a democratic process. All partners need to agree to a bylaw or mini constitution to define who leads what effort to reach the common goal. This needs to be approved by all members and followed.
- Ensure a good representation in the MSP and place partners in the governing structure based on their interest and capacity. Work with key institutions and influential people in a strategic direction, supplemented with technical people who come up with approaches, technologies and well applicable plans, not simply discussing and leaving the issues on the table. In that regard, there is a need for transparency in data collected such as water usage.

4.5.4 Supportive policy frameworks, implementation guidelines and on the ground regulation

There was a clear call for a pathway of policies and implementation guidelines that protect and put a value on biodiversity (nature). According to interviewees, this could be done by mainstreaming stewardship in every activity, including in urban areas. A holistic landscape or systems approach was proposed both at policy and implementation level (law enforcement), targeting commercial and small scale farmers in the highland as well as those around the lake.

While the property rights system had improved according to the interviewees for forestry, parks and agricultural production, there is a need for more regulation for investments, for water abstraction and for a buffer zone around the lake. The reduction of chemical inflows from small scale farming and flower farms was deemed paramount and the introduction of good practices by flower farms to reduce pollution like wetlands was mentioned. However, environmental assessments of companies around the lake should reflect the whole catchment area (and not just their direct environment) and agreements should be in place on the types of chemicals that can be used. Interviewees felt that as long as water use is free[4], stakeholders around the lake will not take care of it. Policies levying payment for water use and transparent data-based accountability systems was seen as a way to value and take better care of this natural resource while generating money for nature regenerating activities.

4.5.5 Peace and stability

A common theme across the stakeholders around the lake was the need to have political stability and security in order to pursue their envisioned future pathways. Interviewees considered the government the key actor responsible to keep peace and security, to ensure checks and balances on policy implementation and address corruption. The government was also deemed the responsible party for inviting international environmental organizations to provide the necessary financial and technological support which, without stability and security, will not be provided.

[4] By Ethiopian law, the artesian use of water is for free while it was said that the companies around the lake pay a small annual fee.

5 Discussion

The findings of the case study align closely with the guiding principles outlined in the Vision Report of the Knowledge Building project 'Towards a Stewardship Economy for Biodiversity'. These are 'Caring, taking responsibility and accountability'; 'Moving to decision-making for collective purposes with nature and biodiversity at the heart'; 'Becoming aware of the impact on people and places over time'; and 'Fostering integrity of facts of human-nature relationships for large-scale transformations'. When discussing our findings, these principles are referenced in an attempt to tie vision and practice together.

When comparing these Vision report building blocks to the meaning of stewardship economy in the Lake Dembel case, some similarities can be identified. One of these, is the foundational element of 'taking care' and the need to connect stakeholders to create a common response and creating mechanisms of accountability and incentives. The case study provides some additional nuances by amplifying the need for restoring the connection of people to the land. Interviewees considered the collectivisation of land under the Derg regime in 1975 a prime factor in the loss of connection to land. However, there may be more to that as after the fall of the Derg regime in 1991, the Transitional Government of Ethiopia continued the same land policy, transferring only usufruct rights to rural peasantry. There was no return to customary-rules (Atakile Beyene 2004), given the land tenure system under the imperial rule up to 1975 had been widely conceived as unjust: land was concentrated in the hands of absentee landlords, tenure was highly insecure, augmented with arbitrary evictions (Aberra Jemberre 2000, Cohen and Weintraub 1975, Dessalegn Rahmato 1984, Hoben 1973, Joireman 2000 as referenced in Crewett 2008) While state ownership of land continued, ethnic federalism, introduced in the 1990s, and its territorial implications meant that that land rights of 'indigenous' inhabitants were prioritised. As a result, Ethiopia's land policy was marked by a tension between state ownership of land (and the rights of ethnic minorities outside their region of origin), ethnic federalism and neo-customary tenure regimes[5]. (Lavers 2018) The tension between these 3 factors could have affected people's connection to land. The discussion on land policy continues today. It goes beyond the remit of this paper to address this in more detail, be it for the observation that connection to land is a driver for livelihood security which, in turn, is a driver for nature restoration. The latter is a motivation for nature restoration but also implies the peoples basic needs need to be met to create space for taking care of nature. Lastly, the meaning of stewardship in the lake Dembel area is embedded in the areas context, where nature is strongly connected to economy and cultural identity.

5.1 The way forward

The guiding principle of 'Caring, taking responsibility and accountability' interprets caring for nature and biodiversity as 'to feel concern, interest, and intrinsic ethical value in protecting, restoring and improving biodiversity.' (Baayen et al., forthcoming) Caring without a sense of responsibility will not move us to a stewardship economy for biodiversity, hence responsibility is 'the duty or task to deal with what is required (or expected) to protect, restore and improve biodiversity and conserve nature.' (Baayen et al., forthcoming). Whilst responsibility can be experienced at an individual level based on personal values, it can be formalised through various institutions, e.g. institutions of control (rules and regulations), meaning (social norms and beliefs), action (established functions, products and services) and association (relationships and organisations/networks). The formalisation of responsibility and the actioning of positive or negative consequences based on the fulfilment of assigned responsibilities leads to accountability.

Taking care of nature 'as a way of taking care of life' is a common way of looking at stewardship economy for biodiversity in Ethiopia. The word stewardship has strong religious connotations and is exemplified in old customary practices that instil an intrinsic ethical value and a sense of responsibility to take care of the

[5] Neo-customary tenure regimes were in many places not wiped out by state ownership, and, arguably, became increasingly influential. (Allan Hoben, 'Ethiopian land tenure revisited: Continuity, change and contradictions' (Working Paper 236, African Studies Center, Boston University, 2001) in Lavers, 2018.

natural environment. Community structures and civil society groups that are not coopted by the state have proven to be effective in guiding environmental protection, restoring and improving biodiversity by formalising people's responsibility and holding them accountable.

However, on-going climate change, high population pressure, poverty levels and youth unemployment along with heightened levels of insecurity and conflict have negatively affected the natural regeneration of nature and biodiversity in and around Lake Dembel. High land degradation and water depletion has increased food insecurity and poverty levels, which has in turn placed more pressure on natural resources as communities' source of survival – a negative spiral. Just like in any market economy, scarcity creates competition. In the case of Lake Dembel, this has resulted in competition over land, water and other natural resources for purposes varying from business and (forex) income to food security and survival. As a result, relationships between stakeholders are marked by power dynamics. While every stakeholder group has a form of power (visible, invisible, hidden), at a specific level (global, national or local) and space (closed, invited and claimed/created) where they exert power over, to, with or within (Gaventa, 2006), our findings indicate that each stakeholder group perceives other stakeholders as more powerful. For example, large companies (farms and tourist industry) are seen by communities and NGOs as very powerful (providers of forex), while companies consider the government powerful (provide permits/regulations) and take the invisible power of communities (provide cooperation or barriers) very seriously.

It is no surprise that given this situation, compounded by a wave of political tension, conflict and kidnapping during the time of the research (2023), have eroded values of care, responsibility and accountability which are inherent in Ethiopian culture. In order to activate values of care towards nature within individuals, communities and all other stakeholder groups, relevant traditional laws, values, and customary practices need to be revived. Indigenous knowledge on the environment should be transmitted to younger generations, targeting both young women and men. On-going efforts of academia to link indigenous knowledge systems on e.g. climate prediction for planting based on a moon system to scientific research should be expanded to anchor (and validate) traditional knowledge in today's science. Ample space should be given to community groups to change attitudes and take responsibility for the environment, engaging the energy of women and men of all generations. Participatory community governance systems can ensure that people are being held accountable for the consequences of their (in)action. Besides 'Caring, taking responsibility and accountability', this also speaks to the vision report's guiding principle of 'Moving to decision-making for collective purposes with nature and biodiversity at the heart'.

At the government's federal and regional level, diverse policies and legal frameworks are in place to protect, restore and improve nature and biodiversity, reflecting an intention of care and responsibility for the environment. However, the lack of enforcement and alignment of policies and the contradictions between environmental and economic policies indicates a lack of accountability. A good policy framework alone is not enough. Policy implementation requires a safe and secure operating space for stakeholders to fulfil their responsibilities and hold each other accountable. The focus should go to building individual and group behaviours, ways of communicating and collaboration styles that encourage equity, transparency, and mutual accountability in an effort to move policies from paper to practice. This includes increased clarity of roles and responsibilities in terms of who is responsible to coordinate what initiative and who will be held accountable for the end result? Who will mediate between stakeholders when their views and interests clash and who will make a decision on disputes? It also includes gathering data on the use of natural resources by different stakeholders and sharing this transparently. This data could also guide the private sector's environmental investments and bring much needed transparency in what the various stakeholders are taking from and giving back to the environment.

During the interviews, diverse interpretations of the social and environmental performance of the companies (flower farms and hotels) emerged, each based on different sets of information. The lack of transparency of information and the perceived lack of (financial) commitment to collaborate with other stakeholders around the lake has resulted in companies being the scapegoat of all that goes awry with nature.

This finger pointing is part of a larger 'blame game', stirred by power differences, the lack of access to verified, factual information and the exclusion of certain groups in decisions that affect them. Being a visible contributing partner of a multi-stakeholder collaboration pursuing a common goal (such as the DSSB MSP)

allows partners to better understand each other's interests, dilemmas and challenges and adjust preconceptions or premature conclusions. This can be augmented by visiting each other's workplaces, discussing environmental efforts and asking for feedback. For example, companies could organise open days, show their operations to communities and NGOs and consult them on specific challenges, thereby including them in decisions that (in)directly affect them. Or the government could include communities in local policy development efforts. This speaks to the Vision report's (Baayen et al., forthcoming) guiding principle of 'Moving to decision-making for collective purposes with nature and biodiversity at the heart'.

NGOs and development partners also have a role to play in terms of care, responsibility and accountability. They are often described as supportive partners, providing skills, resources or knowledge sharing. Their responsibility may be framed by the goal, which is often either people or plant focussed. Therefore they may only focus on one livelihood aspect, disregarding the larger context. Such attitude has led to some stakeholder perceiving nature promoting organisations as anti-development, thereby creating tension with the government. In addition the international character of some development partners means there is strong linkage with agendas of other countries, which makes it important to create mechanisms for context based accountability and responsibility.

Building inclusive human relationships and sharing firsthand information will bring more transparency to who cares, is responsible and accountable for the regeneration of nature and biodiversity. This will stimulate trust amongst the actors, which is the key missing asset in the region.

What emerges from the case study is a picture of, on the one hand an almost romanticized picture of 'the community knows the value of nature and wants to take care' and on the other hand the cruel reality of high poverty levels with households pursuing a meal a day. The tension between inherent values of care for the environment and having food security (let alone a sustainable livelihood and a stable social-political environment) is a factor that should be navigated when moving towards a stewardship economy for biodiversity. When human survival is at risk, short term incentives are prioritized. Given the high population pressure, competition for land, the lack of economic opportunities for the youth and subsequent migration, it is not strange that short term perspectives win from longer term gains. It is important to highlight the role of youth in the way forward, given they constitute the majority of the population. Nevertheless, many of the problems and risks that youth face are gendered. Bevan and Pankhurst emphasise a wide range of the particular risks that adolescent girls often face, including abduction, rape and forced early marriage, high work burdens and dropping out of school, teenage pregnancy, denial of paternity and rejection by their parents, and facing difficulties with child care while working, trying to study or migrating. Young men face particular problems with access to land controlled by the older generation with ever decreasing land holdings, inability to find work that is well-paid, attractive or commensurate with their expectations related to their level of education. (Pankhurst, Dom, and Bevan, n.d.) Taking account of the engendered challenges of youth shows the complexity of the task at hand: to balance livelihood security with stewarding nature.

The tension between economic and environmental interests plays out at all levels. At federal and regional level, the government needs to choose between investments generating foreign currency and economic development on the one hand and environmental protection and restoration on the other hand. This tension is aggravated when a government is dealing with internal conflict, which was the case at the time of the research. Having a deep understanding of the relationship between humans and nature, based on integrity of facts of the functionality of nature and biodiversity for future generations, can help decision-makers deal with these tensions. In any transition, trade-offs between different areas need to be made. However, they need to be made based on verified facts and insights and for the common good. This speaks directly to the Vision report's guiding principle of 'Fostering integrity of facts of human-nature relationships for large scale transformations.'

5.2 Stewardship in a context of conflict

This case study clearly illustrates the co-dependency of human and environmental safety. A safe operating space for people provides an operating space for nature where environmental and social boundaries are respected. The future pathways envisioned by interviewees and the way forward proposed in our discussion

section cannot be achieved in a context of conflict. Children, youths and adults cannot learn and expand their awareness on environmental protection if they do not feel safe. Young people also have other responsibilities in conflict situation, for example to join a resistance group or protect the family. Participatory community governance systems or multi-stakeholder collaborations do not work effectively to steward nature if there is a lack of trust and accountability. Conflict shifts the attention of the community and the government and budget is reprioritized with the environment being a lower priority. On the other hand, conflict situation makes people more directly dependent on their local natural resources, as market structures also become limited. Alternative livelihoods (away from extraction and supporting the regeneration of natural resources) cannot be explored if the area is not safe and environmental policies will not be enforced if there is a lack of political stability. This was nicely summed up by one of the interviewees who mentioned that the abiotic environment needs to be arranged before the biotic environment can thrive.

A stewardship economy for biodiversity is based on a diversity of values (including environmental, economic and social/cultural values) and requires an safe operating space to share and discuss different perspectives and opinions with a focus on the common good. IPBES (2022) sets out a typology of four perspectives related to the valuation of nature (living from, with, in, as nature), each based on different sets of specific values (e.g. intrinsic, instrumental and rational), broad values (guiding principles and life goals), knowledge systems (academic, indigenous, local knowledge, practices and beliefs), and world views. A pluralistic valuation of nature implies that all aspects of the so-called Triple P elements, i.e. people, profit, planet, are incorporated and reflected by social, economic and environmental interests respectively. However, in a context of conflict focus is on the short term need, which is mostly the economic and connects to nature as utilitarian. Embracing diversity will stimulate participatory negotiation and lead to policy integration, partnerships and shared responsibilities (IPBES, 2022). This requires trust, a key asset missing in contexts of conflict. More justice will contribute to a reduction of the pressure on nature and biodiversity.

5.3 Projection towards a SE for biodiversity in Ethiopia

Creating a Stewardship Economy will be challenging in a context of conflict, making peace and stability an important ambition. However, incentives and ambitions can be created that support a Stewardship Economy for Biodiversity. For example, through policies and implementation guidelines, including accountability measures (see above). Government has to come up with different initiatives like green legacy, that could motivate the community to protect their environment. In addition, through stewardship focused income opportunities – monetary incentives (e.g., fees from eco-system services; compensation for stewarding the environment). We need to make incentives for local communities (esp. innovators), because when they get paid for the work, community feel ownership of the land. The idea of payment for restoration or incentives for restoration seems to fit in making nature part of a neo-liberal economy (i.e. neo conservatism), and may therefore not be directly stewardship that recognizes the intrinsic value of biodiversity or nature. However, it may provide a first steps towards stewardship practice. The priority should be on financial strategies that facilitate transformative change, rather than on assessing and monetizing natural capital and biodiversity (Maechler and Boisvert 2024).

New financial tools such as green finance and payments for ecosystem services are poised to address existing gaps and support initiatives that are beneficial to biodiversity. On the other hand taxes, it was also suggested to implement stewarding tax rules, that requires private sector to invest a percentage of their income into the environment. For example, resorts could ask tourists to pay 3birr for environment restoration; creating investment and tourist awareness.

Education and awareness raising also remain important. However, for action other context specific incentives are needed. For farmers and communities health and good life perspectives, which means there need to be practice that also create good livelihood opportunities. For other stakeholders such as private sector, reputation and long term productivity is important and could be a lever for stewardship in the local region. This means also creating connection to the local environment for companies that focus on export. For example, in the case of lake Ziway, it was suggested that the flower farms to give a flower profile to batu town, but all the products are exported. There is also a role for consumers to request production to be considerate of the environment.

Building on social-cultural practices are also needed to move towards a stewardship economy. This could include customary systems or by-laws. This also recognizes the intrinsic value that nature has, and its connection to the cultural identity of the communities. Lastly, multistakeholder collaborations are important to connect stakeholders and create connections on responsibility and accountability. Multistakeholder collaborations are an opportunity for companies, communities, government and NGOs to get to know each other's realities better and operate from the same level of information. Such collaborations have been challenged by a lack of accountability mechanisms, therefore trust and larger legal frameworks may a be foundational for this to work.

References

Aberra Jemberre. 2000. An Introduction to the Legal History of Ethiopia: 1434-1974. Münster, Hamburg, London: LIT-Verlag.

Atakile Beyene. 2004. Land Tenure and its Challenges to Agricultural Development: A Case Study of a Smallholder-Farming System in Tigray, Ethiopia. In Proceedings of the First International Conference on the Ethiopian Economy, Volume II Seyoum, A. et al., eds. Addis Ababa: Ethiopian Economic Association (EEA).

Baayen, R., Linderhof, V., Hermans, T., Hendriks, K., Kruft, K., Raoult, J. Michels, R., and Nel J. (forthcoming). Vision for a stewardship economy for biodiversity: background report. WEcR-report. Wageningen: Wageningen University and Research

Charmaz, Kathy, and Robert Thornberg. 2021. "The Pursuit of Quality in Grounded Theory." *Qualitative Research in Psychology* 18 (3): 305–27. https://doi.org/10.1080/14780887.2020.1780357.

Cohen, J. M. and D. Weintraub. 1975. Land and Peasants in Imperial Ethiopia: The Social Background to a Revolution. Assen: Van Gorcum

Crewett. 2008. *Land Tenure in Ethiopia: Continuity and Change, Shifting Rulers, and the Quest For State Control*. International Food Policy Research Institute. https://doi.org/10.2499/CAPRiWP91.

Dessalegn Rahmato. 1984. Agrarian Reform in Ethiopia. Scandinavian Institute of African Studies, Uppsala.

Duressa, E.L. 2018. Oromo Indigenous Philosophy (Gadaa System): The Case of 74thGujii Oromo Gadaa Power Transition. Historical Research Letter 45, 39-48. https://core.ac.uk/download/pdf/234668768.pdf

Gaventa. 2006. "Finding the Spaces for Change: A Power Analysis." *IDS Bulletin.* 37 (6). 23-33.

Hoben, A. 1973. Land Tenure among the Amhara of Ethiopia. The Dynamics of Cognatic Descent. Chicago, London: The University of Chicago Press.

IPBES 2022. Methodological Assessment Report on the Diverse Values and Valuation of Nature of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Balvanera, P., Pascual, U., Christie, M., Baptiste, B., and González-Jiménez, D. (eds.). IPBES secretariat, Bonn, Germany. https://doi.org/10.5281/zenodo.6522522

Joireman, S. 2000. Property Rights and Political Development in Ethiopia and Eritrea. Oxford: James Currey.

Lavers, Tom. 2018. "Responding to Land-Based Conflict in Ethiopia: The Land Rights of Ethnic Minorities under Federalism." *African Affairs* 117 (468): 462–84. https://doi.org/10.1093/afraf/ady010.

Maechler, Sylvain, and Valérie Boisvert. 2024. "Valuing Nature to Save It? The Centrality of Valuation in the New Spirit of Conservation." *Global Environmental Politics* 24 (1): 10–30. https://doi.org/10.1162/glep_a_00734.

Narayan, Deepa, Raj Patel, Kai Schafft, Anne Redemacher, and Sarah Koch-Schulte. 2000. "Can Anyone Hear Us?" In, 1:343. Voices of the Poor. Washington, D.C. USA: World Bank and Oxford University Press. https://www.participatorymethods.org/files/can%20anyone%20hear%20us_Narayan.pdf.

Pankhurst, Alula, Catherine Dom, and Philippa Bevan. n.d. "Twenty Rural Communities in Ethiopia and How They Changed: Introducing the WIDE Research and the Selected Policy-Relevant Topics."

UNESCO. 2016. "Gada System, an Indigenous Democratic Socio-Political System of the Oromo." UNESCO Intangible Cultural Heritage. 2016. https://ich.unesco.org/en/RL/gada-system-an-indigenous-democratic-socio-political-system-of-the-oromo-01164.

Woodhill, Jim. 2008. "Shaping Behaviour: How Institutions Evolve." *The Broker*, no. 10 (October), 4–8.

Appendix 1 Interview guiding questions

- Explanation of project: Project topic, partners, data management, outputs – information sheet
- Consent for notes on questions (outputs of the research, anonymized, can say no to a question, recording – we can share in a document)

Defining 'Stewardship Economy'

**may be defined as an economy that takes responsible management of land use, environmental pollution, and natural resources, and nature including biodiversity and take this responsibility systematically into account in its decision-making. This means organizing ourselves in a way what we take care of land, natural resources, life and creating livelihood in a way that regenerates natural resources and nature. Stewardship economy is therefore a way that we can improve biodiversity* - NOTE: This is our definition of stewardship economy, important to see if interviewee agrees or see this differently.*

1. When you hear this definition of the concept, do you recognise (parts of) this in your work? How does it link to your work? How does it resonate with your work?
2. Could you describe the state of nature and biodiversity in Dembel-Shalla sub-basin?
    a. Have you witnessed practices by local communities of stewardship of nature and biodiversity in the Dembel-Shalla sub basin? Have you witnessed practices against? Could you give some examples? (How people relate)

Practices, values and motivation - Case study Stakeholders

3. Can you share any practices (actions) of your organization that you would consider fitting under Stewardship of nature and biodiversity? What other actions do you see beyond your organization (e.g. Ethiopian society)
    a. Prompt: can be in different sectors or at different scales: local, regional, national, international

Interest-influence matrix

4. Who among the stakeholders have a high interest?
    a. What about your own organization?
5. Who has a low influence?
6. For each of these stakeholders, what drives their high or low interest in nature and biodiversity?
    a. Prompt: What values are these practices based on? (think of nature as an intrinsic value to people, social, cultural, political, or commercial values)
    b. Prompt: can be in different sectors or at different scales: local, regional, national, international

Force field analysis

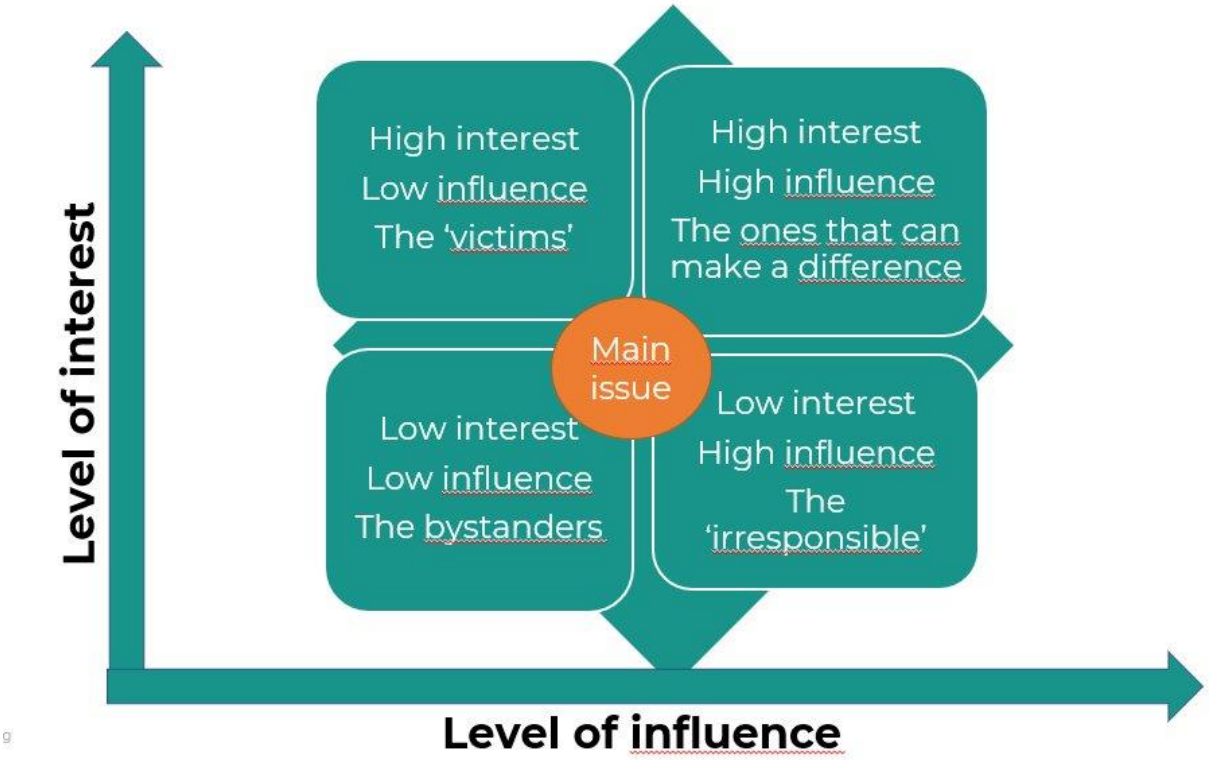
7. What are the current conditions supporting stewardship practices for nature and biodiversity around Dembel Shalla Sub basin?
    a. Prompt: why or in what way?
8. What are the current conditions restraining stewardship for nature and biodiversity?
    a. Prompt: They can be legal, economic, political or technological. Why or in what way?

Perspective on the future (pathways)

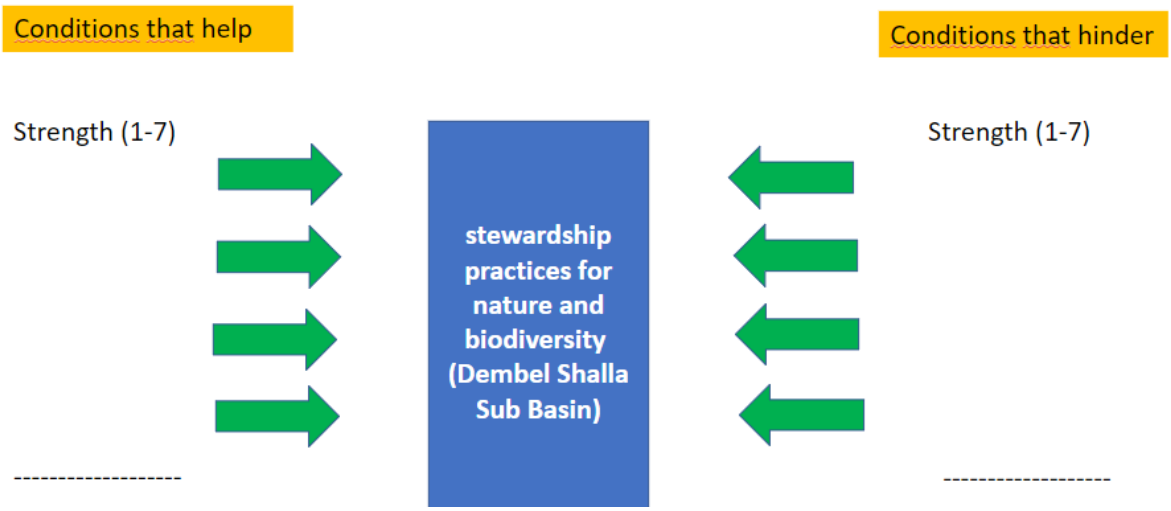
9. What is your vision on the future of the Dembel Shalla sub-basin?
    a. With respect to nature and biodiversity?
    b. How does stewardship/safeguarding/landscape approaches play a role in that?
10. Having discussed the current situation, what needs to happen to achieve this vision?
    a. Prompt: can be at different levels from local -regional -national-international
11. Who would be needed for what actions?
12. What would you like to do personally to make this vision a reality?

Appendix 2 Visualisation of approaches

Interest-influence matrix



Force field analysis



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The mission of Wageningen University & Research is "To explore the potential of nature to improve the quality of life". Under the banner Wageningen University & Research, Wageningen University and the specialised research institutes of the Wageningen Research Foundation have joined forces in contributing to finding solutions to important questions in the domain of healthy food and living environment. With its roughly 30 branches, 7,700 employees (7,000 fte), 2,500 PhD and EngD candidates, 13,100 students and over 150,000 participants to WUR's Life Long Learning, Wageningen University & Research is one of the leading organisations in its domain. The unique Wageningen approach lies in its integrated approach to issues and the collaboration between different disciplines.