COUNTRY PROGRAMME LANDSCAPE STRATEGY (CPLS)

COMMUNITY DEVELOPMENT AND KNOWLEDGE MANAGEMENT FOR THE *SATOYAMA* INITIATIVE (COMDEKS) IN ETHIOPIA

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ACRONYMS

CBOs	Community Based Organizations
COMDEKS	Community Development and Knowledge Management for the *Satoyama* Initiative
CPS	Country Programme Strategy
CRGE	Climate Resilient Green Economy
CSA	Central Statistical Authority
FGD	Focused Group Discussion
GEF	Global Environment Facility
GG	Gilgel Gibe
KM	Knowledge Management
M&E	Monitoring and Evaluation
NC	National Coordinator
NGO	Non Governmental Organization
NSC	National Steering Committee
SEPL	Socio-Ecological Production Landscape
SGP	Small Grants Programme

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Summary

Ethiopia is one of the most populous countries in Africa, with the majority of the population living in rural areas.[1] The country is heavily dependent on the agricultural sector which accounts for almost half of the GDP. Despite its natural resources endowment, the country is entangled with poverty, food insecurity and environmental degradation. Environmental problems such as deforestation, biodiversity loss, land degradation, etc. have become part of the national agenda as they are associated with reduced crop productivity and greater vulnerability to famine, and they are ultimately linked to the problem of poverty. It is widely recognized that, if left unchecked, natural resource degradation can cause serious impairment of the environment's ability to maintain the country's population, even at the existing level of poverty.

Cognizant of these facts, the government has taken initiatives to formulate appropriate policy measures to combat the twin enemies of the country's economic development (poverty and environmental degradation). Accordingly, it is indicated in the national environmental policy and the Constitution as well as in the macro-economic development policy that ensuring environmental sustainability is a prerequisite for lasting success in sustainable economic development of the country.

This strategy document, which is referred to as 'COMDEKS Country Programme Landscape Strategy, (COMDEKS CPLS)' with the facilitation and financial support from the Community Development and Knowledge Management for the Satoyama initiative Project,[2] was developed by a multidisciplinary team of experts from Jimma University with community participation. This strategy is in line with the government's effort of ensuring environmental sustainability and human well-being.

Ethiopia is one of the countries selected for piloting COMDEKS, and the selected Socio-ecological Production Landscape (SEPL) for the implementation of COMDEKS CPLS is Gilgel

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[1] The Country has a total population of 82 million growing at an average annual rate of about 3%.

[2] Funded by the Japan Biodiversity Fund setup within the CBD Secretariat, the COMDEKS project is implemented by UNDP, and delivered through the GEF Small Grants Programme (SGP), allowing for a fast, flexible, and proven mechanism to reach communities and civil society at the local level.

Gibe 1 (GG 1) catchment, which is located in the southwestern part of the country. The SEPL baseline assessment has been conducted for the target area and this document (COMDEKS CPLS) has been developed on the basis of the findings from the baseline assessment.

The priority area identified for the implementation of COMDEKS CPLS is decided to be Gilgel Gibe 1 catchment due to the recognized environmental problems of the landscape attributed partly to conflict between local and central needs despite its substantial contribution in terms of both environmental service provision and national economic development, especially through generating hydroelectric power. COMDEKS CPLS is developed with the overall goal of enhancing the resilience of the socio-ecological production landscape (SEPL) of the priority area on a sustainable basis through community-based project interventions, which have the potential to address the envisioned local and central needs.

The COMDEKS strategy will guide the selection of COMDEKS activities in the selected landscape. COMDEKS grant making is expected to generate key lessons on community-based best practices to maintain and rebuild socio-ecological production landscapes toward the realization of "societies in harmony with nature", as defined as the vision of the Satoyama Initiative. The Satoyama Initiative is a global initiative to promote sustainable use and management of natural resources in socio-ecological production landscapes with the aim of maintaining, rebuilding and revitalizing them.

In particular, in Ethiopia, eligible projects will be proposed and owned by community based organizations working in the Gilgel Gibe watershed area on the basis of established eligibility and selection criteria in accordance with this CPLS. Some of the potential community-based projects that will be funded, with COMDEKS financial and technical support, to achieve socio-ecological production landscape resilience, within the broader context of biodiversity conservation and improving the livelihood of the community, are fisheries, apiculture, animal fattening, integrated landscape management, energy saving stoves, alternative energy sources, integrated crop and animal production, Gilgel Gibe dam buffer zone management through use of multi-purpose species of trees/shrubs and grasses, improving market access and others.

1. Priority Area and Scope of COMDEKS CPLS in Ethiopia

Gilgel Gibe 1 (GG 1) catchment wass selected for COMDEKS CPLS for different reasons. The fact that the recognized environmental problems of the GG 1 landscape are linked to climate change, conservation of biological diversity, and land degradation considerations is the major justification. Moreover, the location of GG 1 catchment in the southwestern part of the country (which is one of the identified geographic focus areas of GEF SGP, Country Programme Strategy-CPS) is one of the key factors for its selection. Also, there are massive investments on Gibe-Omo basin that need to consider the environmental impacts of such investment on biota in the downstream area. Therefore, there is a strong link between COMDEKS CPLS and GEF SGP CPS both in terms of geographic and thematic focuses and, as a result, the implementation of COMDEKS CPLS will have a complementary role to OP_5 of CPS. It is expected that COMDEKS grant funding will be matched as co-financing of an equal amount in regular funding from SGP at the landscape level. Because of the severity of land degradation in the country, there are a number of other NGOs, which are focusing their activities on addressing the problems of land degradation. Among these organizations, Sustainable Land Use Forum (SLUF) is undertaking various restoration activities of degraded lands in the same geographic area (GG 1) and, therefore, there is a potential to seek partnerships.

It is evident that there has been continuous biophysical resource degradation in the GG 1 catchment resulting in both on-site and off-site consequences threatening socio-economic development and sustainable environmental management. The major on-site effect is the loss of fertile soil through water induced soil erosion and the associated impact on agricultural production, while the off-site impact is increasing sediment deposition in the reservoir of Gilgel Gibe 1 hydroelectric power dam (which is one of the major hydroelectric power generating dams of the country). On the other hand, in certain localities of the catchment, well integrated and heterogeneous land use systems with the potential to contribute to socio-economic and environmental resilience are practiced even though they need to be scaled-up. Therefore, the GG 1 is identified as the priority landscape for COMDEKS CPLS, and the implementation of the strategy is believed to substantially contribute to enhancing the SEPL resilience of the target area

through community-based projects. The target landscape is characterized geographically as follows.

1.1 Location

The target area is located in Oromia regional state in Jimma zone at about 260 km South West of Addis Ababa and about 55 km north-east of Jimma city. The target area, which is enclosed within four District namely Sekoru, Omo Nada, Kersa and Tiro Afeta, is located in the Gilgel Gibe catchment with a total area of 127,800 ha (1278 km^2). Astronomically, the target area is found within 8º0'0'' to 7º30'0'' latitude and 37º50'to 37º25' longitude at an altitudinal range of 1590-3350 m above sea level. Map of the target area is shown in Annex A.

1.2 Climate

The climate of the landscape is sub-humid and the main rainy season is between June to September with a mean annual rainfall ranging from 1300 to 2000 mm. Temperature is fairly constant throughout the year, with the mean minimum, maximum and average temperatures at 1800 m altitude (Jimma station) being 11 °C, 25 °C and 17 °C, respectively.

1.3 Geology and Soils

The geology of the catchment is very complex and is dominated by Eocene and Paleocene volcanic rocks, related to the East African rift valley (Tadesse *et al*., 2003). Many remnant volcanic landforms, such as cone structures, lava flows, mudflows, plugs, etc. can readily be recognized in the landscape. The volcanic rocks and materials identified in the field include basalts (hawaiites), trachytes, rhyolites, tuffs, ignimbrites and ash deposits. The major reference soil groups in the catchment are Nitisols, Acrisols, Ferralsols, Vertisols and Planosols. The lower valley areas along the river are filled up with alluvium and lacustrine sediments. The soilscapes, with associations of Planosols and Vertisols, are mainly used for grazing.

1.4 Vegetation

The natural vegetation of GG 1 SEPL has been heavily cleared (except some remnant scattered trees/shrubs and patches of planted *Eucalyptus* species within the landscape) for the expansion of agriculture, settlement, fuel wood and construction purposes. The surrounding hills consist of severely exposed and eroded parts of the local landscape. The major scattered tree species

incorporated in the farming system include *Cordia africana, Albizia* species*, Croton macrostachys, Sesbania sesban* and *Millettia ferruginea* for serving multiple purposes, among which shade provision for coffee in the home garden, is the major one. Overview of the landscape showing patches of vegetation is shown in Annex B.

1.5 Biodiversity

The target area had been known for its particularly well integrated spatially heterogeneous areas characterized by diverse/mosaics landscape. The biodiversity of the landscape can be described in various settings, ranging from relatively natural, terrestrial and aquatic systems such as forests, grasslands, wetlands to human-dominated environments including agricultural, rural and urban settings which are continuously interacting with various components of the environment.

In the past it was characterized by dense natural forest with different indigenous tree species especially in the mountainous areas, which serve as the source for timber, fuel wood, construction materials and medicinal plants to some extent, and as home to various wildlife ranging from birds, bats, rodents, monkeys and waterbuck to carnivores like lions, tigers etc. However, at the present, there are limited remnants of high forests (Geshe forest, as part of Tiro Boter Becho state forest), woodlands, riverine vegetation, bush lands, shrubs and man-made forests. Although there are no game reserves, various wild animals such as pigs, warthogs, apes, porcupine, spotted hyena, hippopotamuses, civet cats, baboons, colobbus monkeys, foxes and antelope are found in the area.

Despite its rich history of biodiversity; deforestation, logging, expansion of farming and population growth are placing extreme stresses on the forest resources resulting in serious threats to the sustainability of the rich biodiversity and to the resilience of the landscape at large. This is the result of various factors like poor land-use planning, inappropriate farming practices, weak implementation of environmental policies and inadequate empowerment of communities. On the other hand, the livelihoods of the communities are very much linked to the sustainability of various ecosystems of this SEPL. This indicates that in spite of the ecological, economic and cultural functions of the SEPL of the target area, the biodiversity of the landscape has not yet received adequate attention by both federal and local administrations. Moreover, the target area,

Gilgel Gibe 1 catchment is a hotspot for the Omo-Gibe basin in general and to Gilgel Gibe 2 and 3 dams, and it finally tails up to Lake Turkana. Therefore, due to its recognized local, national and international values, the target area is selected for COMDEKS CPLS to address the above mentioned environmental problems through community based initiatives.

1.6 Socio-Economic Conditions

Historically, the target area has been considered one of the food-surplus producing areas of Ethiopia. But, beginning in 1997 poor crops harvests and the appearance of crop diseases such as grey leaf spot, caused by the fungus *Cercospora zeaemaydis* led to deterioration in conditions of production. By 1999, signs of the seriousness of the situation included empty household granaries, people begging and committing crimes, sending children to live with relatives or friends, and reduced student enrollment in schools. Food insecurity has risen over the past 15 years existing in the area as both severe and non-severe with 37% inhabitants experiencing it overall. There is a gender differential for food insecure households. Food insecurity is mainly due to natural and human induced hazards. According to the Ethiopian Central Statistical Agency (CSA, 2010), in 2010 the total populations of the four Districts was estimated at about 743,881. With an area of 127,800 hectares, GG 1 catchment has a population density of 5.82 people per hectare. The majority (85.65%) of the inhabitants are Muslims, while 11.18% of the population practiced Ethiopian Orthodox Christianity and 2.97% professed Protestantism. The three largest ethnic groups reported in the area are the Oromo (87.6%), the Amhara (4.05%) and the Yem (3.12%); all other ethnic groups made up 5.23% of the population.

The principal crops grown are maize, sorghum, teff and coffee. Food crops grown (in order of importance) are maize, teff and sorghum. The largest earning cash crops are maize, coffee, peppers, and chat. The main livestock kept are cattle, goats, sheep, donkeys and chickens. Market access is considered good due to the number of all weather roads passing the target area and the proximity of localities to urban market centers. Land area cultivated, livestock ownership (especially oxen) and household size are the chief determinants of wealth. Perennial crops (coffee and chat) also help to differentiate households' relative wealth. The primary sources of food are own crop production, payment in kind and purchase. With the exception of the very

poor wealth group, all other groups produce more than half of their annual food requirement from their fields. Maize and Sorghum are the main crops consumed by poorer households. A significant part of annual incomes for all wealth groups comes from own crop sales. Maize is the largest cash earner in the area. After maize, coffee, peppers, chat, sorghum and teff also contribute to cash incomes. All households sell cattle, goats and chickens. Weeding, harvesting and construction labor generates income for poorer households. Non-staple food, household items, and agricultural inputs are the largest expenditure categories. Non-staple food and household items make up the main areas of spending for poorer households. Wealthier households spend primarily on inputs.

The principal chronic diseases are *trypanosomiasis* (affecting cattle and donkeys), blackleg (cattle) and stalk borers (attacking maize and sorghum). Additionally, periodic crop pests and diseases affect the target area every 2-3 years. Coping strategies for poorer households include seeking additional casual labor, reducing non-essential expenditures and taking loans from better-off households. For better-off households, coping strategies includes increasing the sales of livestock and crops, consuming stocks and savings as well as reducing non-essential expenditures.

1.7 Landscape Characteristics

Topographically, the landscape is characterized by dissected plateaus, mountains (May Gudo, Gudaje, Dasu Boret, Geshe, Haro, Gebera, Hako Albiti, Sume, Gora, Kero, Folla, etc.); hills, plains (Boneya, Nada,Tiro Shashema, Doyo Kobota, bekejati, etc.) and valleys (Kara Gora, Tikursume, etc.). Gilgel Gibe, Kersa, Busa, Nedi, Aleltu, Nada Guda, Beyem, Bulbul, melekta, awetu, Birbirsa, Kersu and Kelechaare are the major perennial rivers, and there are also other seasonal streams that are flowing through the target area.

The target landscape has been modified over years by the interactions between people and nature in a way that degrade biodiversity while providing humans with goods and services needed for their wellbeing. This is mainly due to the heavy dependence of the majority of the local people on subsistence agriculture, which in turn has resulted in a heavy dependence on natural resources.

As a consequence, the current features of the landscape indicate that there is a problem of land degradation, which mainly manifests itself in the form of deforestation and dramatic loss of productive lands due to water induced soil erosion. The severity of erosion could be noticeable by the formation of too deep, wide and large gullies everywhere, both on cultivated or uncultivated lands. This is because of the rugged topography that surrounds the Dam with elevation ranging from 1590-3350 m with 1760 meter difference especially in the direction of Northwestern, South, and Southeastern parts of the dam in which tributary river lies on this topography (Annex C). In addition to those contributing factors, exploitative farming system, cultivation of steep lands without applying conservation practices, overgrazing, deforestation and improper land use practices are recognized as accelerating factors of soil erosion and land degradation in the area. This further affects the hydroelectric dam by increasing the level of siltation and raising the level of the water above the carrying capacity.

Moreover, rapid and extensive deforestation caused largely by the expansion of farmland, cutting of trees for fuel wood, charcoal and raw materials for different construction purposes are among the widespread environmental problems in the area. This degradation is manifested in the form of losses of vegetation cover, losses of biodiversity, soil fertility depletion in agricultural lands, massive soil erosion, disruption of hydrologic process which resulted in drying up of rivers, streams and springs during dry season and severe desertification process, and its ecological and socio-economic consequences.

2. Situational Analysis of the landscape

The Government of Ethiopia has made an unprecedented commitment to improve the livelihood of its people, with the vision to advance the country to a middle income status within a short period of time (by 2025). To this end, huge investments and expansions in infrastructure development have been made during the last couple of decades. The government is investing in power, telecom, health services, agriculture, education, etc. On the other hand, the country is experiencing rapid population growth and severe environmental degradation, which result in widespread poverty and chronic food insecurity. Among the environmental problems, it is acknowledged that climate change is causing wide-ranging effects on different sectors including

water resources, agriculture and food security, human health, terrestrial ecosystems and biodiversity conservation.

Gibe-Omo Basin, in which the target area is situated, is one of the major watersheds in Ethiopia where three hydroelectric power stations, with a cumulative capacity of 2474 MW electric production, are located. The basin is generally characterized by rugged topography and severely degraded ecosystems due to deforestation, overgrazing and poor land management. As a result, the lifespan of the dams is threatened by siltation on top of the sharp decline in agricultural production.

2.1 Landscape Baseline Assessment and SEPL of the Target area

A landscape-wide baseline assessment of the Socio-Ecological Production Landscape (SEPL) of the target area was conducted to assess the overall performance of SEPL. The set of indicators for resilience in SEPL developed by the *Satoyama* initiative was used during the assessment. The resilience indicators of the scorecard exercise were developed in line with the four major goals, namely ecosystems protection and the maintenance of biodiversity; agricultural biodiversity; knowledge, learning and innovation; and social equity and infrastructure. Participants covering a diversified group of stakeholders working in the target area, including agriculture and rural development officers (agricultural extension and natural resource management departments), land administration and environmental protection officers, gender officers and officers from the water resource and energy sector, health sector and elder members of the community, took part in the scorecard exercise. The exercise was performed as per the guidelines provided by the *COMDEKS* project by rating (scoring) with a scale between 1 to 5 (1 means the landscape performs very poorly on that criteria and 5 means maximum resilience) for each criterion of the four major goals. Moreover, Focused Group Discussion (FGD) with community members of the selected kebeles of the landscape was made to supplement the scorecard exercise (Annex D). For the FGD, 9 groups (4 women's, 4 men's and 1 expert groups) were identified and participated in the discussion that was led and facilitated by professionals.

The result of the scorecard exercise, which shows the overall resilience of the SEPL of the target area in terms of the four goals, is shown in figure 1 below in a radar diagram or spider gram.
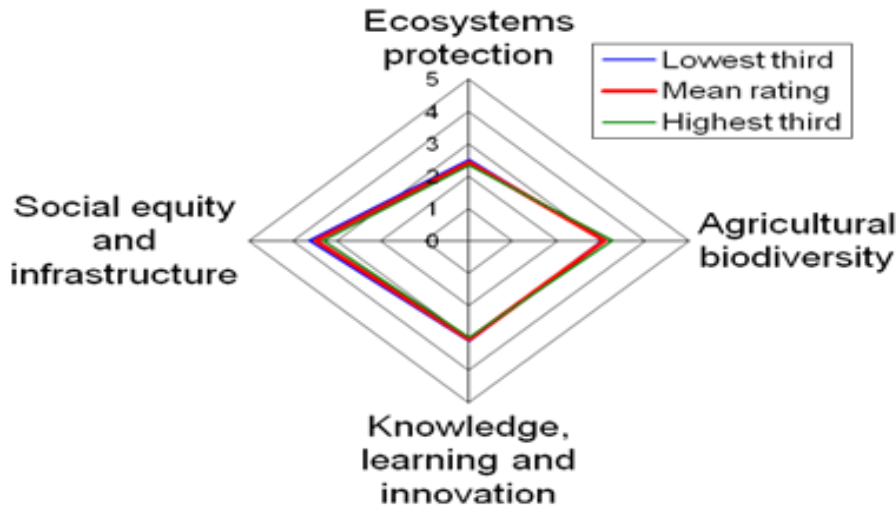
Fig. 1 Radar Diagram showing SEPL Resilience of Gilgel Gibe 1 Catchment

As can be seen from the radar diagram above, there is relatively minimum resilience of the SEPL from the perspective of the ecosystem protection and maintenance of biodiversity as compared to other components of the landscape.

2.2 Major Threats of the Landscape

The discussion held with the scorecard participants and the result of the FGD indicated that there are different threats of the landscape that contributed to the reduced resilience regarding ecosystem protection and maintenance of biodiversity. These threats include:

- Deforestation and fragmentation of forest ecosystems, and conversion of forestland to farmlands;
- Soil degradation including soil erosion and associated soil fertility decline, flood hazard;
- Sedimentation/siltation;
- Conversion of heterogeneous ecosystems of the landscape (such as forests with the associated biodiversity) into more of homogeneous agricultural production systems due to increased demand for farmlands, which has resulted from increased population pressure;

- The poor living condition of the communities and lack of alternative livelihood mechanisms that have led to encroachment/expansion of farmlands to other ecosystems with steep slopes, which are not appropriate for farming;

- Traditional and extensive farming system and the associated low productivity of the agro-ecological systems (especially low yields of agricultural production), which in turn lead to deforestation of hillside vegetation looking for more fertile/productive lands;

- Heavy dependence on biomass (mainly fuel wood) for use as energy source due to lack of alternative energy sources;

- Rapid population growth beyond the carrying capacity of the land resulting in smaller landholding sizes per individual households;

- Overgrazing of communal pasturelands resulting from increased livestock population and lack of adequate feed/fodder for livestock fattening through cut-and-carry system;

- Lack of awareness among the community members regarding the need for integrated landscape management, and lack of adequate conservation measures on a sustainable basis;

- Failure of introducing proper land use planning practices by concerned development organizations;

- Shift of donors approach: donors are moving away from project based support to budgetary support at national level.

It is also possible to see from the radar diagram that the resilience levels of the SEPL in terms of the other resilience components are not satisfactory. The major threats that have contributed to such low level of resilience, especially regarding knowledge, learning and innovation; and social equity and infrastructure include limited intergenerational learning (indigenous knowledge) about the environmental management, inadequate gender equity on access to resources (e.g. land distribution and inheritance), malnutrition, limited infrastructural development (potable water supply, electricity, telecommunication network, health services both for human and livestock).

2.3 Major Opportunities of the landscape

There are a number of opportunities both at national and landscape level for successful implementation of COMDEKS CPLS in the priority area. These include:

- The recently initiated national strategy by the government, which is called community based participatory watershed development (which focuses mainly on conservation of natural resources and ensuring food security);

- The established watershed committees at national, regional, zonal, district, kebele and community levels;

- Diversified and integrated land use systems like coffee and enset-based home garden agro-forestry practices in some parts of the landscape (which can be scaled-up);

- The strategic location of Jimma University closer to the target area with its innovative Community-based Education philosophy, and the on-going research projects of the University in the catchment area;

- Development of Climate Resilient Green Economy (CRGE) strategy and due emphasis given to ensuring environmental sustainability in the Growth and Transformation Plan (GTP) of the Ethiopian government;

- Existence of conducive policies in the country (Environmental, Water Resource, Rural Development and Biodiversity conservation and research);

- Capacity of the area to attract the attention of a growing number of GO (MoA, MoW, EPA) and NGO (SLUF, SANREM, EWNRA, GIZ etc.) development organizations.

3. Landscape Strategy

The landscape approach is an integrated approach of rural landscapes management to build synergies among food production, sustainable rural livelihoods, and conservation of biodiversity and ecosystem services. The approach emphasizes a participatory approach in which multiple stakeholders are involved at different stages of programme/project interventions starting from planning up to monitoring and evaluation. As experiences in different parts of the world show, an increasing number of actors in rural areas are finding that landscape approaches are necessary or advantageous to meet the desired objectives of environmental management and sustainable socio-economic development.

Therefore, in the implementation of COMDEKS Ethiopia landscape management strategy, the possibilities of reconciling biodiversity conservation with enhanced and sustained rural livelihoods should be given due consideration. Accordingly, the overall goal of COMDEKS CPLS is to enhance SEPL resilience of the priority area through community based-activities. Moreover, the strategy would also address the knowledge management aspect which includes documenting, sharing and disseminating lessons learned and good practices identified for application in development of other case studies both nationally and globally. The information about the current state of the SEPL of Gilgel Gibe 1 catchment, which were obtained during the baseline assessment of the landscape in a participatory manner through the scorecard exercise and Focused Group Discussion (FGD) with community members, are the basis for designing COMDEKS CPLS. The different components of the COMDEKS CPLS are outlined below.

3.1 Vision

The target area (Gilgel Gibe 1 catchment) would become resilient socio-ecological production landscape and harbors *societies living in harmony with nature* which could be realized through adaptive collaborative management. The implementation of COMDEKS CPLS fits into Ethiopia's CRGE national strategy, and hence it is expected that it will contribute its share to the realization of the overall country's strategy in the target area.

3.2 Main Outcomes and Impact Indicators (Annex E)

The major outcomes that are expected to be achieved for realizing the above vision are:

- Degraded ecosystems within the landscape restored through improved water, soil and vegetation management, contributing to ecosystem connectivity and enhanced ecosystem services; (strategic/long term result: the lifespan of the GG 1 dam sustained through improved buffer zone and watershed management);
- Increased and stabilized agricultural yields through crop diversification, agroforestry systems, tree plantations, integrated crop-animal systems and other approaches, as well as improved storage of agricultural products;
- Livelihoods of people in the landscape improved through developing eco-friendly small-scale community enterprises and improving market access;

- Effective community-based institutional governance structures in place for effective participatory decision making at the landscape level.

For assessing the extent of achieving the desired outcomes of COMDEKS CPLS, which are identified above, the scorecard exercise using indicators for resilience in SEPL (developed by the Satoyama Initiative and already conducted during the baseline assessment) can be repeated at certain intervals during project interventions of the programme or at the end of the programme implementation. The following indicators are identified for each outcome as per their order above (1-4):

Indicator for Outcome 1:

- Number of hectares of degraded ecosystems in the landscape brought under sustainable land and water resource management.

Indicator for Outcome 2:
- Number of hectares where more sustainable land use practices/systems are implemented by type: crop diversification, agroforestry systems, tree plantations, integrated crop-animal systems and other defined approaches.

Indicator for Outcome 3:

- Number of alternative income sources created through livelihood diversification.

Indicator for Outcome 4:

- Number of community-based institutions created or strengthened who are engaged in integrated landscape management.

4. Criteria for Project Selection and their Typology

It is expected that the COMDEKS country programme landscape strategy will be transformed into concrete actions through appropriate community-based projects, which are to be developed and executed by eligible NGOs and community-based organizations (CBOs). The following

sections, therefore, identify criteria to be considered for project selection and potential community-based projects in relation to sustainable environmental management and socio-economic development, which ultimately contribute to enhancing the overall resilience of SEPL of the target area (Gilgel Gibe 1 catchment).

4.1 Criteria for Project Selection

For the identification of sound potential community-based projects, it is necessary to set some pertinent criteria. The intended projects would be judged/assessed in terms of these criteria in order to ensure their efficiency and effectiveness for realizing the desired outcomes of the COMDEKS CPLS. Accordingly, the following criteria should be taken into account for identification of potential projects:

- Contribution of the projects to realizing the vision of the *Satoyama* initiative and that of COMDEKS CPLS, which is enhancing resilience of SEPL and ensuring societies life in harmony with nature;
- Strategic importance of the projects for the target landscape (i.e. biodiversity value and hotspots), projects that can affect the entire site through replication, projects that address policies, projects that link income generation to conservation, projects that address innovative areas;
- Due emphasis given to the role of gender in natural resource management and decision making;
- Relevance of the projects in addressing multiple threats and meeting different outcomes of the COMDEKS landscape strategy of the target area, which have been identified during the landscape baseline assessment;
- Acceptance of the projects by local stakeholders and communities of the landscape of the target area, and their willingness and commitment to the implementation of activities;
- Expected duration of the proposed project: projects should be implemented within one year.

4.2 Typology of Potential Community-based Projects

Based on the baseline assessment and on the basis of the above criteria, the following potential project typologies are identified to be implemented by community-based organizations or NGOs.

As shown below, the project typologies are described in connection with the respective strategic outcomes of the COMDEKS CPLS, which are already identified and believed to be achieved for realizing the overall resilience of the SEPL of the target area.

1. **Degraded ecosystems within the landscape restored through improved water, soil and vegetation management, contributing to ecosystem connectivity and enhanced ecosystem services (i.e. decreasing sedimentation, and leading to sustained lifespan of GG 1 dam).**

The severe biophysical resource degradation in most parts of the landscape of the target area has seriously influenced the resilience of ecosystems and production systems. This has resulted in some cases in the formation of deep gullies that have aggravated the problem of shortage of productive lands. Moreover, the flood hazard resulting from vegetation removal from the highland areas/peaks of the landscape has led to loss of life of people and their livestock in addition to loss of fertile soil and downstream siltation problems. This problem has been well recognized by the government and remedial efforts have already been initiated with massive involvement of the communities, especially in terms of construction of physical soil and water conservation structures.

Activities under this strategic outcome should supplement and further scale-up the already initiated restoration measures of the degraded ecosystems within the landscape. Among the potentially eligible activities, biological stabilization of the physical soil and water conservation structures could be considered a major priority. The biological stabilization measures require planting and growing appropriate multiple use species of trees, shrubs and grasses at critical points of the landscape. Multipurpose trees, shrubs and grasses can be planted in the buffer zone of the GG 1 dam to reduce siltation and thereby sustain the lifespan of the dam, as well as to be used as sources of fodder, bee flora, etc for supporting the livelihood of the local people.

2. **Increased and stabilized agricultural yields through crop diversification, agroforestry systems, tree plantations, integrated crop-animal systems and other approaches, as well as improved storage of agricultural products**

The landscape-wide baseline assessment indicated that the heterogeneity of the target landscape has changed over time, becoming a more homogeneous agricultural landscape as a result of increased human population pressure. In the past, there was better coverage of natural forest with associated biodiversity/wildlife resources and adequate wetlands, which contributed significantly to the resilience of the SEPL. As a result of changes in land use, there has been a serious impairment of socio-economic development and provision of ecosystem services.

At the same time, in some parts of the landscape, traditional practices of maintaining diversified land uses and conserving biodiversity in the agro-ecosystems by the communities have been observed during the baseline assessment. Therefore, there is a need to further improve and enhance these practices of conserving agro-biodiversity through community-based projects with the aim of contributing to the overall resilience of the SEPL. Under this strategic outcome, some of the specific projects that would be eligible for funding are crop diversification, agroforestry systems, multipurpose tree plantations, integrated crop-animal systems and other approaches, as well as improved storage of agricultural products.

3. **Livelihoods of people in the landscape improved through developing eco-friendly small-scale community enterprises and improving market access**

During the baseline assessment, it was found that the major driving force behind environmental degradation in the target area is poverty. Communities in the target landscape lack diversified livelihood strategies and hence are heavily dependent on land resources for their survival. The lack of alternative livelihoods has, for example, led to encroachment of the people into the dam buffer zone. This implies that attempts made to ensure environmental sustainability cannot be successful in isolation from creating possibilities of improving/supporting local livelihoods. Various potential eco-friendly sub-projects under the typology of small-scale enterprises can, therefore, be initiated particularly in the buffer zone of the dam with the dual purpose of contributing to the sustainability of the dam and the livelihood of the local communities. These projects include forage development and animal fattening through a cut-and-carry system, bee keeping/apiculture, fishery/aquaculture, etc. Moreover, improving market access through developing appropriate business plans should also be considered as an integral part of these

small-scale enterprises in order to enhance income generating capacity of CBOs engaged in the enterprises.

As it is indicated in the threat section of the situational analysis, heavy dependence on biomass for fuel wood is another contributing factor to the reduced resilience of the landscape. Therefore, as part of the small-scale enterprises, introduction and dissemination of alternative energy saving stoves/technologies can be considered as potential project types.

4. Effective community-based institutional governance structures in place for effective participatory decision making at the landscape level

Decision making at the landscape level cannot be effective without community-based institutions having the required capacities.

Therefore, potential projects under this strategic outcome may focus on creating or strengthening existing institutions and organizations at the landscape level for more effective collective decision making. Types of potentially eligible projects would involve more than one community and would be focused on activities and decisions that affect the management of the landscape and its elements as a system. Examples might include development or strengthening of water management associations, producers' associations, seed sharing networks, etc.

In general, it is estimated that 20 Community-Based Organizations and or NGOs will participate in implementing COMDEKS activities through Small Grant Program in the GG 1 Catchment landscape. The implementation of such activities through these CBOs/NGOs will directly benefit an estimated population of 20,000 inhabitants of the landscape apart from its wider benefit in terms of improving SEPL resilience.

While developing COMDEKS CPLS for the target area of GG 1 SEPL, the MIRADI software (which is an open standard tool and adaptive management software for conservation projects) was used for revealing a summarized and schematic presentation of the strategy. Accordingly,

the conceptual model and results chains developed by MIRADI are shown below (fig. 2 and 3). The figures show logical connections among the different components (as identified in the legend) in order to ultimately arrive at the desired vision of ensuring SEPL resilience in GG 1 catchment. The contributing factors indicated in the conceptual model include both indirect threats and opportunities identified during the baseline assessment. These factors are human-induced actions or events that underlie or lead to direct threats with negative effects (indirect threats) and positive effects (opportunities). The goals shown for each target are indicating the desired achievements in line with the identified strategic outcomes of COMDEKS CPLS, which are to be realized through the proposed potential project typologies identified above and are considered to be the major pillars for the overall resilience of SEPL in the target area.

The result chain is a diagram with a series of "if…then" statements that define how a given strategy of the programme is going to contribute to achieving a desired goal. It also indicates that with a given strategy, there are certain intermediate results expected to be achieved, which in turn lead to threat reduction result and ultimately results in achieving the goal of the corresponding target. For example, as shown in (fig. 3), promotion of eco-friendly small-scale enterprises is one of the strategies with intermediate results of (small-scale enterprises development, poverty reduction and deforestation minimization). These intermediate results lead to a threat reduction result of sedimentation minimization and water quality and quantity enhancement and this leads to addressing one of the targets or achieving one of the goals, which is sustaining the lifespan of GG 1 dam.
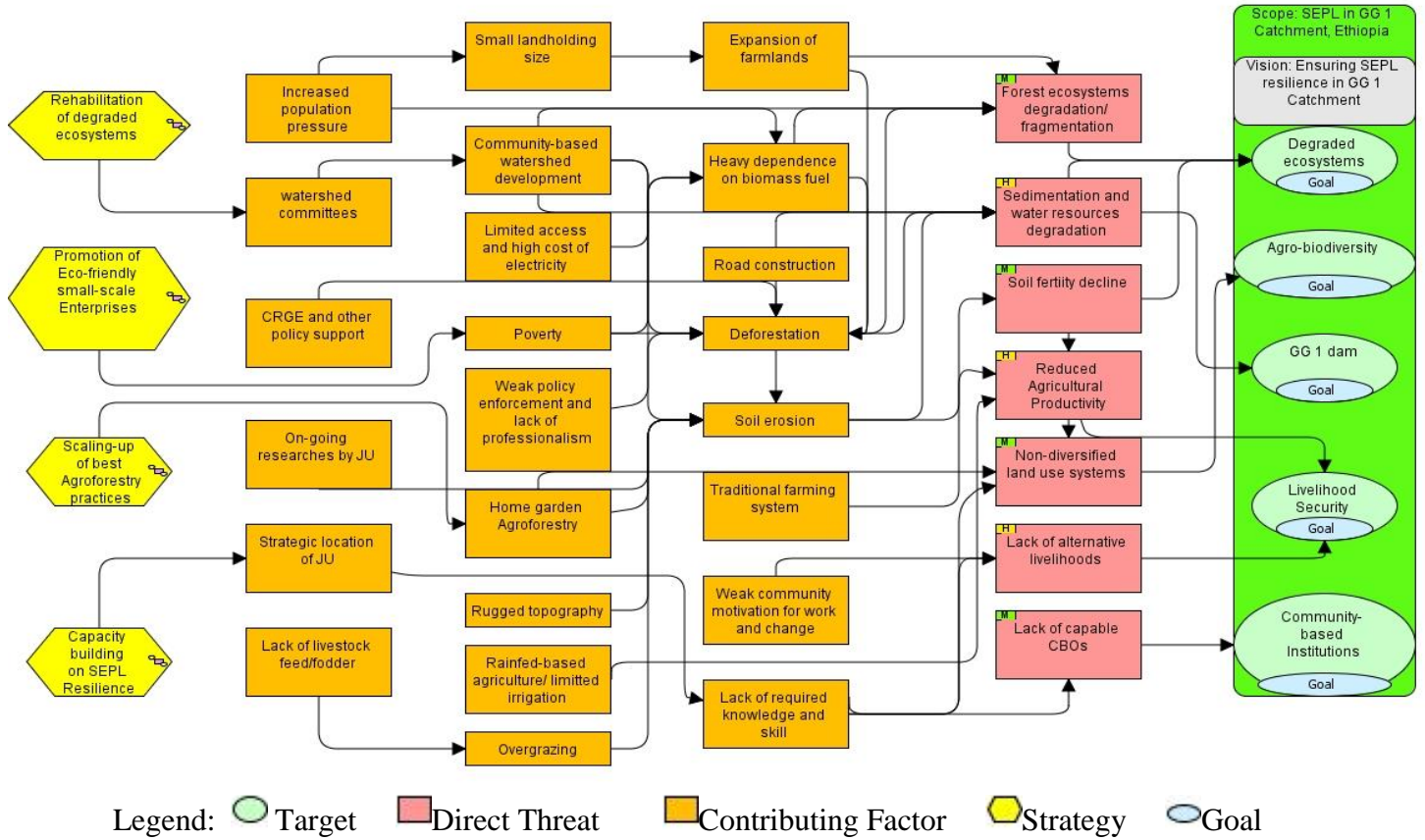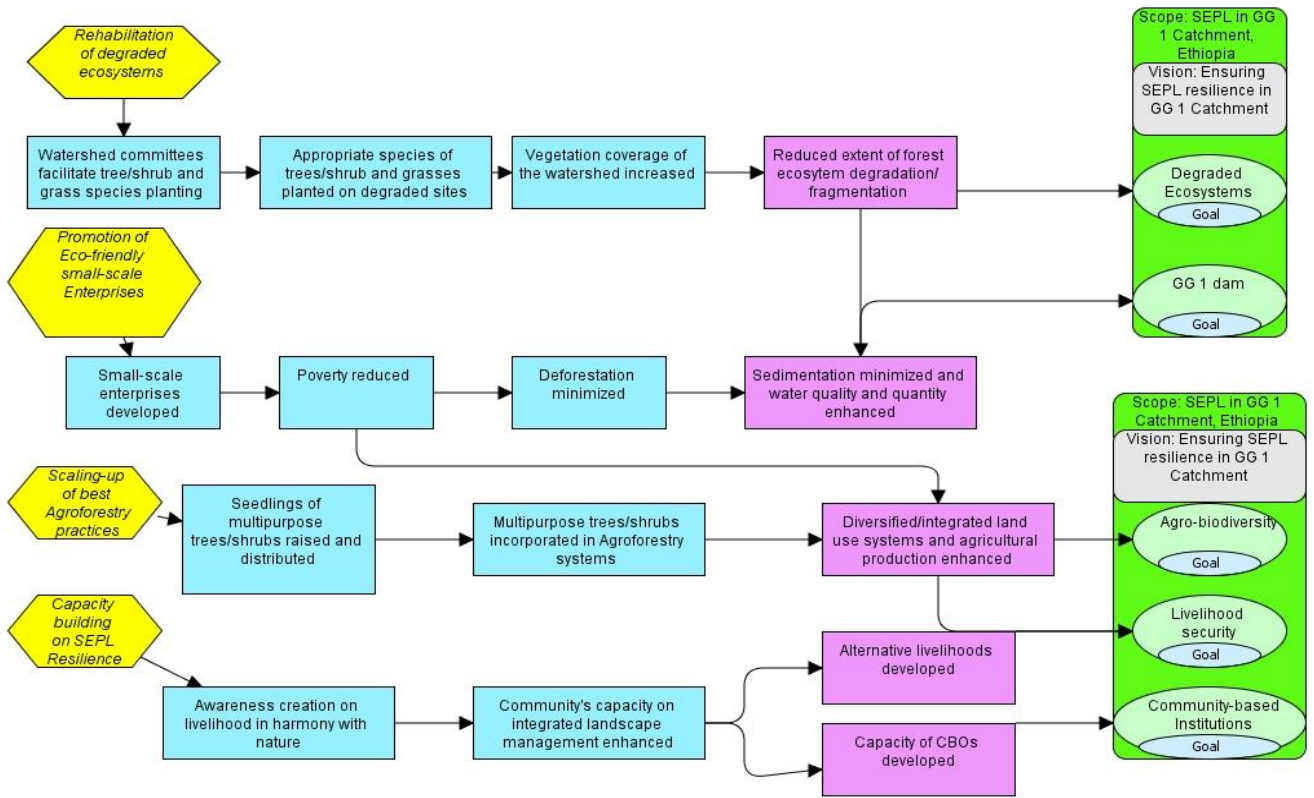
Legend: ◯ Target ▢ Direct Threat ▢ Contributing Factor ⬡ Strategy ◯ Goal

Fig. 2 Conceptual Model of COMDEKS CPLS, GG 1 Catchment, Ethiopia

Legend: ⬭ Target ⬛ Threat Reduction Result ⬛ Intermediate Result ⬡ Strategy ⬭ Goal

Fig. 3 Results chains for COMDEKS CPLS, GG 1 Catchment, Ethiopia

5. Monitoring and Evaluation Plan

Country Programme Landscape Level Indicators: SEPL Indicators measured during the baseline assessment will be monitored on an annual basis. A final assessment of SEPL indicators will take place at a workshop financed by a grant. This will serve as a final evaluation of the Country Programme Landscape Strategy.

Project Level Indicators: Each project will identify the specific landscape strategy outcome to which it is contributing and will monitor the corresponding indicators. Progress towards the outcome will be updated using the grantees' progress reports. Additionally, the individual project will have an indicator system aligned with GEF SGP's OP5 system of indicators.

Individual grant M&E: The following minimum standards shall be applied for individual grant M&E:

1. Ex-ante Visits: The project team should undertake ex-ante visits on a risk basis to grant-requesting organizations upon grant approval by the NSC and prior to the signature of the MOA between the Implementing Partner and the grantee.

2. Field monitoring visits: Every project should be visited at least twice in its lifetime, upon receipt of the first progress report from beneficiary organizations and during the following year. NSC members with relevant expertise in project-related technical areas may join the NC during these visits as appropriate.

3. Progress reports: Beneficiary organizations should submit half-yearly progress reports to the NC along with a financial report. A forecast of resources needed in the following period should be submitted by the grantee to the NC as a requirement for disbursement of next instalment.

4. Final project evaluation report: Beneficiary organizations should submit a final report summarizing global benefits and other results achieved, outputs produced, and lessons learned. The final report should also include a final financial statement.

6. Knowledge Management

Every grantee organization is expected to contribute to the generation and documentation of best practices and lessons learned. As such, each community project is required to allocate a portion of its budget to knowledge management. Type of knowledge products that will be developed directly by the grantee or by the national coordinator will include:

- technical publications
- case studies: Each grantee with the support of zonal and woreda government offices and Jimma University should develop a brief case study (3/4 page document) documenting activities aimed at increasing ecosystem connectivity, increasing and stabilizing agricultural yields and/or activities focused on developing eco-friendly small-scale community enterprises and improving market access, identifying best practices, and lessons learned from the implementation of COMDEKS activities (COMDEKS Project Coordinator will provide a brief template for case studies)
- policy papers
- brochures
- posters
- CDs/DVDs
- Videos:
    - One video focused on outcome 4, strengthening institutional governance at the landscape level, this could be done working across different communities;
    - One/two videos focused on problems and solutions related to ecosystem degradation around the dam, and food security and solutions provided by COMDEKS funded activities.

The most promising best practices at the community level will be shared during farmer's field school days to promote exchange and learning. At the same time, knowledge generated by projects will be systematized and codified for dissemination by the National Steering Committee to local and national governments, as well as NGOs and the UNDP Country Office, for replication and upscaling and ultimately to influence policy innovation.
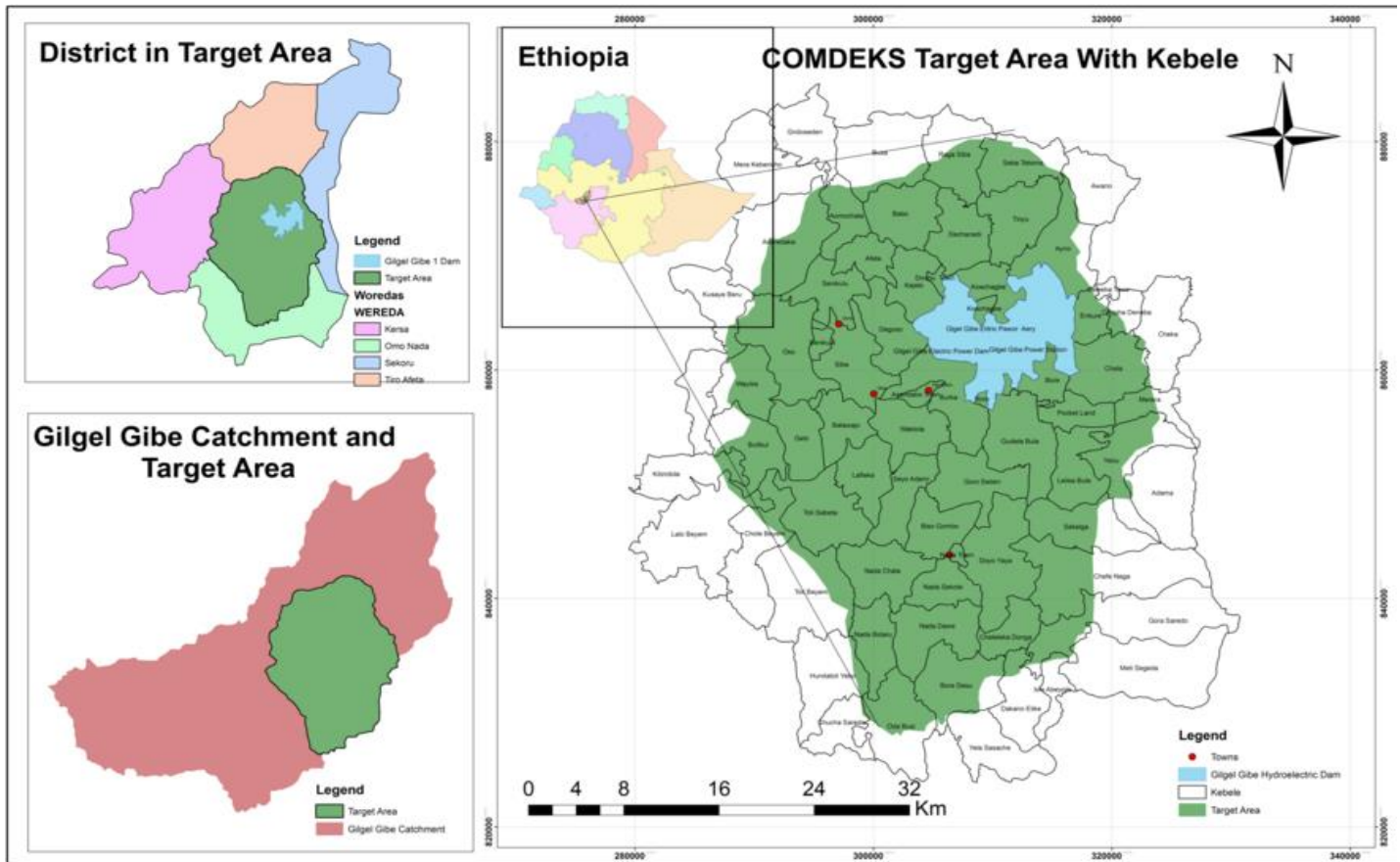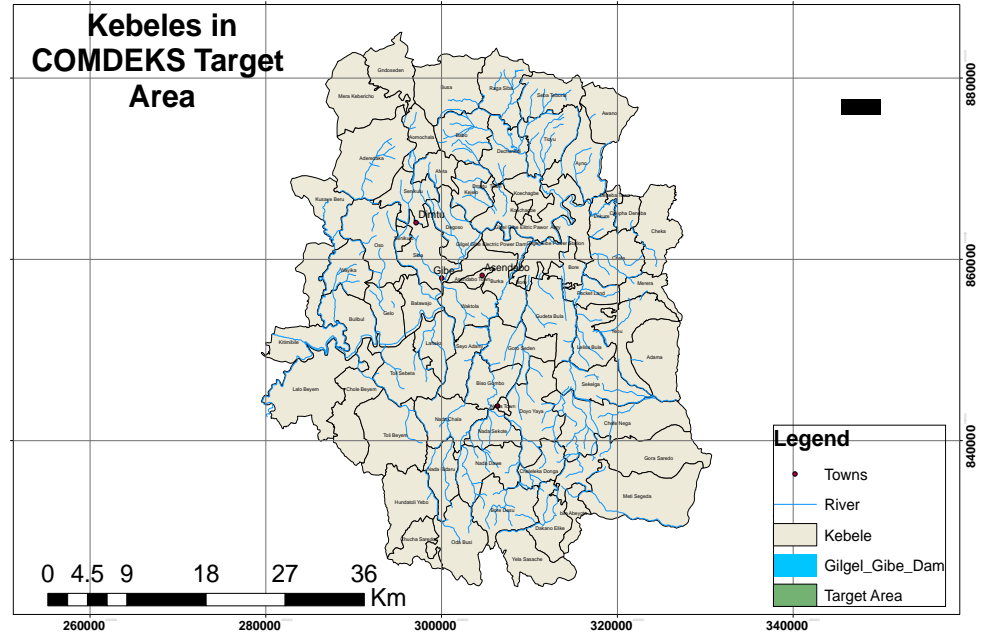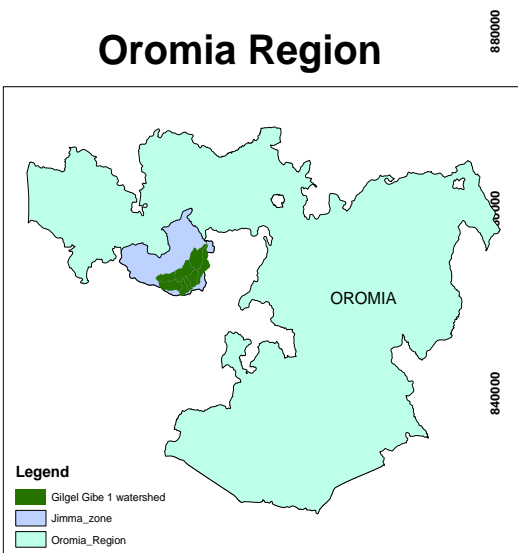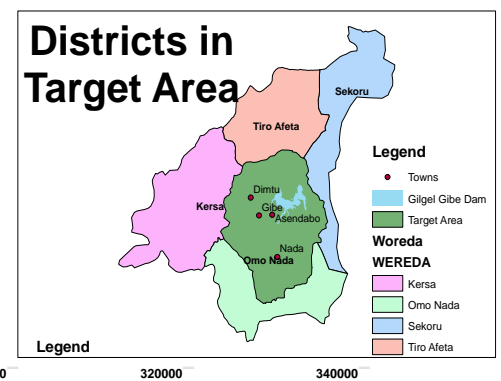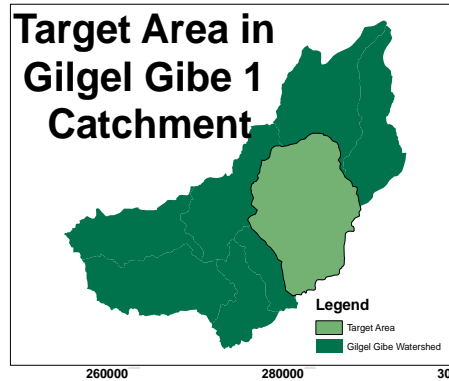
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Annex A: Map of the target area

Ethiopia

Target Area in Gilgel Gibe 1 Catchment

Legend
- Target Area
- Gilgel Gibe Watershed

Districts in Target Area

Sekoru

Tiro Afeta

Dimtu
Gibe
Asendabo

Kersa

Nada
Omo Nada

Legend
- Towns
- Gilgel Gibe Dam
- Target Area

Woreda
WEREDA
- Kersa
- Omo Nada
- Sekoru
- Tiro Afeta

Legend

Oromia Region

OROMIA

Legend
- Gilgel Gibe 1 watershed
- Jimma_zone
- Oromia_Region

Kebeles in COMDEKS Target Area

0 4.5 9 18 27 36
Km

Legend
- Towns
- River
- Kebele
- Gilgel_Gibe_Dam
- Target Area

Annex B: Overview of the landscape showing patches of vegetation

Annex C: Slope and aspect map of the target area
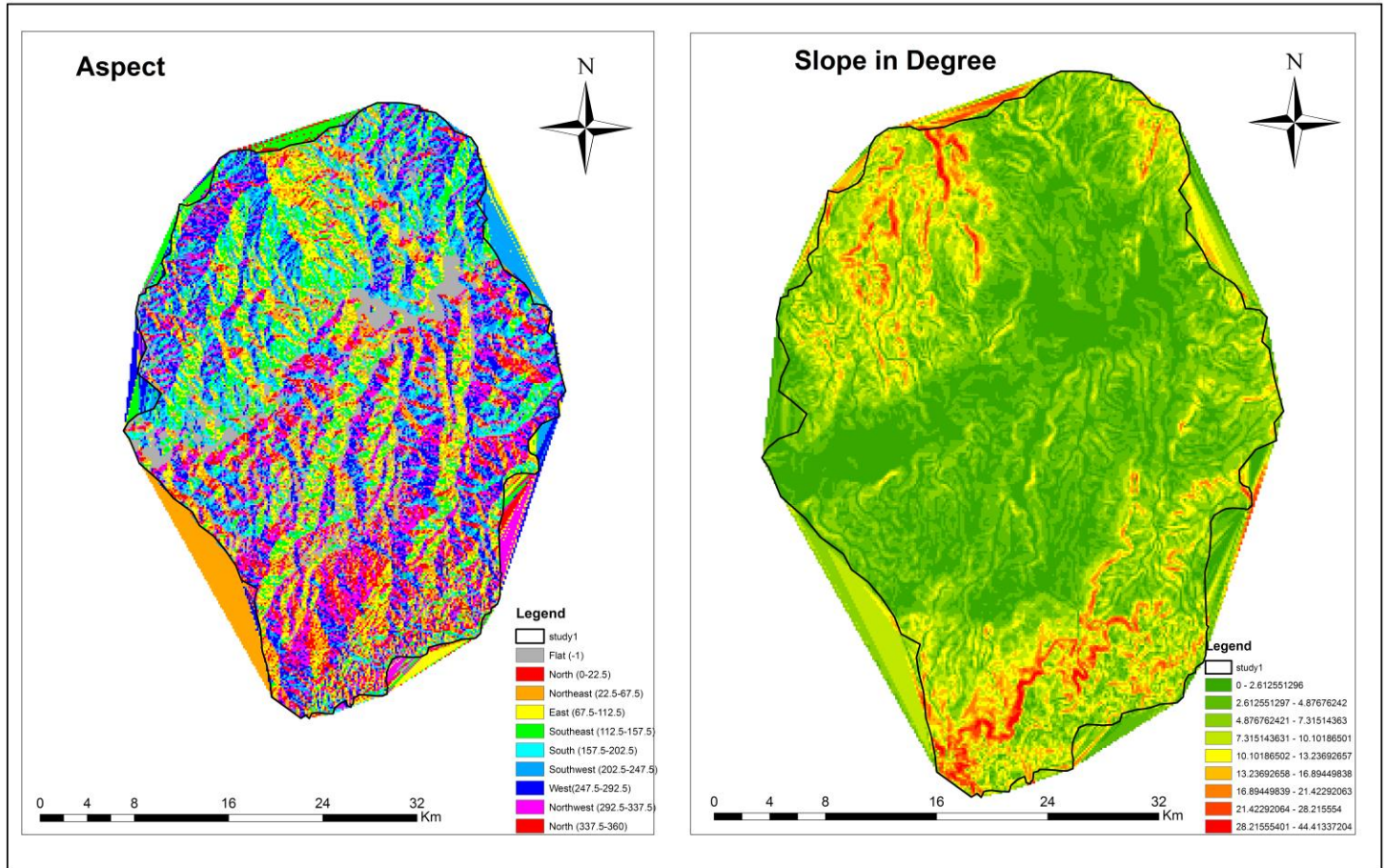
Annex D: **Checklist to facilitate focus group discussion**

1. *ECOSYSTEM PROTECTION AND MAINTENANCE OF BIODIVERSITY*

- Do land management practices maintain heterogonous landscape (e.g. forest, crop land, and wetland)?
- What are the key ecosystems in the area that are endangered and need special care?
- What are the trends of natural resources (especially forest, wildlife, water and soil)?
- Are households and communities resilient to external shocks such as flooding, drought, changes in commodity prices, and disease epidemics?
- Are there health risk from epidemics, water contamination, air pollution and other threats, e.g. malnutrition?
- How productive is the resource (e.g. soil fertility)? Has this been changing over time (e.g. variation in yields)?
- How have the trends of diversity of local food production system changing (cereals, fruit, vegetables, wild plants, fish, animals etc)?
- Is there much spatial variability in the quality of the resource?
- To what degree are groups vulnerable to extreme climatic events and how are their livelihoods affected by such events?
- Does the landscape have the capacity to cope with and recover from extreme environmental and climate-related stresses and shocks e.g. pests and diseases, extreme weather events, floods and droughts?
- Are ecological links between different landscape components maintained and harnessed for sustainable production?

2. *AGRICULTURAL BIODIVERSITY*

- Are local crops, varieties and animal breeds used in a community?
- Is agricultural biodiversity documented and conserved in community classification systems and community seed banks?
- Do communities use a diversity of traditional and locally-produced foods, e.g. cereals, vegetables, fruits, nuts, wild plants, mushrooms, berries, fish and animals?
- Are they any crop varieties that have been lost from the area as a result of improved variety introduction by government?

3. *KNOWLEDGE, LEARNING AND INNOVATION*

- Do community members improve, develop, and adopt new agricultural biodiversity management practices to adapt to changing conditions, e.g. climate change, population pressure, resources scarcity etc? If yes, elaborate.
- Are there community based institutions that are effectively engaged in management of land, water and other resources? If yes, mention and discuss their trends.
- What are the knowledge, norms, and values that support integrated landscapes management?

- Are there training and capacity building provided for all community in the basic skills required in sustainably managing natural resources and providing environmental services in the landscape? If yes, mention what and by whom.
- Are cultural traditions related to biodiversity maintenance and use continued by young people, e.g. through festivals, rituals, songs, etc.?
- How are the trends of transmission of traditional knowledge from elders to young people described in the community?
- Are women's knowledge, experiences and skills recognized as central to practices that strengthen resilience?

4. *SOCIAL EQUITY AND INFRASTRUCTURE*
- Are land, water and other resources effectively managed by community-based institutions? i.e. existence of traditional institutions (customary laws) and non-traditional local initiatives
- Do households and communities have sustainable and equitable access to critical natural resource stocks and flows? (Which groups have access to which types of natural resources)?
- What is the nature of access rights (e.g. private, common)?
- Does the community have autonomous access to indigenous land, territories, natural resources and ceremonial sites?
- Do you have access to new technology and information through institutions (seeds exchange network, local markets, etc)?
- Are social infrastructures including roads, schools, telecommunications, energy, health service and electricity in place?
- Is there evidence of significant conflict over resources?
- Are women involved in decision-making and communication with outsiders?

5. *ALTERNATIVE LIVELIHOODS*

- What are alternative income generating activities and viable small and medium enterprises that can be promoted to contribute to the success of landscape sustainability?
- What are the sources of household incomes in the area (agriculture, natural resources, non natural resources)?
- What is/are the specific developmental intervention needs/ options of indigenous people, especially for the poor and women?
- What type of external support do you need in order to protect the landscape (conserve the natural resources)?

Annex E: Log frame: COMDEKS CPLS, Ethiopia

Results	Indicators	Means of verification	Assumptions
Objective			
• To realize resilient socio-ecological production landscape of GG 1 catchment area that harbours societies living in harmony with nature through adaptive collaborative management.	• Amount of budget allotted for projects • Measure on recovery of the degraded ecosystems • Proportions of people whose wellbeing and income improved • Change in attitudes towards ecosystem management	• Final project evaluation report • Targeted studies of the landscape	• CBOS/NGOs actively react towards call for proposals • Target beneficiaries take advantage of project activities • Communities remain committed to project objectives
Outcomes			
1. Degraded ecosystems within the landscape restored through improved water, soil and vegetation management, contributing to ecosystem connectivity and enhanced ecosystem services; (strategic/long term result: the lifespan of the GG 1 dam sustained through improved buffer zone and watershed management)	• Number of hectares of degraded ecosystems in the landscape brought under sustainable land and water resource management • Extent of improvement in the conservation of the dam • Proportion of reduced siltation	• Baseline survey • Project report and post intervention assessment • Periodical exercises of spiral diagrams • Post project assessments • Local authority interview	• Local authorities are committed, stakeholders and target beneficiaries are capacitated, CBOs committed • Communities are activity engaged
2. Increased and stabilized agricultural yields through crop diversification, agro-forestry systems, tree plantations, integrated crop-animal `systems and other approaches, as well as improved storage of agricultural products	• Number of hectares where more sustainable land use practices/systems are implemented by type: crop diversification, agro-forestry systems, tree plantations, integrated crop-animal systems and other defined approaches.	• Project progress reports • Field monitoring visits	
3. Livelihoods of people in the landscape improved through developing eco-friendly small-scale community enterprises and improving market access	• Number of eco-friendly small-scale enterprises created for the communities • Number of households benefited from created enterprises	• Discussion with beneficiaries • Socioeconomic survey of the target communities	

4. Effective community-based institutional governance structures in place for effective participatory decision making at the landscape level.	• Number of community-based institutions created or strengthened who are engaged in integrated landscape management. • Number of people at different levels whose capacity was enhanced	• Project report • Ex-ante Visits	
Main Activities			
Outcome 1. 1. Enhancing physical soil and water conservation structures 2. Enhancing biological stabilization measures,, 3. establishing nurseries, 4. planting trees (Multipurpose trees, shrubs and grasses) 5. Fencing protected areas around the dam and forest remains and area closure, etc	❖Number of community campaigns ❖Hectares of land covered by soil and water ❖ Hectare of land covered by trees/ grasses	Project Reports Appraisal reports	• Assuming that funds are promptly available, and target beneficiaries are properly identified and committed • Lessons-leaned from the project are applied to other regions
Outcome 2 1. Introduce best agro forestry practices 2. Create awareness about crop diversification	Proportion of communities adopted agro forestry practices		
Outcome 3 Develop eco friendly small scale enterprises	• No. of stakeholder meetings • No. of beneficiaries, stakeholders trained	• Project Reports	
Outcome 4 1. Announcing call, assess capacity of identified CBOs/ NGOs and indigenous institutions 2. Developing and organizing of CBOs capacities, 3. Financing of CBOs, 4. Supervising and Training CBOS	• Number of CBOs benefitted from the project	• Project Reports • Appraisal reports	