Modeling integration of biodiversity management and sustainable livelihoods through beekeeping

Dangilla Woreda, Gult Abishkan Kebele

Funded by: Critical Eco-system Partnership Fund (CEPF)

Implemented by: Bees for Development Ethiopia (BfDE) in Partnership with Zone, Woreda and Kebele Government Partners

Project Duration
Threats

Size and composition of flora and fauna have been receded in the past in and around project implementation site. Important highland tree species such as Juniperus procera and Hagenia abyssinica are under serious threat of extinction. Other mid-altitude trees such as Cordia Africana, Croton marostachis and Alheziaspp are thinning from time to time. Dense tropical forests found in the Ankasha and Guangua mountain Chains (Known as Guangualala public forest) have significantly reduced in size of forest land, density of vegetation, and connectivity – all associated with corresponding decline in type and diversity of wildlife, land degradation, dwindling and/or drying of water bodies, and other trailing complexities of poverty such as food insecurity, poor health and migration.

The reasons attributable to such massive degradation of natural resources in Awi zone in general and Dangila Woreda in particular can be viewed:

Identified Causes

- Declined level of inter-generational knowledge and well established understanding and practice regarding the mechanisms of living in harmony with nature without compromising other social and economic benefits,
- Population pressure and accompanying demands for more agricultural lands and plant biomass for energy;
- Huge dependence on conventional agriculture;
- Periods of state transition that created attitudes of lawlessness and decimation of large area of forest land for agriculture;
- Increasing trends of landlessness;
- Limited government capacity to address complex development challenges;
- Poverty is a proximate cause that drove and continues to drive poor households and individuals to hinge on existing natural vegetation to pursue their subsistence living from sales of firewood, charcoal, timber, construction wood, and hunting.

Opportunities Traced

Although the problems described above are key threats, there are various opportunities that can be tapped to ensure sustainable NRM in Awi Zone and specifically in Dangilla Woreda. These include, inter alia: practically proved commitment of local authorities to support interventions that have positive impact on biological resources; availability of expertise to technically support actions for sustainable NRM (with some knowledge building works nevertheless); indigenous knowledge of the community (albeit limited) that can be built up on, such as bamboo making and agro-forestry; availability of some tested models of NRM-based livelihoods by BfDE and other development institutions.

Project Rationale

Insufficient knowledge and skills of the community on creating sustainable human – nature interface; increasing trends of population pressure; and landlessness and poverty coupled with limited government capacity will have conspired to maintain the known trends of natural resources degradation and loss of biodiversity.

The stated threats above obviously perpetuates poverty and exacerbates degradation of natural resources – the cycle keeping going to irreversible level.

Through small scale modeling, the project therefore intends to demonstrate on how the challenges of: knowledge and skill gaps in NRM; livelihood insecurity of poor households and landless rural youth; and degeneration of biodiversity can be addressed.

Assumption

The underlying assumptions of this project are based on the fact that forests and important tree species are central to biological diversity management and sustainable livelihoods. Having forests and trees means having good soil, having good water, having good habitat for wild life, birds, and bees – all bearing direct and irreplaceable implications on human wellbeing and sustainable livelihoods.

Strategic Focus

Our strategic focus, therefore, has been on ensuring forest resources and key endangered tree species to be rehabilitated and sustainably managed by the community of Dangilla Woreda, Gult Abishkan Kebele, while diversifying and improving livelihood options. This project will demonstrate to prove the ways by which all three level causes of natural resources degradation can be addressed.
What has been envisioned?

- Improve status of natural resources through dressing degraded mountains with indigenous forest trees at the local level.
- Promote natural resources friendly livelihoods (beekeeping practices) in selected sites of Dangi la Woreda thereby increasing income of 40 landless youths.
- Documentation and sharing of project lessons to inform integrated biodiversity and sustainable livelihoods planning.
- Improve status of natural resources through dressing degraded mountains with indigenous forest trees at the local level.
- Promote natural resources friendly livelihoods (beekeeping practices) in selected sites of Dangi la Woreda thereby increasing income of 40 landless youths.
- Documentation and sharing of project lessons to inform integrated biodiversity and sustainable livelihoods planning.

What is done?

- 47 ha of degraded land in Gult Abishkan Kebele, Agintta village has been enclosed and dressed with various indigenous tree species (all village inhabitants (115 HHs) are targeted to benefit from the enclosure, in the short and long term),
- Seedling raised and planted (18,000 indigenous tree seedlings),
- Community awareness created on benefits and protection of forested lands,
- 40 landless youths received beekeeping training in three rounds by BfDE experts,
- Trained beekeepers have been provided with a bee colony and materials for transitional bee hive making and honey production. On group basis they have received materials such as protective cloth, Hand tools (bow saw, carpenter hammer, measuring tape, sickle)
- New beekeepers raised their HH income through honey production and sale,
- Documents are produced by the project and shared among all relevant and interested stakeholders:
  - Consultative Planning Workshop Proceeding
  - Household Baseline Study Report
  - Land Cover Assessment Report
  - GIS Training Manual
  - Biodiversity Training Manual
  - Project End line Evaluation and Learning Document.

Project Beneficiaries

20 Male and 20 Female youths, who are landless and devoid of other viable means of livelihoods were selected by their community in facilitation with Dangi la Woreda and Gult Abishkan Kebele Administration. These beneficiaries were having no or very limited experience in beekeeping. Moreover, 115 HHs living in Agintta village are known to be beneficiaries from the NRM component (area enclosure) of the current project.

Project Evaluation

At the end of CEPF Phase I Project, an evaluation has been undertaken; January 2017. This includes HH interview, FGD and KII with Woreda counterparts. Main focus of this evaluation:
- What has been achieved by the Project,
- What evidence of change observed,
- What is/are missing and need due consideration to ensure enduring impacts.

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<tr>
<th>Evaluation Participants</th>
<th>TOTAL</th>
<th>FEMALE</th>
<th>MALE</th>
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<td>18</td>
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<td>KII</td>
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Bees do not ask you for feeding. The hive can easily be made with locally available materials. A small plot of land at our backyard suffices for beekeeping. We only need startup capital for purchase of bee colonies and accessories. (Ato Tafere Alemu, Gult Abishkan Kebele, Dangilla Woreda).

47 ha of degraded hillside in Gult Abishkan Kebele, Agintta village is known to be enclosed and 3.125 ha has been planted with 18,000 indigenous tree species (*Gravillia*, *Cordia Africana*, *Croton marostachis*, *Accacia*) within the protected area. The current status vividly demonstrates the restoration of the natural environment just having zero intact to human and livestock and dressed with seedlings; indicated below. This has been witnessed at FG discussion of the evaluation.

### Conditions as habitat for wild life, evidenced to be regained:
During a field monitoring visit with CEPF Team, a Klipspringer (*Oreotragus oreotragus*)/a small antelope has been seen drifting inside the protected area as signaling to the coming back of wild animals in to the enclosed site. During this event, Wildlife expert from CEPF confirmed that waste of the Klipspringer being identified inside the protected land. Besides, some big holes were also been sought as existence to ‘Aardvark’ inside the protected site.

Average landholding of project beneficiaries is 0.2 hectare and 50% of them do not have own land (*Baseline Data collected at the start of the Project*). It was also learned that all households pursue a share cropping approach to crop production whereby they rent land from other land owners.

Among the contacted project beneficiaries for the evaluation only 5 were having traditional beehives at start of the project (baseline). The graph at the left portrays the steady intensification in the production of honey as marketable commodity for project targeted HHs. The majority (22) of these HHs confirmed as their fresh exposure to beekeeping ever in their lifetime, yet encouraged to keep on the business in the future.

Some beneficiaries revealed that the project has been sought as an opportunity to test, explore and experience their capability to be engaged in aside livelihood options; wage labor has often been the usual form to these groups of the community.
Yeshambel, 26, and his wife Birhane, 22, are landless youths living with their two children in Gult Abishkan Kebele, Aginta village. He had a traditional hive without a bee colony ('Bozen') earlier to the project. Two years ago, they joined the project as targeted by their Kebele Administration. In the previous production year, they managed to harvest 8 Kg of honey from their top bar hives; brought ETB 600.00 income to their home. As disclosed, it covers costs for schooling to their daughter and some proportion was allocated for HH food consumption. More than all, it embarked an aspiration to their future. Now, they have added two more transitional bee hives and planned to get involved in beekeeping with heightened morale.

Human Capital: Skill developed for low-cost and adaptable beekeeping technology

Contacted beneficiaries recognized the acquisition of new skills, exposure and improved practices of beekeeping as a result of the project. On an average premise, about 57% of the beneficiaries contacted through this evaluation have confirmed positive for acquiring self-sufficient skill to transitional bee hive making, transferring/bee colony management, harvesting as well as product handling. Others, about 12% from the group affirmed for their progressive improvement, but still preferred to have acquaintances for properly managing the honey production through the designed technology. Yet, no respondent has been encountered for the complete incapability to perform the stated tasks.

Contribution to HH Food availability, children schooling and livestock feed

In terms of the income generated from sale of honey, beneficiaries often disclosed as they were allocated for expenses for schooling to their children, covering HH food consumption (oil, coffee, salt, sugar, etc). Others, mentioned for purchase of livestock feed and medicine. Two respondents claimed for making a cash contribution to buy ox and sheep. There were also beneficiaries (7) who saved the income for purchase of bee colonies and have a plan to expand their beekeeping business.

What contribution does the project accrued?

Household income increased

During the baseline survey, it has been identified that targeted HHs has obtained limited additional source of income, and not a bit from honey production and sale. At this stage, it is known that Average HH income from honey reached an average earning of ETB 422.27 from ETB 20.00 at the start of the project.
What contribution does the Project accrue?

Physical assets created

- Among contacted project beneficiaries for this evaluation, at the start of the project, there found to be only 7 hives owned by 5 individuals. In assessing the status during the project termination, recorded to be 36 which accounts for a 414% increase over the project implementation period. Besides, the hives owned by those HHs at the baseline period were traditional, and 3 of these hives (43%) were reported to have been without bee colonies.
- Project beneficiaries have been provided with basic inputs for beekeeping (on individual and group basis), so as to facilitate improved practice on honey production.

Individual = bee colony, materials to make one transitional hive;

Group (5 members) = Protective cloth, Hand tools (bow saw, carpenter hammer, measuring tape, sickle).

Social capital strengthened

- A church enclosure has been established with learned experience from the project. It was easy at that instance for the community to bring about shared vision, cooperate and work together as revealed by FGD Discussants.
- Beneficiaries were organized in groups Project participants confirmed that they transferred the skill for beehive making, inspection, harvesting to their neighbors quite often. Ato Yeshambel, Ato Sisay Abiyu and others were witnessing for successfully passing of the knowledge on they have gained beekeeping through transitional hive technology to other members of their community.
- Community groups organized under NRM (area enclosure) project component were known to have developed their own by-law for managing and utilizing benefits out of it. They have already applying their rules and regulations on defaulting members of the community. This can be taken as an indication to sustainably manage their initiative for long lasting impact.

NRM initiative scaled up (intra-Kebele)

A church enclosure site, 1 ha of degraded land has been delineated and dressed with tree species in the same Kebele by project participants. FGD discussants declared as ‘lesson from the project initiative’.

The project organized us to do things together and provide us some accessories for communal use, that helped us develop our skill in beekeeping more easily.
- Livestock intrusion inside the protected land; cows dung have been observed during field monitoring visits at multiple spots inside the enclosed territory,

- Limited budget to adequately provide beneficiaries with the necessary materials and inputs for beekeeping activities.

- At the start of implementing the area enclosure, the community was uneasy to allocate lands to protect and plantation for regenerating the natural environment. The main reason for such reluctance/ hesitation was the fact that open grazing was commonly practiced in the area. However, after subsequent meetings and discussions, it was managed to be materialized. Dangilla Woreda is currently promoting ‘no open grazing’ practice and reported to be well progressing in many parts of the Woreda.
As explained during Project evaluation, BfDE has been played as a catalytic/facilitation role during this project implementation. The actual implementation has actively been undertaken by relevant experts from the different government offices. This process enabled the Woreda and Kebele level experts to get acquainted with the necessary skills and knowledge of the process that has been followed by the project.

Dangilla Woreda government partners have been involved from the outset of the project. Consultative and joint planning workshop was the first task that has been undertaken by the project. Knowledge and information on the design and implementation of the project has contributed for appropriate management and future technical back-up to the intended beneficiaries. This has been well confirmed by Woreda partners at project completion evaluation meeting.

Dangilla Woreda has an intention to link the project initiative with other development actors operating in the area.

Beekeeping can be a viable livelihood strategy for beginners (non-beekeepers) and females and could contribute positive to address the growing problem of landlessness and unemployment in the project area.

As evidence of replicating aspects of project ideas; Dangilla Woreda has already started replicating activities mainly on area enclosure for environmental rehabilitation purposes in to other Kebeles of the Woreda (reported at project completion consultation meeting).

BfDE took the initiative to earmark some budget for project consolidating activities. A joint planning event with all relevant actors will be facilitated to prioritize and appropriately plan activities as already initiated by the project for enduring impacts.
Enclosing a land and planting with trees may not necessarily guarantee sustainable natural resource management. A clear procedure need to be developed by full consent and participation of the community shall set to otherwise.

- production of an acceptable management plan for the enclosed/protected site (involving the community and all relevant authorities); these could include, short and long term utilization and management of all the produce from the designated portion of land, devising sustainable means of guarding the site, definition of group bylaws (developed and enacted in Gult Abishkan Kebele, Agentta Village, as confirmed by FGD during the present evaluation)
- demarcation of the enclosed site in a way that is publicly visible to all surrounding communities,
- proper follow up and taking care of the site after plantation, on a regular basis, etc

Integration/harmonization of such an initiative, for the landless, unemployed youth group, with other extension services shall be sought by responsible government bodies. The initiative to participate the landless youth groups for programs, as allocating degraded lands for eucalyptus tree production in Gult Abishkan Kebele can be taken as an example for a systematic synchronization of development programs. The introduction to improved technologies and practices for off-farm income generating activities may also uphold certain degree of relevance.

Some effort has been put to foster saving culture among beneficiary communities, which could be enhanced through building on existing capacities/conditions.

Formal hand over project activities to the community as well as responsible government service providers to ensure future technical support for beneficiaries, thus sustainably benefit from project interventions.

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