FINAL EVALUATION REPORT

HONEY VALUE CHAIN PROJECT (HVCP)

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Acknowledgment

ABBABOR Development Consult would like to thank those who, in one way or another, participated in the evaluation process and helped us produce the quality report. First, we wish to express our sincere gratitude to the target beneficiaries of the HVC project who were involved in this evaluation. Without their passionate participation and input, the evaluation could not have been successfully conducted. Our utmost gratitude also goes to local government experts and officials for their genuine support during the evaluation process.

Finally, we would like to extend our profound gratitude to staff members of The DF and EWNRA who shared a relevant document with our consultants, provided valuable inputs on the evaluation process as well as outputs, and availed the necessary logistical support for the successful completion of the evaluation. We thank you all.

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Registration Number (ETH): GU/AA/1/0007115/2010

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Acronyms

ADC	ABBABOR Development Consultant
CRGE	Climate Resilient Green Economy
DF	The Development Fund
EWNRA	Ethio-Wetlands and Natural resources Association
GHG	Greenhouse gas
HH	Household
HVCP	Honey value Chain Project
IP	Implementing Partner
KII	Key Informant Interview
KTB	Kenyan Top Bar Hives
LFA	Log-frame Analysis
NAP	National Adaptation Plan
Norad	Norwegian Agency for Development Cooperation
NTFP	Non-Timber Forest Products
OECD/DAC	Organization for Economic Co-operation and Development/Development Assistance Committee
PFM	Participatory Forest Management
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SDGs	Sustainable Development Goals
SO	Sectoral Office
ToR	Terms of Reference

Executive Summary

Ethiopia is endowed with conducive agro-climatic conditions and biodiversity which favor the existence of diverse honeybee flora and a large number of honeybee colonies. Particularly the southwestern part of the country has an immense potential for beekeeping due to its tropical rainforests and suitable climate that favor beekeeping practices. However, the sector fails to fully contribute to the livelihoods of local communities and the economy of the country. This is attributed to the fact that beekeepers follow traditional beekeeping systems which result in low production, productivity, and quality of honey. Besides, the beekeeping sector is not inclusive as men dominate it. To overcome such associated challenges and constraints the beekeepers are facing, DF in collaboration with Ethio-Wetlands and Natural Resources Association (EWNRA) implemented the Honey Value Chain (HVC) project in Masha and Anderacha woredas of the Sheka zone, the Southwest Ethiopia Peoples' Region from January 2018 to December 2021 with the financial support from Section for Private Sector Development of the Norwegian Agency for Development Cooperation (Norad).

In order to learn whether the project has met its intended objectives and to generate learnings, ABBABOR Development Consult (ADC) was commissioned by the Development Fund to undertake the final evaluation of the project. The evaluation also aimed to assess to what extent the HVC project implementing partner (EWNRA) has addressed accountability procedures in terms of resource utilization and timely delivery of project outputs.

This final evaluation employed both quantitative and qualitative data collected using different data collection instruments from primary and secondary data sources. The data were collected from both project woredas (Masha and Anderacha) across eight project intervention kebeles selected purposively. A mobile-based household survey was administered to 138 (47 females) to collect quantitative data. Qualitative data were collected through focus group discussions (FGDs), key informant interviews (KIIs), case stories, and observations. In addition, the evaluation team conducted a desk review to have a broader understanding of the project and came up with key trends and evidence. To this end, the evaluation team reviewed the project proposal, progress and financial reports, annual narrative reports, monitoring and evaluation plan, baseline report, and policies and strategies of the government, EWNRA, and the DF. Quantitative and qualitative data analysis techniques were also used to analyze the data.

Overall the final evaluation depict that the project was relevant, coherent, effective, and efficient. The synopsis of the final evaluation findings are presented as follows:

Relevance: The design and implementation of the HVC project took into account the needs and priorities of the beneficiaries. The project has contributed to overcoming prevalent challenges of the beekeeping sector by providing improved technology through credit, building infrastructure including a proper storage facility, queen bee rearing center, establishing market linkage, and improving the skills

of beekeepers through hands-on training and regular extension service. The project was well aligned with Ethiopia's policy and program frameworks (the Ten Years Perspective Development Plan, CRGE, REDD+, National Adaptation Plan), and SDGs.

Coherence: The HVC project was implemented in harmony with other related projects being implemented by the EWNRA and there were no duplication efforts. Additionally, the project was aligned with external policy commitments like SDGs, CRGE, NAP, and REDD+. Complementarity and harmonization were observed between the HVC project and related projects implemented by other actors. Generally, the project was coherent, therefore, the project added value while avoiding duplication of efforts.

Effectiveness: The effectiveness of the project was assessed in terms of the progress made towards addressing the planned targets at impact and outcome levels as follows:

Impact level:

The project has attained its impact by increasing the average annual household income generated from honey from 11,998.195 ETB in the baseline to 20,603.358 ETB in the endline which is attributed to an increase in volume and quality of honey produced due to the intervention. The baseline figure above was based on assessments conducted on 138 target beekepers and differs from the baseline figure (14,000 ETB) in the project result frame whch was developed based on quick assessments codcuted on relatively very few target beneficiaries, i.e, 12 beekeepers.

The project has also succeeded in increasing the percentage of beekeepers with beekeeping as a major source of income from 24.09% (baseline) to 64.23% (endline).

The planned leasing model to be scaled out to other actors in the finance sector was not materialized because the company named first capital was not successful in securing a license to operate in the country as anticipated during the design of the project. Moreover, relentless efforts to engage a local leasing company named Debub capital was not successful. Following this, the beehives credit system was decided to be managed by the implementing parter and a Community Revolving Loan Scheme was subsequently put in place by the EWNRA.

Outcome level: According to the data obtained from the project report and the finding from the household survey, during the project's lifetime, about 107 metric tons (37 MT from KTB) of honey were produced by 199 target beneficiaries. This is 71% of the planned target. According to the beekeepers' personal assessment, quality of honey was improved following the intervention. This means that the target was fully attained.

The planned export of 100 metric tons of honey during the project period was not materialized. This is because the planned market linkage among Sheka honey union with Tuchel and Sohans Gmbh, a German company through GiZ was not successful since the company withdrew due to loss of trust following failure of the Sheka Honey Union to meet previoues contractual agreement . Additional

efforts in searching for an international honey market were not successful due to potential buyer's tight quality standard requirements and price offers which were relatively below the national/local market of honey.

Output level achievements are discussed in detail in the body of the report.

Efficiency: The result from the final evaluation shows that the project implementation was efficient. The overall budget utilization of the project as of December 2021 was 97.8% and almost all of the project results were achieved. The project implementation was economically and operationally efficient. Most of the project results were achieved within the planned timeframe. Effective program coordination and the quality of the program's procedures were considered critical to the program's efficient execution. The program made effective use of the resources available and transformed all resources into useful program activities within in allocated budget which implies that the intervention was economically efficient.

Sustainability: The evaluation result indicated that the project is sustainable in that it strengthened the systems, institutions, and capacities of beekeepers, honey union cooperatives, and key government stakeholders through training, material support, and technical support. This came to happen through the strong engagement of key stakeholders in the implementation of the project, strong economic activities created by the intervention, and high beekeeping technology diffusion.

Cross-cutting issues: The project also considered cross-cutting issues by providing an equal chance for women, disabilities, and minorities to participate in beekeeping. It is also learned from the HVC project that women can engage in beekeeping practices like their male counterparts, and even can be more effective.

Recommendation: It is recommended that scaling up the project can improve the livelihood of households and promote natural resources conservation through beekeeping. The functionality of the KTB beehives credit system needs close follow-up, replicated, and scaled up.Furthermore, capacity building for leaders of the union and cooperatives on advanced training such as business, financial management, sales, and marketing will be beneficial. As a final point, it is recommended that conducting an assessment to understand the value chain around the supported beekeeping businesses and take the necessary steps assists to pre-empt the looming challenges.

Lessons: The HVC project proved that transforming and modernizing the beekeeping practices to enhance the production and quality of honey demands a full package not partial support to the beekeepers. The project has also broken the wrong belief that beekeeping is not suitable for women and that women are not effective in beekeeping. However, women are found to be more effective than their men counterparts. If the repayment performance is improved, the beehive credit system can be used to overcome the credit constraint that the beekeepers are facing to modernize their beekeeping practices.

1. Introduction: The Honey Value Chain Project

Launched in 2018, the honey value chain is one of the development projects implemented by the Ethio-Wetlands and Natural Resources Association (EWNRA) through financial support from the Development Fund of Norway. The project had an overarching goal of contributing to the improvement of the livelihoods of the target communities in the intervention areas. Contributing to the HVC improvement in Ethiopia by increasing income and job opportunities for beekeepers while protecting the ecosystem is the main objective that the project wants to achieve when completed (i.e., by December 2021). The HVC project has two high-level indicators (outcomes) that were formulated to measure the performance of the project at the objective level. The two indicators were sub dived into a set of lower-level indicators (outputs) that help to measure the achievement of each of the indicators of the project. The project outcomes and outputs along with their respective indicators are presented in Table 1.

Table 1: The Project Outcomes, Outputs, and their Indicators

Outcome	Outcome Indicator	Output	Output Indicator
Increased production and quality of honey	The volume of honey production with the required quality (in MT)	Beekeepers' knowledge of improved beekeeping raised	Number of beekeepers and extension workers trained in basic beekeeping practice
			Number of beekeepers and extension workers trained in queen bee rearing and colony multiplication
	The volume of honey production with the required quality (in MT)	Increased access to necessary equipment for modern honey production	Number of KTB beehives supplied to beekeepers
			The number of beehive accessories keepers supplied with beehive accessories (Smoker, protective cloth, hand glove, queen excluder, water spray, etc.)
		Increased access to processing and packaging materials	Number of foods graded plastic bags with the capacity of 50 Kg to cooperatives (700 per cooperative)
			Number of foods graded plastic drums with the capacity of 50 Kg to cooperative (250 per cooperative)
Increased export of honey	The volume of honey exported	Honey Unions/cooperatives' capacity strengthened to export honey	Number of cooperatives that supply the required quality honey to Tuchel and Sohn
			Number of leaders of the union and cooperatives participated in pieces of training and exchange visits
		Honey union and cooperatives linked to the international market	Number of contract agreements signed among the union and Tuchel and Sohn and cooperatives
		Honey sector forum established and strengthened	Number of forums organized
			Number of experience papers and best practices documented and shared
			Number of active member organizations in the forum

The project targeted 200 beekeeping households from 14 kebeles (7 Kebeles each from Masha and Anderacha). The Sheka Forest in the project intervention area is characterized by diverse fauna and flora and is home to enormous Non-Timber Forest Products (NTFP). Honey is one of the NTFPs having significant potential as forest-dependent communities' livelihoods. The project seeks to address challenges facing the traditional beekeeping management system, which is characterized by poor quality, limited honey production volume, poor infrastructure, and limited access to the market for fully utilizing the benefits of the resource. Through the introduction of improved technologies, building the capacity of the beekeepers, cooperatives, and unions; supporting communities, and creating a market link with an international buyer, the project aimed to increase 200 target beekeepers' production by 150 tons and export 100 tons of quality honey that can fulfill international buyer's requirements. In addition to the direct beneficiaries of the project, the project is designed to bring about positive changes in the lives and livelihoods of households in the target kebeles and the neighboring kebeles through the diffusion of information on improved beekeeping practices and market linkage development.

The design of the Honey Value Chain Project (HVCP) was strategically linked to the Phase II REDD+ Participatory Forest Management (REPAFMA) in Southwestern Ethiopia Project. By improving the livelihoods of target communities, the HVC project seeks to contribute to the long-term sustainability of forest resources in the intervention areas which are under the Participatory Forest Management (PFM) scheme since 2003.

2. Purpose, Scope, and Objectives of the Evaluation

The evaluation is meant to understand the outputs and outcomes brought about by the project and how to manage and use the knowledge generated in the course of project implementation, to draw lessons that show to what extent the involvement of the beneficiaries, implementing partners, stakeholders have contributed to the success of the project and to make an informed decision for future project/project development. The major purpose of this evaluation was to draw lessons and obtain recommendations from an external review that can offer inputs to improve quality in designing follow-up projects and/or similar projects. The evaluation assessed the extent to which EWNRA has addressed accountability procedures in terms of resource utilization and timely delivery of project outputs.

Moreover, the evaluation reviewed the extent to which the HVCP was relevant, effective, efficient, and coherent, and assess the sustainability of project results. Identifying concrete lessons and actionable recommendations which will guide the DF to take programmatic measures was also an essential focus area in this evaluation.

Overall, the evaluation objectives can be summarized as follows:

Objective 1:

- Evaluate the Relevance, Effectiveness, efficiency, and coherence of the HVC project. This evaluation primarily assessed the relevance, effectiveness, and efficiency of the project's design

in terms of addressing the needs and priorities of the target beneficiaries, attaining its intended objectives, and appropriate usage or the cost-effectiveness of the project resources.

Objective 2:

- Evaluate the impact and sustainability of prioritized areas. This evaluation reviewed the impact and sustainability of the HVC project implementation in terms of its contribution to changing or improving the livelihoods of the target communities and the extent to which the achieved impacts and outcomes are sustainable.

In achieving both objectives above, the evaluation serves both learning and accountability purposes and will seek to:

- Identify key achievements during HVC project cycle management that are the strengths so far and
- Identify any challenges faced by the project and formulate appropriate recommendations for future actions.

3. Evaluation Framework

This final evaluation aimed to evaluate the project using the OECD/DAC evaluation criteria: Coherence, Impact, Effectiveness, Sustainability, Relevance, Efficiency, and cross-cutting issues were considered when evaluating the project. To allow for an overall assessment of project performance, as well as the remarkable success of the different aspects of the project, each project objective was evaluated against the Relevance, Effectiveness, Sustainability, Relevance, and Efficiency criteria. Finally, the evaluation demonstrated the project's learning by emphasizing best practices, project failures, policy recommendations, and scaling-up potential. The OECD/DAC criteria that were used to evaluate the project are described below.

Relevance

With this criterion, the evaluation assessed the extent to which the objectives of project intervention are consistent with participants' needs, country needs, global priorities, and partner' and donor policies and priorities.

Coherence

Coherence refers to how effectively the intervention fits within the overall picture of the project. It is about the links and synergies between the intervention and other interventions carried out by the same organization. Furthermore, coherence is concerned with the consistency of the intervention with the interventions of other actors in the same setting.

Effectiveness

The extent to which the project's outcomes and objectives were met is referred to as effectiveness. It evaluates how successful the project was in bringing about change in the resources available to it. The effectiveness of a project is measured at the resulting level. It evaluates the project's contribution to project results that are deemed within the project's sphere of influence. This final evaluation assessed the project's effectiveness with the targets set for each project performance indicator.

Efficiency

The outputs are compared to the inputs to evaluate the efficiency of the project intervention. It is an economic word that means the project made the best use of the least costly resources available to achieve the intended goals. This usually entails evaluating different techniques to attain the same results to see which one is the most efficient process.

Impact

The impact of a project intervention is the positive and negative changes it causes, whether directly or indirectly, intended, or unintended. The impact of the project was improving honey production to improve income and job opportunities for the beneficiary smallholder beekeepers in the project area. The impact of the project has three indicators: 1) average annual income of the target beneficiaries, 2) demonstrated viable credit scheme, and 3) a percentage of beekeepers with beekeeping as the main income. This includes the main impacts and effects of the activity on the average annual deforestation rate per hectare/year. This assessment looked at both intended and unintended impacts, as well as the impacts of external elements like climate, weather, and economic conditions.

Sustainability

The evaluation team used the sustainability criteria to assess if the impacts of an activity are likely to continue after donor financing is no longer available. Therefore, this final evaluation looked at whether the project was socially, economically, and environmentally sustainable as the phase-out date approaches.

Cross-cutting issues

To assess the project's relevance, coherence, effectiveness, efficiency, impact, and sustainability in terms of women's empowerment and gender equality, the evaluation team applied a gender lens to the OECD-DAC criteria. While supporting the fulfillment of the gender equality goals, a gender lens assisted the assessment team in assessing evidence for learning and accountability created by the project intervention.

4. Evaluation Design and Methodology

4.1. General Approach

The HVC project external final evaluation used mixed methods to gather qualitative and quantitative data on project activities, outputs, outcomes, and impacts from primary and secondary sources. The use of this approach enabled the triangulation of data gathered through document review, interviews, key informant interviews, focus group discussions, and HH surveys. The data gathering process was started with a desk review of written project documentation and information and proceeded to the second stage of collecting independent data through fieldwork the evaluation team carried out in selected project woredas. Key informant interviews (KIIs) and focus group discussions (FGDs) are methods the qualitative approach used to generate qualitative data from major project stakeholders, community groups (women, men, and youths), and direct beneficiaries whereas the quantitative approach used information generated through standard HH survey to be administered on sample HHs.

The evaluation of this HVC project was conducted in four phases that included the preparation, data collection, data analysis, and report writing phases. The main activities carried out during the preparation phase include the following:

Desk review: Before the field data collection exercise, the evaluation team reviewed project documents obtainable from the DF office and other sources (including government offices, implementing partners, and funding partners). This review enabled the consultants to learn about the context and design of the project, activities undertaken by the project, and outcomes and impacts reported from this work. Document review also contributed to the development of the inception report and methodologies to be used for the evaluation, as well as providing relevant secondary data for the evaluation. Some of the documents the team reviewed include:

- Project documents (such as HVC project application/proposal, log frame analysis, baseline study (if any), progress and final reports, project review reports, operational plans, project expenditure report, etc.);
- National and regional sector development strategy documents that helped to understand the development and policy context, livelihood strategies, and the socio-political and socio-economic factors in the project areas, and
- Other studies or secondary data from CSA, regional bureaus, zonal livestock and fisheries development departments (LDs), and district offices.

Identification of project stakeholders: Based on information obtained from secondary sources, the evaluation team identified major stakeholders (e.g., EWNRA, Honey cooperatives, unions, honey agro-industry companies, government agencies, NGOs, and microfinance institutes, research institutes) working with the project and in the project areas. Among the identified stakeholders, important ones that are directly relevant to the project were selected and engaged in the evaluation process.

Developing survey tools: Using secondary data collected during the HCV project preparation phase, the evaluation team developed survey tools to be used for gathering qualitative and quantitative data from key stakeholders of the project. Checklists or guiding questions to be used for KIIs and FGDs were further refined at this stage. The team also developed structured survey questionnaires for collecting quantitative data from sample HHs in the selected project kebeles. Furthermore, document reviews inform the decision the team took regarding sampling techniques, sample size, and sampling criteria to be employed for gathering both qualitative and quantitative data needed to measure project performance against the set indicators.

Details of data collection and analysis methods as well as sampling techniques the team used for this evaluation are presented in the next sub-sections.

4.2. Data Collection Methods

4.2.1. Qualitative data Collection

Using combinations of data collection techniques, the evaluation team gathered qualitative primary data needed to answer the evaluation questions. Qualitative methods are considered effective in creating an understanding of the process that caused the change. They gather information about the values, opinions, behaviors, and socio-cultural context of particular populations from their perspective. For this evaluation, the team used the following qualitative data collection tools:

Focus Group Discussions (FGDs): Using the set of semi-structured questions, the team gathered qualitative data from small groups of informants (of 6 – 10 people considering the COVID-19 pandemic) selected from project intervention kebeles. FGDs to be held with beneficiaries and other groups (such as women) provides a better understanding and description of several local perspectives in the community. The discussion points generally included: how the Project came to their areas and what it has been doing, whether they are participating in the Project and how, whether they are getting some benefits from the project right now, and what improvements/changes they have observed in their livelihoods, what kind and how many sets or pieces of equipment they were provided, pieces of training they got, improved beekeeping practices, processing, and packaging of honey, market places, current prices, HH food security status, average annual income a result of the project, whether they are satisfied with the approach and activities so far, etc. FGDs were managed in a manner that ensures the participation of both men and women. Field officers of EWNRA facilitated and led the discussions. To that effect, the evaluation team conduct 1 FGD per sampled kebeles indicated in Table 2. The FGDs were conducted using separate sets of questions (**Annex 2**) that focused on the project interventions and achievements. Enumerators who can speak the local language and with an educational background related to the assignment were employed and collected the necessary information.

Key informant interviews (KIIs): Interviews were with key stakeholders of the project (namely, project staff, government partners, forest product marketing cooperatives and unions, and woreda and kebele officials) focused more on technical issues related to the project. Data from stakeholder interviews

helped to determine the extent that which the project was sufficiently developed, properly implemented, and achieved its objectives as well as to understand the sense of ownership and sustainability prospect of the project. The stakeholders involved in KIIs in HVC project evaluation in Masha and Anderacha woredas included the Masha and Anderacha Weredas livestock and fishery offices, Masha and Anderacha Weredas trade and market development, Masha and Andaracha woredas cooperative promotion offices, and Ethio-wetland and Natural Resource Association (EWNRA).

Case Stories and Direct Observations: The evaluation team developed 2 case stories of selected households to better understand the impacts brought about by the project. The cases were deliberately selected to represent project beneficiaries targeted through increased honey production and quality and better market access, asset creation, and income-generating activities (IGA). The selection process of the households was carried out in a participatory manner and a deliberate attempt was made to include women in the discussions. The team also made direct observations of randomly selected project sites and specific features that provide additional insights into project successes. Case stories and field observations were supported by photographs taken and videos recorded during a field exercise.

4.2.2. Quantitative Data Collection

Using the HH survey as a tool, the evaluation team collected quantitative data from randomly selected project beneficiaries in 14 kebeles from the project woredas. The collection of quantitative data was carried out using pre-structured survey questionnaires. Data collected through this method provided important details on demographic characteristics of the respondents, HH food security, production and productivity of main crops, livestock productions, improved honey production practices targeted beekeepers have been applying, annul production of honey, annual income of beneficiaries have generated from the project outputs and/outcomes, and other variables of interest (e.g., HH assets). Specific questions tailored to indicators in log-frame analysis (LFA) and related questionnaires were also administered to explore the performance of the project against the two indicators set at the objective level.

All quantitative/survey data were collected using mobile-based applications (Kobo Toolbox) because of their apparent advantages compared to paper-based data collection.

4.3. Sampling Techniques and Sample Size

The sampling techniques and sample size to be used for both qualitative and quantitative studies of this external evaluation are discussed in the subsections.

4.3.1. Quantitative Study/Households Survey

Sample Frame: The direct beneficiaries of the project in two woredas and 14 kebeles were the sample frame of the evaluation (i.e., 200 beekeepers). The male and female respondents were selected proportional to their respective numbers of the total beneficiaries. In addition, the type of beneficiaries

for instance beekeepers who received skill pieces of training provided on improved beekeeping practices and processing and packaging of honey and beeswax and engaged in IGAs (such as petty trading and poultry, shoat, and vegetable production) to be involved in the survey were also be determined in proportion to their number within the direct beneficiaries.

Sampling unit: This is the element or unit selected in sampling to which the data refers to. Beekeeper is the unit of analysis for this external evaluation.

Sample Size Determination: The sample size is determined following acceptable margins of error and confidence level. In line with this, the evaluation team aimed at a minimum of a 95% level of confidence with a 5% error margin for a high level of accuracy. The population (N) used to compute the sample size was 200 beekeepers. In addition, as we did not know the response distribution, we used 50% which gives the largest sample size. Finally, the sample size was calculated using the online Roasoft Sample Size calculator (http://www.raosoft.com/samplesize.html) and the total sample size, therefore, became 132 individuals.

Table 2: *Sample Distribution across Woreda, Cooperatives, and Gender*

Woreda	Cooperative	Kebele	Members		
			Male	Female	Total
Masha	Wodo Dinbarona	Beto, Uwa, Karina, and Degele	23	12	35
	Ajji Wodi		22	11	33
Subtotal Masha			45	23	68
Andaracha	Editi	Tugri, Yokichichi, Beshifa, and Chicha	23	12	35
	Shuno Yerida		23	12	35
Subtotal Andaracha			46	24	70
Grand Total			91	47	138

Sampling Technique: Since the total number of beneficiaries is relatively small (only 200 beekeepers) a sample size of 138 beekeepers require to cover all four cooperatives in Adaracha and Masha woredas. Four-stage stratified sampling technique was used to draw representative sample beekeepers among the beneficiaries. Therefore, the samples were further stratified by woreda, cooperative, and then by Kebeles using the Proportion to Population Size (PPS) technique. In the first and second stages, woredas and cooperatives were selected. In this sampling procedure, both weredas and the four cooperatives were taken purposively as the project weredas are only two and it needs to cover all cooperatives to get the required sample size. In the third stage, 8 kebeles (four from each woreda) were purposively selected from the 14 project kebeles based on the number of beneficiaries residing in the kebele. Finally, representative beekeepers were selected from the sample target kebeles using probabilities proportional to the size of beneficiary beekeepers in each of the target kebeles. To capture the gender aspects of the project, the total sample size was allocated between male and female

beneficiaries using the Proportion to Population Size as indicated in Table 2. The evaluation team recognized the fact that all survey respondents to be selected using probabilities could not be found during the interview. Noting this as the limitation of this sampling procedure, the team increased the sample size by 4% (i.e., n = 6) to compensate for the respondents who may not be available during the survey time. Together with this allowance, the total sample size is 138 beekeepers.

Questionnaire development: Aspects of this external evaluation requiring quantitative information were structured and the questions were categorized into closed and standardized questions to which there is a list of possible tick-box answers. The survey was use detailed questionnaires with ordinal and nominal questions as to its main enumeration tool. The typical evaluation questionnaire is comprised of a few different categories of information, each one serving a particular purpose:

- Identifiers (e.g., geographic location (region, zone, woreda, and kebeles), HH ID number, date of interview);
- Background Characteristics (This includes factors in which respondents may differ from one another. e.g., socio-economic status, participation in other projects, age, marital status, educational level, housing conditions, etc.
- Indicators for disaggregating data (e.g., by gender, level, and type of project participation); and
- Project result/outcome indicators (measures of what the project intends to change to achieve its envisaged objectives).

If baseline data is available, the consultants used the same questionnaires deployed to ease gauging of performance of the project comparing its final status with the baseline scores. Note that revisions could be made that may entail omitting irrelevant ones and incorporating some more evaluation questions if the baseline questionnaires were not comprehensive enough to meet the intent of the evaluation.

Variables: Variables of interest for the survey were determined by reviewing the revised HVCP proposal, result frame of the project, progress reports, and the baseline survey. More specifically, the variables in the household survey were constructed to capture appropriate data on the project performance indicators. The ADC was mindful of a possibility whereby some variables get repeated in different questionnaires for triangulation purposes. The consultants exerted utmost effort to make use of carefully designed questions and categories to ensure compatibility and allow for comparison with data collected elsewhere.

Questionnaire validation: Once the draft questionnaire was developed, the evaluation team ensured that the questions are complete and accurate, the response options are relevant and exhaustive, and the respondents comprehend what is being asked of them.

4.3.2. Qualitative Data

It is hard to get evidence that shows the values, beliefs, attitudes, and perceptions that form the core of qualitative research are normally distributed. This underlying fact makes the probability approach inappropriate for qualitative data collection methods. Some informants are more likely to provide

greater insight and understanding of the local settings to the assessment team due to a variety of factors including their social, economic, educational, and cultural position in the community. Purposive sampling was used to ensure certain relevant characteristics are included in the sample. This also ensures that the diversity of conditions present in the cluster is captured in the sample.

Sampling Criteria: The evaluation team employed a purposive sampling method to select respondents for both the FGD and KIIs. Criteria used for the purposive sampling included, but were not limited to, sectoral representation, project focus, objectives and components, proximity, level of participation in each intervention, knowledge about the project, distribution of beneficiaries by project results, sex, and the number of beneficiaries within different target units. These criteria were identified in consultation with the Project staff and stakeholders who participated in the evaluation process.

Sample size: the sample size for the qualitative aspect of the final evaluation of the project was as large as possible to ensure the inclusion of most or all the local perceptions about the interventions. In practice, the number of groups becomes obvious as the assessment progresses, as new categories, themes and explanations stop emerging from the data (theoretical saturation). This requires us to follow a flexible assessment design and an iterative, and cyclical approach to sampling, data collection, analysis, and interpretation. To this end, we initially planned to conduct 8 FGDs from the direct beneficiaries of the project, i.e one FGD per kebele selected for the final evaluation. Out of the 8 planned FGDs, 5 FGDs were conducted. It was very tough to gather the target beneficiaries as a group because they are busy with market activities on Saturdays, church on Sundays, and other social commitments on weekdays. Two case stories (1 male and 1 female model beekeeper) were conducted. The total number of KIIs conducted was 7: 2 from woreda level CPO (1 from each project woreda), 2 from Livestock and Fishery Resources Office (1 from each project woreda), 1 from Masha Woreda Trade and Markering Development office, and 2 from EWNRA (Masha sub-office) project staff.

4.4. Data Analysis

The evaluation team employed both quantitative and qualitative methods of data analysis as integrating data analysis methodologies and techniques helps towards a better discussion, confirming and explaining the findings of the study thus resulting in better analysis. Therefore, in this study both descriptive and inferential analysis techniques relevant to the nature of data collected were used to scrutinize the variables under consideration in the respective objectives. Qualitative data were gathered through FGDs and KIIs and compared to ensure validity and reliability of the data.

Quantitative Data Analysis

Quantitative data were analyzed using the latest version of STATA and SPSS. Specifically, descriptive statistics such as tables, graphs, mean, percentage, and variance were applied to better understand the baseline and end-line situations of the beneficiaries in the project area. The impact assessment of the project intervention in the area was analyzed using the before-and-after approach.

The before-and-after analysis could be a comparison between the pre-and post-program outcomes of beneficiaries. One might compare ex-post outcomes (end-line situations) for beneficiaries with data on their outcomes before the intervention (baseline conditions), with comparable survey data before the program was introduced.

Qualitative Data Analysis: The qualitative method of data analysis includes among others, content analysis, transcription, synthesis, narration, and thematic presentations. The evaluation team triangulated data gathered through document reviews, FGDs, and KIIs to support findings, conclude, determine lessons learned, and make recommendations for potential projects/projects in the future. To that end, all audio-recorded interviews or field notes were translated from the local language into English and transcribed during and after data collection. Emerging themes were developed from the expanded interviews and discussions. In general, the qualitative data analysis followed the following five interrelated steps, namely reading, coding/identifying emerging themes, displaying data, data reduction, and interpretation.

5. Findings of the Evaluation

5.1. Demographic Characteristics of the Surveyed Respondents

A total of 137 (46 females) respondents were surveyed for conducting the endline evaluation. Most of the surveyed respondents (94.89%) are household heads. The head of a household is the person who generally provides the chief source of income for the household unit and shoulders social responsibility for the household. Empirical studies reveal that household heads truly report household situations like income and other resources compared to other household members. Therefore, data collected using the household survey is accurate since about 95% of the surveyed respondents were household heads. The remaining 7 (5.11%) of the surveyed respondents are wives and they participated in the interview since their husbands (the household heads) were not around during the interview. A cross-tabulation of household headship and gender of the respondents is provided in Table 2. As shown in Table 2, 66.42% of the surveyed respondents are males while the remaining (33.58%) are females.

Table 3: Cross-tabulation of Household Headship and Sex of the Respondents

Are you head to this household?	**What is your gender?**		
	Male	Female	Total
Yes	90	40	130
	65.69%	29.20%	94.89%
No	1	6	7
	0.73%	4.38%	5.11%
Total	91	46	137
	66.42%	33.58%	100%

Knowing a marital status of a certain population is essential because it has demographic, fertility rate, and socio-economic implications. Table 3 presents the marital status of the surveyed respondents disaggregated by kebele. It shows that the majority of the surveyed respondents (94.89%) are married while 2.92% of them are widowed. About 1.46% and 0.73% of the surveyed respondents are single and separated, respectively.

Table 4: Marital Status of the Respondents

Kebele	**Marital Status**				
	Single	**Married**	**Separated**	**Widowed**	**Total**
Beshifa	1	10	0	0	11
	9.09%	90.91%	0.00%	0.00%	100%
Beto	1	11	0	1	13
	7.69%	84.62%	0.00%	7.69%	100%
Chicha	0	14	0	0	14
	0.00%	100%	0.00%	0.00%	100%
Degele	0	20	0	2	22
	0.00%	90.91%	0.00%	9.09%	100%
Karina	0	13	0	0	13
	0.00%	100%	0.00%	0.00%	100%
Tugri	0	25	0	0	25
	0.00%	100%	0.00%	0.00%	100%
Uwa	0	17	1	1	19
	0.00%	89.47%	5.26%	5.26%	100%
Yokichichi	0	20	0	0	20
	0.00%	100%	0.00%	0.00%	100%
Total	2	130	1	4	137
	1.46%	94.89%	0.73%	2.92%	100%

Due to the high relevance of the household head's education status in poverty reduction and other key decision-making concerning the allocation of economic resources, technology adoption, and successfulness of the project implementation, it is imperative to assess the educational status of the surveyed respondents. Out of the 137 surveyed respondents, the majority of them (43.8%) attained grades 5-8 complete followed by those with the educational status of grades 1-4. About 12.41% of the respondents were high school complete and 9.49% are illiterate. Those who completed grade 12 constitute 1.46% while 5.11% do not have formal education as illustrated in Figure 1.

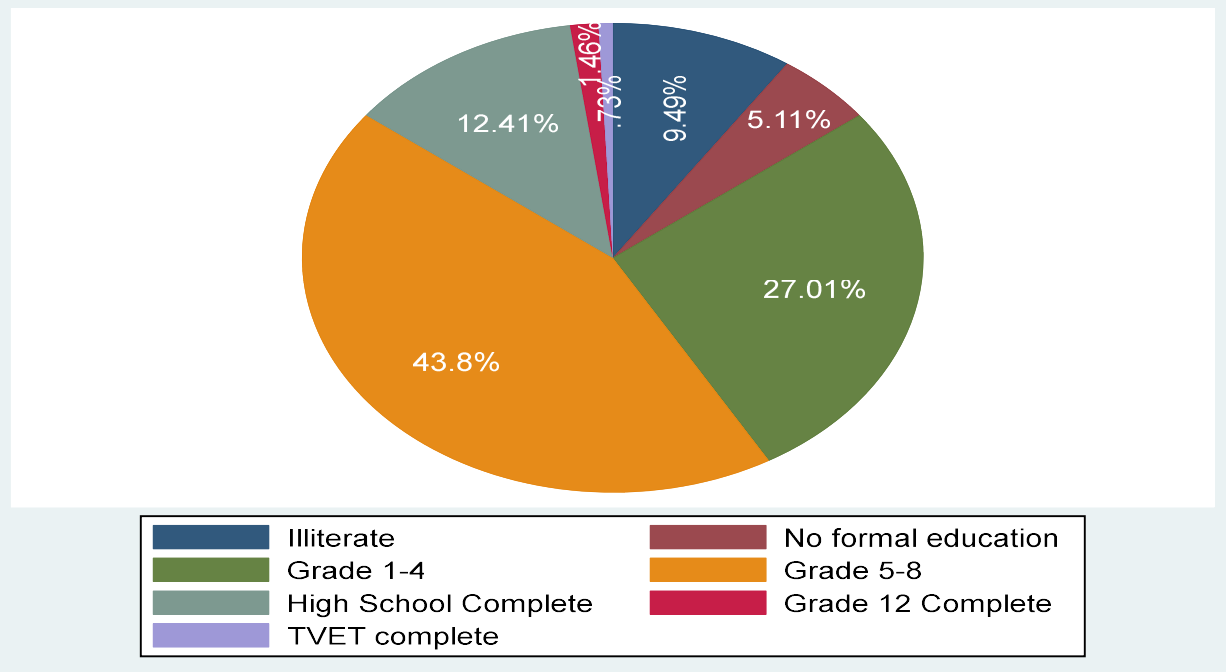

Figure 1: Educational Status of the Respondents

Table 4 summarizes descriptive statistics for the family size and age of the respondents. The total family size of the respondents ranges from 2 to 118 with an average of about 6 and a standard deviation of 1.985. The number of male family members ranges from 1 to 10 with an average of 3 and a standard deviation of 1.625. The minimum number of female family members of the respondents is 1 while the maximum is 8 with a mean value of 3 with a standard deviation of 1.5. the lowest age of respondents is 20 years, and the maximum is 80 years. On average, the age of the respondents is about 39.5 years.

Table 5:Descriptive Statistics of Family Size and Age of the Household Head

Variable	Obs	Mean	Std. Dev.	Min	Max
Family size	137	6.153	1.495	2	8
Number Males	137	3.19	1.222	1	5
Number Females	137	3.175	1.248	1	5
Age HH Head	137	39.511	11.179	20	80

5.2. Assessment of Project Performance

5.2.1. Relevance

This section presents an assessment of the relevance of the intervention from the perspective of project alignment with the country's policy and program framework, the relevance of the project to the needs of the beneficiaries, and the appropriateness of the project approach.

5.2.1.1. Project Alignment with Ethiopia's Policy and Strategy Framework

The HVC project was well aligned with the country's policy and program framework. The intervention responds to the strategic pillars of the **Ten Years Perspective Development Plan (2021 – 2030)** of Ethiopia**.** More specifically, it is aligned with Pillar 2: raising productivity and competitiveness. This pillar focuses on, among other things, prioritizing innovative production systems and linking incentives with export revenue and job creation. The HVC project's goal well fits the above-mentioned pillar, The goal of the project was to improve income and job opportunities for the beneficiary households through enhancing honey production, productivity, and quality. To this end, the project followed an innovative honey production system, i.e., transforming beekeeping practices from traditional beehives to transitional ones that are supposed to enhance honey production, productivity, and quality. Besides, **Outcome 2**: increased export of honey was in line with Pillar 2 of the Ten Years Perspective Development Plan of the country.

The HVC project supports the climate-resilient economy (Pillar 6) of the Ten Years Perspective Development Plan of Ethiopia in many aspects. Pillar 6 prioritizes improving productivity and reducing GHG emissions. The intervention's main aim was also to improve income and job opportunities by improving honey productivity. Improving income and job opportunities for the target beneficiaries has a significant contribution to reducing GHG emissions in two ways. First, the dependence of the local community on a forest to generate income for living reduces when income obtained from other sources increases. Therefore, deforestation decreases which in turn reduces GHG emissions. Second, shifting beekeeping practices from the traditional systems to the transitional/modern system helps reduce GHG emissions. For instance, Pignagnoli et al. (2021) found that the beekeeping system has a paramount effect on GHG emissions. According to them, the Carbon Footprints that were calculated for honey ranged from 1.40 to 2.20 kg CO2e/kg of honey for migratory beekeeping and from 0.380 to 0.48 kg CO2e/kg of honey for non-migratory beekeeping.

The HVC project supports the SDGs. Goal 1 of the SDGs concerns the eradication of poverty in all its forms everywhere. The intervention directly enhances the achievement of this goal since it aimed to improve income and job opportunities for the direct beneficiaries. The project has a strong connection with Goal 2 of the SDGs. End hunger, achieve food security and improve nutrition, and promote sustainable agriculture are priorities of Goal 2. Increasing honey production, productivity, and quality contribute to this goal because it helps end poverty, ensures food security, improves nutrition, and promotes sustainable agriculture. Bees provide numerous benefits to the natural environment and have a critical role in its sustainability. In this regard, the project was well aligned with (Take urgent action to combat climate change and its impacts), and Goal 15 (Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss) of the SDGs through its livelihood.

The HVC project has direct relevance to the REDD+ program in Ethiopia. REDD+ was launched to address the causes of deforestation and forest degradation. It also aimed to create a way for monetizing

abatement potential to attract climate finance via the REDD+ framework. As a result, REDD+ is expected to provide a means of providing long-term financial incentives to encourage sustainable forest management, conservation, and restoration, which will benefit the environment, society, and economy. Beekeeping is a valuable income-generating activity with high potential, especially for populations living near forests. Beekeeping also contributes to increased crop productivity and biodiversity by pollinating plants. This decreases the community's dependence on forests to earn income for living. Therefore, beekeepers are not interested in cutting down trees as a result of their beekeeping activity. This alone gives the sector environmental value, allowing it to play a comparable role to REDD+. This implies that the HVC project also supports the REDD+ policy framework and Climate Resilient Green Economy (CRGE) initiative.

The HVCP is also closely aligned with Ethiopia's National Adaptation Plan (NAP-ETH). NAP-ETH builds on existing initiatives in Ethiopia's development policy framework to address climate change, such as the CRGE strategy. Its purpose is to increase adaptive capability and resilience to reduce vulnerability to the effects of climate change. NAP-ETH focuses on the most vulnerable sectors, which include agriculture, forestry, health, transportation, power, industry, water, and urban. Within these sectors, 18 adaptation options have been identified and the HVC project supports the following adaptation options of the NAP-ETH:

- ∅ Improving agricultural productivity in a climate-smart approach to increase food security. Modernizing beekeeping practice is a climate-smart approach to improving food security because it enhances honey, production, productivity, and quality without damaging the environment. Therefore, the HVC project well fits this adaptation option.
- ∅ Improving ecosystem resilience through conserving biodiversity. Backyard beekeeping is very crucial in conserving biodiversity and enhancing ecosystem resilience which makes the current project relevant to this adaptation option.
- ∅ Enhancing sustainable forest management. Beekeeping gives local people an economic incentive for the retention of natural habitats and is an ideal activity in any forest conservation program.
- ∅ Developing efficient value chain and marketing systems. One of the objectives of the HVC project was to create a honey value chain and honey market linkage and therefore make it a perfect fit for this adaptation option.

Last but definitely not least, one of the DF's priority themes is combating poverty by focusing mainly on supporting smallholders to produce surplus food while protecting the ecosystem. Poverty reduction requires increasing income and job opportunities for households. In this regard, the HVC project goal supports the goal of the DF. Producing surplus food without harming the environment requires production, productivity, and quality income-generating activities like honey production. Outcome 1 (increased production and quality of honey) which deals with improving the income of the direct beneficiaries by increasing honey production, productivity, and quality have a direct contribution to the DF's main objective.

5.2.1.2. Relevance of the Project to the Needs of the Beneficiaries

The HVC project implemented in Masha and Anderacha woredas of the Sheka zone was designed based on the community and local authority's priority needs. Before the HVC project intervention, communities in the two woredas relied on traditional beehives which are less productive and affect honey quality. Besides, the majority of them used to hang hives on trees which had a risk of falling off the tree and being attacked by wild animals. The project intervention enabled the beneficiaries to start backyard beekeeping practices with less effort. The project improved honey production, productivity, and quality which in turn improved income and job opportunities for the direct beneficiaries. Besides, the intervention has promoted technological diffusion concerning beekeeping practices.

5.2.1.3. Appropriateness of the Project Approach

The HVC project design and approaches are unique and holistic. The project design and approaches that contributed to the success of the project implementation were that the project provides a full package of support to the direct beneficiaries regarding beekeeping. This means that beneficiaries of the project obtained transitional beehives (KTB) on a credit scheme basis. They were also provided with capacity-building training concerning beekeeping practices. Continuous monitoring and follow-ups were provided by beekeeping extension experts. Moreover, the project was implemented with strong support and collaboration from key government stakeholders which are supposed to sustain the project impacts and best practices.

5.2.2. Coherence

This external final evaluation examined the coherences of the HVC project, and the findings are presented as follows.

5.2.2.1. Internal Coherence

The HVC project design and implementation were aligned with the wider policy frameworks of the implementing (EWNRA) and donor (DF) institutions. Both EWNRA and DF envision alleviating poverty while promoting natural resources management for sustainable development. In this regard, the HVC project intervention was well suited to the institutions' winder policy frameworks. Moreover, the intervention was aligned with REDD+ PFM projects implemented by EWNRA.

5.2.2.2. External Coherence

The HVC project intervention was aligned with the SDGs indicating the implementing institution was committed to the SDGs. More specifically, the institution was committed and accountable to Target 17.14 under Goal 17 which promotes policy coherence enhancement for sustainable development. This succinctly expresses that both policy alignment and accountability to the SDGs were mainstreamed

and implemented in the HVC project. Besides, the HVC project was aligned with the country's policies and strategies like the Ten Years Perspective Development Plan (2021-2030).

From the implementation context, the HVC project was coherent with interventions implemented by other actors. The HVC project was designed and implemented based unmet needs of the community regarding beekeeping practices. The intervention was unique in that it provided a full package of support and continuous monitoring and follow-ups which do not exist in related projects implemented by other actors.

5.2.3. Effectiveness

Effectiveness assists in understanding how well an intervention is achieving or has achieved its objectives. The final evaluation assessed to what extent the project's objectives were achieved. A detailed overview of the findings is presented in the section below.

Outcome 1: Increased Production and Quality of Honey

This outcome focused on increasing the production and quality of honey by adopting improved beekeeping technologies like transitional beehives along with their accessories and training. The outcome has two indicators. The first indicator is the volume of honey production with the required quality (in MT) while the second one is the percent of honey that fulfilled the required quality standard. Three outputs contributed to Outcome 1. The first output deals with raising beekeepers' knowledge of improved beekeeping practices. Increased access to necessary equipment for modern honey production is the second output of the HVC project under Outcome 1. Output 3 is related to increased access to processing and packaging materials. In what follows, the evaluation team assessed the performance of the project from the viewpoint of the aforementioned outcome and outputs indicators using data from different sources, and the result is summarized in Table 5.

Table 6: Outcome 1 Performance Summary

Outcome Indicator	**Baseline Value (2018)**	**Endline Value (2021)**	**Data Source**	**Project Target**
Outcome 1: Increased Production and Quality of Honey				
The volume of honey production with the required quality (in MT)		107	Document review and HH Survey	150
% of honey that fulfilled the required quality standard		Difficult to determine	Project reports	90%
Output Indicator	**Baseline Value (2018)**	**Endline Value (2021)**	**Data Source**	**Project Target**
Output 1.1: Beekeepers' knowledge of improved beekeeping raised				

Number of beekeepers and extension workers trained in basic beekeeping practice		220	Project review and HH survey	220
Number of beekeepers and extension workers trained in queen bee rearing and colony multiplication		62	Project review and HH survey	30
Output 1.2: Increased access to necessary equipment for modern honey production				
Number of KTB beehives supplied to beekeepers		5070	Project review and HH survey	5000
The number of beehive accessories keepers supplied with beehive accessories (Smoker, protective cloth, hand glove, queen excluder, water spray, etc.)		199	Project review and HH survey	200
Output 1.3: Increased access to processing and packaging materials				
Number of food-graded plastic bags with the capacity of 50 Kg to cooperatives (700 per cooperative)	0	0	Project reports and FGDs	2800
Number of food-graded plastic drums with the capacity of 50 Kg to cooperative(250 per cooperative)	0	0	Project reports and FGDs	1000
Number of food-graded metallic drums with the capacity of 50 kg	0	96	Project reports and FGDs	0

The target of the HVC propject was to support the beekeepres to supply 90% of honey that fulfilled the required standards during the project's lifetime. However, it difficult to determine whether the target was achieved or not because the honey was sold in the local traders. Quality of honey was not verified from the buyers' side. Therefore, performance related to the quality of honey in this final evaluation is a relative concept and it was based on the beekeepers' personal judgmenet. The household survey was conducted to assess the effect of the HVC project intervention on the quality and quantity of honey. All the surveyed respondents (100%) revealed that the project intervention increased the quality and quantity of honey they produce. As illustrated in Table 6, the intervention improved honey production for all types of hives. Before the HVC project intervention, the average honey production per traditional hive was 13.2 kgs. The minimum honey production per traditional beehive before the project intervention was 9.4 kgs while the maximum was 17 kgs. After the project intervention, average honey production per traditional beehive is found to be 16.86 kgs which is about a 3.66 kgs increment when compared to production before the intervention. The average honey production from a single KTB before and after the HVC project intervention is 20.95 kgs and 28.26 kgs, respectively. This shows that the intervention has brought about a 7.31 kgs increment in honey production per KTB.

Table 7: Honey Production per Hive

Before the Intervention					
Production per Hive	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Traditional		13.2		9.4	17
KTB		20.95		15.4	26.5
Modern		24.9		17.5	32.3
After the Intervention					
Traditional	137	16.861	4.620	8	45
KTB	136	28.262	6.949	10	60
Modern	22	31.818	11.223	8	50
KTB		10.679	12.678	0.00	

After the project intervention, the productivity of modern hives has improved. More specifically, average honey production per modern hive increased from 24.9 kgs (before the intervention) to 31.818 kgs (after intervention). The average increment was about 6.92 kgs per modern hive. Honey productivity per beehive of a different type was attributed to the capacity-building training on beekeeping practices during the project intervention. The surveyed respondents reported that the training was delivered timely and was relevant to beekeeping practices, therefore adding value to the honey production. Data obtained from the project report are in line with finding from the household survey. During the project's lifetime, about 107 metric tons (37 MT from KTB) of honey were produced by 199 target beneficiaries.

Output 1.1: Beekeepers' Knowledge of Improved Beekeeping Raised

To raise knowledge of beekeepers on improved beekeeping practices the HVC project provided training on basic beekeeping practices. Participants of the training were the direct target beneficiaries of the project (beekeepers) and beekeeping extension workers. To assess the performance of the project concerning this specific indicator, data were collected using the household survey. The result shows that all the 137 (100%) surveyed project beneficiaries took capacity-building training regarding basic beekeeping practices. The project report also shows that all beekeepers who participated in the project attended the training on basic beekeeping practices which indicates 100% achievement of the set target. Respondents were asked about topics covered during the training and the results are provided in Table 8. The result shows that most of the project beneficiaries (70.8%) reveal that the training they took part in covered basic beekeeping management, bee colony management, and pre-and post-harvest honey quality control. Nearly 27% of the respondents who participated in the training indicated that they took training on Basic beekeeping management and pre-and post-harvest honey quality control.

Table 8: Topics Covered during the Training

What topics were covered in the training?	Freq.	Percent
Basic beekeeping management and bee colony management	3	2.2

Basic beekeeping management, bee colony management, and pre-and post-harvest honey quality control	97	70.8
Basic beekeeping management, and pre-and post-harvest honey quality control	37	27
Total	137	100.00

Training of trainees (ToT) was also provided to key government stakeholders' experts and beekeeping extension workers. The ToT was planned to be provided to 10 participants while the project managed to train 14 participants which is a 140% performance level. Another area of planned training was on queen bee rearing and colony multiplication. The training was initially planned to be provided by experts from Honningcentralen Company in Norway. However, this was not successful due to the travel ban following the COVID-19 pandemic. As a solution, the training was provided by a local consultant for 15 ToT trainees out of the 30 targeted trainees. The underachievement was attributed to the late commencement of the project and political unrest that hindered strengthening the government-owned queen bee rearing center where ToT training was planned to be provided. For this reason, planned training for 2018 was postponed to 2019 and 2020. The ToT training the project to multiplicate bee colonies using the splitting technique. A total of 102 bee colonies were produced through this technique and transferred to beehives. The bee colonies multiplication benefited about 62 (19 females) beekeepers in Masha and Andaracha woredas.

Output 1.2: Increased Access to Necessary Equipment for Modern Honey Production

One of the approaches that the HVC project applied to improve the production and quality of honey was modernizing beekeeping practices by increasing access to necessary equipment for modern honey production. To this effect, the project provided transitional (KTB) to the project beneficiaries on a credit scheme basis. Data obtained from the household survey indicate that the project significantly improved access to KTB during the intervention period as depicted in Table 8. The average number of KTB owned by the surveyed households before the project intervention was 3 hives with a standard deviation of 4.223. The number of KTB owned by the surveyed households before the project was implemented ranges from 0 to 22 hives. The average value of KTB owned during the project implementation period increased to 22 hives with a standard deviation of 7.91. The minimum number of KTB owned during the project implementation period was 4 and the maximum was 43 hives. When we compare the average number of KTB owned before and after the project implementation, it shows an increment of 19 hives on average and is statistically significant at a 1% level of significance. A statistically insignificant slight increment was also observed in traditional and modern beehives.

Table 9: Number of Beehives Owned

Before the Intervention					
Variable	Obs	Mean	Std. Dev.	Min	Max
Number of traditional beehives before 2018	137	43.372	21.658	4	70

Number of KTB before 2018	137	3.036	4.223	0	22
Number of modern beehives before 2018	137	.606	1.531	0	8
After the Intervention					
No traditional beehives after 2021	137	46.606	25.349	10	80
No KTB after 2021	137	22.088	7.91	4	43
No modern beehives after 2021	137	.679	1.782	0	10

Mean Comparison

Variable	Mean Diff.	t-stat.	P-value
Number of traditional beehives	3.2	-1.1352	0.257
Number of KTB	19.052	-24.87	0.00
Number of modern beehives	0.07	-0.36	0.716

All the surveyed respondents (100%) reported that they received KTB from the HVC project. The minimum number of KTB hives received on a credit scheme basis was 5 while the maximum was 31 hives. On average, the surveyed respondents received 21 KTB hives from the HVC project during the implementation period. Evidence obtained from the project report and key informant interview with the project staff reveal that 5070 KTB hives were provided to the project beneficiaries during the project implementation period based on a credit scheme basis. In this case, the project achieved about 101.4% of its target. As illustrated in Figure 2, about 91.97% of the respondents reported that their demand for transitional beehives was satisfied by the KTB beehives provided by the project.

On top of the beehives supplied by the project, it was anticipated that 2,586 additional beehives will be purchased and supplied by the cooperatives using the returned credit. The current status of credit repayment varies from cooperative to cooperative depending on the strength of cooperative leaders learned from the project records. Cooperative with strong leaders performed better credit collection than weak leaders. In the year 2019, the cooperatives were able to collect ETB 250,879.50 out of the total credit amounting to ETB 2,167,375, which is 12% of the total credit. In 2020 the cooperatives were able to collect the total amount of ETB 464,113.75 out of the total credit amounting to ETB 3,560,000, which is 13% of the total credit. The following challenges are indentified concenring timely collection of the credit:

- ∅ Some beneficiaried have wrong attitude towards the revolving fund loan. They consider the credit as a gift and resist to repay it on time as stiputaed in the contractual agreement.
- ∅ Some of them wait for the cooperative to repay the credit from the dividend rather than paying it by themselves from the honey sale.
- ∅ The signed contractual agreement states that the beneficiaries should pay the credit upon selling of honey. However, there is a tendency to underreport honey production and sold quantity in order to use it as an excuse for not repaying the credit.

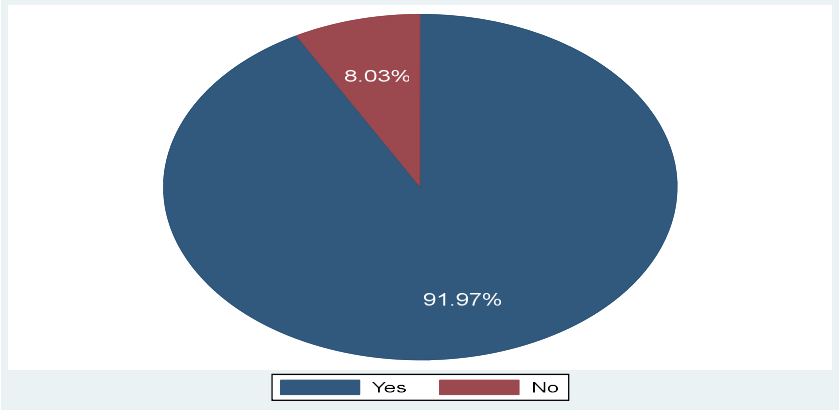

Figure 2: Did the KTB provided by the HVCP Satisfy your demand for Beehive?

Another material supports provided by the project to modernize the beekeeping practice was beehive accessories. The project's target was to provide beehive accessories to all (200) beekeepers included in the project. Evidence obtained from the household survey also revealed that all the surveyed (137) respondents received beehive accessories from the project. The respondents reported that they received beehive accessories including a smoker, protective cloth, hand glove, queen excluder, water spray, etc.

Apart from beehive accessories, a new queen bee rearing, and colony multiplication center was constructed using project resources in Anderacha Woreda which is equipped with the necessary materials so that it can properly meet its purpose. The center has also its apiary site; currently eight transitional and 10 framed hives are with bee colonies and ready for the colony multiplication practical training.

Output 1.3: Increased Access to Processing and Packaging Materials

The HVC project provided honey processing and packaging materials to the project beneficiaries to improve the quality of honey production. Initially, the project planned to distribute 2800 food-graded plastic bags with a capacity of 50 kg (700 per cooperative) and 1000 plastic drums with a capacity of 50 kg (250 per cooperative) under the project. However, the food-graded plastic bags and drums were replaced by the food-graded metal drums with a capacity of 50 kg following a formal letter written by the cooperatives and it was confirmed by the cooperatives. Mr. Endalkachew Lolasa, a marketing and livelihood officer at EWNRA (Masha Branch Office), mentioned that the cooperative requested replacement of the food-graded plastic bags with food-graded metal drums because they claimed that the former has a leakage problem and is easily attacked by rodents. Moreover, it was not possible to find a manufacturer/supplier of plastic bags with the required quality and quantity. The project managed to supply 96 metal drums (24 per cooperative).

Outcome 2: Increased Export of Honey

Empirical studies show that the Ethiopian honey export is low due mainly to two reasons. The first reason is that Ethiopian honey is of low quality in terms of moisture content, flavor, aroma, etc. Second, due to low production and productivity, the sector is not able to produce surplus honey and a large proportion is locally consumed for making a 'tej', a kind of honey wine or mead, the national drink of Ethiopia (Ababor & Tekle, 2018; Gebru, 2019). As mentioned under Outcome 1 of the project, the intervention improved both the volume and quality of honey produced by the target beneficiaries. The performance of the project concerning Outcome 2 is summarized in Table 10 below.

Table 10: Outcome 2 Performance Summary

Outcome Indicator	**Baseline Value (2018)**	**Endline Value (2021)**	**Data Source**	**Project Target**
Outcome 2: Increased Export of Honey				
The volume of honey exported		0	Document review	100 ton
Output Indicator	**Baseline Value (2018)**	**Endline Value (2021)**	**Data Source**	**Project Target**
Output 2.1: Honey Unions/cooperatives' capacity strengthened to export honey				
Number of cooperatives that supply the required quality honey to Tuchel and Sohn	0	4	Document review	4
Number of leaders of the union and cooperatives participated in training and exchange visits		31	Document review and KII	31
Output 2.2 Honey union and cooperatives linked to the international market				
Number of contract agreements signed among the union and Tuchel And Sohn and cooperatives		1	Document review and KII	1
Facilitate contractual farming agreements among beekeepers and marketing cooperatives		4	Document review and KII	4
Output 2.3 Honey sector forum established and strengthened				

Number of forums organized		3	Document review	3
Number of experience papers and best practices documented and shared		0	Document review	1
Number of active member organizations in the forum		17	Document review and KII	17

Output 2.1: Honey Unions/cooperatives' capacity strengthened to export honey

The HVC project strived to strengthen the capacity of the honey union and forest products marketing cooperatives participated in the project. The project planned to provide capacity-building training to leaders of honey unions and cooperatives. However, training was provided by the World Bank International Finance Cooperation (IFC) funded project. One union manager and 25 cooperative leaders (11 females) participated in the training. To avoid duplication efforts, the budget allocated for this training was shifted to the construction of a warehouse and the purchase of a generator, motorcycle, laptop, copying machine, and printer for Sheka Honey Union to strengthen it. This was a priority area because the union had critical limitations concerning the honey storage and honey processing rooms as the existing rooms lacks quality and electricity. Besides, the project sponsored four cooperative leaders, one cooperative union manager, and five zonal and woreda level government representatives to take part in Apimondia International Symposium organized in Addis Ababa in 2018.

Output 2.2 Honey union and cooperatives linked to the international market

Linking honey unions and cooperatives to the international honey market was another priority area of the HVC project to improve the existing market challenges facing the beekeepers. It was planned to export 100 metric tons of honey during the project period but this was not materialized. The plan during the development of the project proposal was to link Sheka honey union with Tuchel and Sohans GmbH, a German company through GiZ. However, the process was not successful since the company withdrew from the process due to a loss of trust and confidence in the union following the inability of the union to successfully abide by earlier contractual agreements. Following this incident, the project was actively engaged in searching for other international and national honey exporting companies where it reached out to Poland's EAT Manufacturing Company and facilitated market negotiations between the union and the company. However, it was not successful due to the tight standard requirements and low prices offered by the company compared to the local price. Besides, national honey exporting companies like Haile and Alem International PLC and Maritu Honey were contacted to facilitate market linkage between the companies and the cooperatives. Market linkage with one of the cooperatives under the project and Maritu Honey showed a good linkage signal though it was not sustainable. Maritu Honey

signed a contractual agreement with one of the cooperatives and purchased 45 quintals of crude honey for 64 birr/kg in 2019.

In 2020, the project repeated its unreserved efforts to link the honey union and cooperatives to the international honey market although the efforts were not successful due to the escalation of honey prices in the local market which discouraged the honey buyers to buy honey from the union. As a result, none of these efforts led to the signing of a contractual agreement between the union and honey buyers. Moreover, the project linked the marketing cooperatives under the project with Sheka Honey Union and local honey traders. Following the honey market linkage created by the project, Shunoyerida and Ajiwodi Forest Product Cooperatives collected honey from their members intending to supply it to the union. Later, the two cooperatives sold a total of 8,199 kg collected from members to local honey traders.

As can be understood from the above points, honey market linkage more specifically between the honey union and the international market, and between marketing cooperatives and the honey union remains to be a critical challenge for the honey sector in the project area. Evidence obtained from discussion with the cooperative committee members and key informant interviews with the project staff members confirmed the same. Mr. Masresha Dachito, a chairperson of Ajiwodi Forest Product Marketing Cooperative, testified that the HVC project has provided material, technical, and financial support to modernize the beekeeping practices. Mr. Masresha added that “The supports have improved the volume and quality of honey produced by the cooperative's members.” The committee members revealed that the lack of honey market linkage is the leading major obstacle facing the cooperative concerning honey marketing. Mr. Tariku Hussien, secretary of Ajiwodi Forest Product Marketing Cooperative, mentioned that the cooperative could not sell the honey collected from members in 2021 due to a lack of honey buyers. During the survey period, the evaluation team observed large quantities of collected honey in the store of the cooperative. Mr. Tariku stated that the union does not want to buy honey from the cooperative as they are not well linked to the international/national honey market. Local honey traders are not buying a large quantity of honey and they prefer to buy from individual beekeepers. Mr. Alemayehu Wodajo, a purchaser of the cooperative, stated that the cooperative is trapped in a critical financial constraint and could not collect this year’s harvest. The project has been striving to connect the cooperative with national honey exporters to solve the problem. Mr. Endalkachew Lolasa (from EWNRA) mentioned that the project has tried to facilitate negotiations between the cooperative and the national honey exporters to sell out honey in the store, but with no success. The reason, according to the committee members, was that the buyers want to offer prices that are below the collection price. For instance, in the 2021 harvest season, the cooperative collected honey for 120 birr/kg but buyers which the cooperative tried to negotiate with want to offer prices less than 120 birr/kg. The good news is that the project facilitated market linkage between the four cooperatives and Forest Food PLC. The negotiation seems promising and successful. Negotiations are underway with the three cooperatives while the company has signed a contractual agreement with the Wododinbarona forest product marketing cooperative and started buying honey for this year’s harvest season.

The project also linked individual beekeepers who are beneficiaries of the project with the marketing cooperatives. The linkage was based on a strong contractual agreement between the two parties. According to the agreement, the project provided KTB beehives to the target beneficiaries on a credit scheme basis and they supply honey to their respective cooperative in the light of the credit repayment. The market linkage between individual beekeepers and marketing cooperatives was successful as revealed by the household survey. About 90.51% of the respondents reported that the HVC project created market linkage for their honey as shown in Figure 3. Here, it is important to note that the honey market linkage under consideration is limited to the market linkage between individual beekeepers and cooperatives. All the surveyed respondents (100%) reported that they sell their honey to cooperatives.

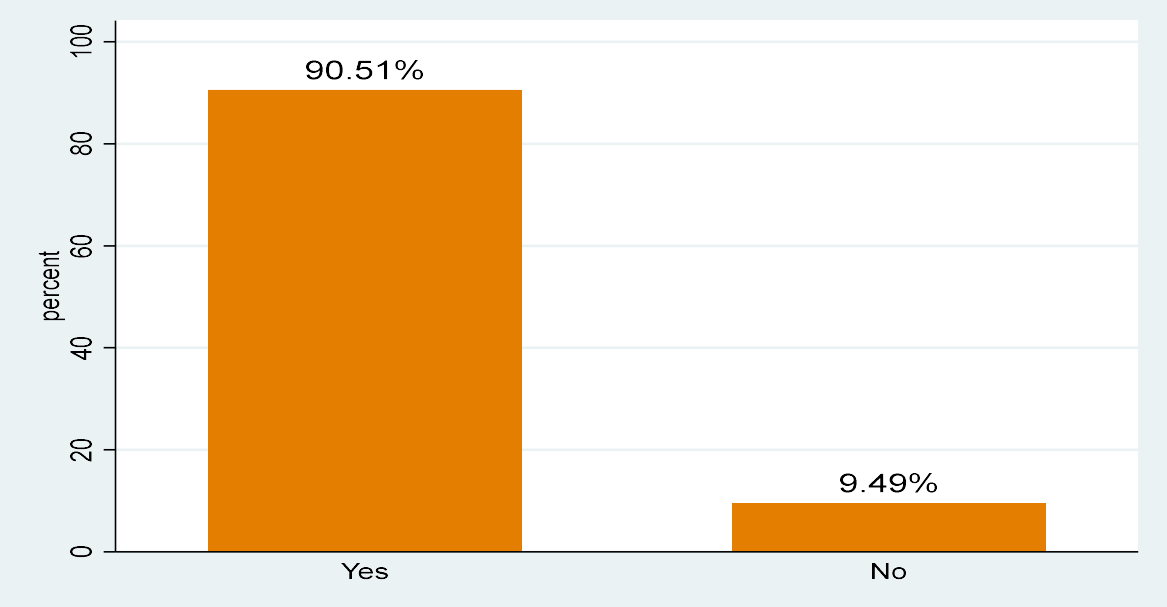

Figure 3: Did the HVC project create honey market linkage?

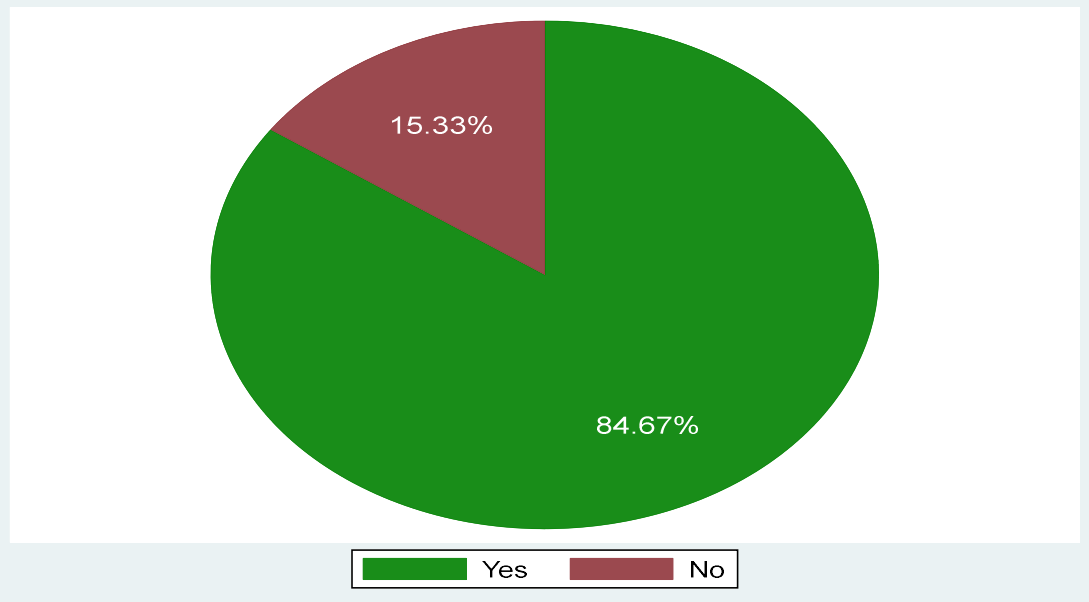

Figure 4: Was the created market linkage sufficient?

Output 2.3 Honey sector forum established and strengthened

Though the project intervention area is well known for its production potential of honey, the honey sector or its value chain is not well developed and integrated. This hinders the sector from contributing to the economic development of local communities and private sectors to its full potential. To overcome these challenges, the project established and strengthened the zonal honey sector forum which comprises stakeholders from different zonal and woreda government offices, private sectors, forest product marketing cooperatives, and honey unions. The main objective of the forum is to strengthen the honey value chain and integrate all actors of the honey value chain for a common goal. So far, the forum organized workshops and held discussions concerning challenges prevailing in the honey value chain, to suggest possible solutions, and to share responsibilities among the forum participants.

5.2.4. Efficiency

This criterion allows us to check if an intervention's resources are justified by its results, which is of crucial practical and political importance. In summary, the project implementation was efficient from the following viewpoints:

- ∅ The project was implemented in an economically efficient manner: There was no waste and resources were converted to results in the most cost-efficient way. For instance, consultancy works were done at lower costs than initially anticipated. Resources were allocated between the target groups and periods in an efficient way and as per the plan.

- ∅ The project was operationally efficient: human and financial resources were used appropriately as planned and fully utilized. Resources misallocation or budget overspending were not observed. Resources were redirected based on changes in needs. For instance, the following actions taken by the project witness reasonable and acceptable resource redirection upon the change in needs:
    - The budget allocated for the supply of food-grade plastic bags was redirected for the purchase of food-graded metal drums upon request from the cooperatives.
    - Planned training for leaders of the union and marketing cooperatives was not provided to avoid duplication of effort with the IFC. The allocated budget for this activity was shifted to other priority activities including the construction of a warehouse and the purchase of a generator for the union.
- ∅ Timeliness: the project's results were achieved within the intended timeframe. About 99.27% of the respondents confirmed that all the materials and technical supports provided were timely and relevant to the beekeeping practices. However, this does not mean that there was no delay at all given external factors. What matters here is whether the project undertook reasonable adjustments to overcome challenges and mitigated delays that might happen due to external factors. In this regard, the project undertook remarkable adjustments that could have affected the project performance negatively. Some of these adjustments are:
    - The ToT training for key government stakeholders' experts and beekeeping extension workers on queen bee rearing and colony multiplication was initially planned to be provided by experts from Honningcentralen Company in Norway. However, it could not happen due to the COVID-19 pandemic and the project used local experts to overcome the problem.
    - Following the failure in creating a honey market between the international market and Sheka Honey Union, the project resorted to facilitating negotiations between union/cooperatives and national honey exports and honey traders.

5.2.4.1. Efficiency in Budget Allocation and Utilization

The project lifetime budget was NOK 7,802,000 out of which the project utilized NOK 7,629,991 (97.8% of the total budget) Financial report (please refer to Table 10) of the project revealed that the project managed the project funds efficiently. Almost all the allocated budget was properly utilized to achieve the project objectives.

Table 11: Budget Plan and Utilization

Expenditure	**Total Budget**	**Total Actual Budget**	**Budget Utilization (%)**
Program costs	6,120,000.00	5,855,927.00	*95.7%*
Program support cost Country Office Ethiopia	698,000.00	670,142.00	*96.0%*

Program Costs DF Oslo	472,000.00	604,764.00	*128.1%*
Total expenditures before admin	7,290,000.00	7,130,833.00	*97.8%*
Admin, Oslo 7%	512,000.00	499,158.00	*97.5%*
Total Expenditures	7,802,000.00	7,629,991.00	*97.8%*

Implementation of the project was efficient in budget utilization due to the following reasons:

- ∅ Strong and close collaboration between the project implementor and key government offices like CPO and Livestock and Fishery Resources Office at both zonal and woreda levels. The strong collaboration between the project implementer and the stakeholders led to human resources (experts) sharing in training and technical support provision which could have been provided by the external experts/consultants at higher costs.
- ∅ Better technological adoption by the beekeepers due to a high willingness of the beneficiaries
- ∅ Strong commitment from the project staff members in implementing, monitoring, and providing technical support to the beekeepers
- ∅ Previously accumulated experience in beekeeping practices
- ∅ Adequate support, regulated monitoring, and follow-up from experts from the project

5.2.4.2. Efficiency in Addressing Target Groups

Assessing the extent to which a project addresses the target groups is crucial in judging the performance of the project from an efficiency point of view. Table 12 summarizes the efficiency of the HVC project in addressing the target groups. As it can be understood from Table 11, the project addressed the target groups efficiently within the planned budget.

Table 12: Efficiency in Addressing Target Groups

Outputs	**Total number of beneficiaries planned**	**The total number of beneficiaries reached**	**Performance (%)**
TOT training for government and project BK extension workers	10	14	140%
Training of beekeepers on basic beekeeping practices	200	200	100 %
On-the-job training and follow-up of beekeepers on bee colony management	200	199	99.5%
Training of beekeepers on honey harvesting, post-harvest handling, and processing	200	199	99.5%

Provision of accessories (Smoker, protective cloth, hand glove, queen excluder, water spray, etc) to beekeepers	200	199	99.5%
Technical and material support for beekeepers on apiary establishment and management	200	199	99.5%

5.2.4.3. Project-induced Innovations

Employing an innovative approach to implementing a project improves the performance of the project. The HVC project was unique and innovative in the following aspects:

- ∅ Provision of full package support to beekeepers: the HVC project was innovative in that it provided full package support (material, technical, financial/access to credit, continuous monitoring and follow-up, capacity-building training, and market linkage). The provision of full package support necessary for beekeeping made the project more effective, efficient, and impactful compared to related previous project interventions with partial support. Besides, the project hired its beekeeping extension workers or technical assistants who provided technical assistance to the beekeepers and conducted follow-ups. This is not a comment with other project implementors.
- ∅ Strong and close collaboration with key government offices enabled the project to share human resources (experts) which in turn enriched the effectiveness and efficiency of the project.
- ∅ The HVC project was established on a strong base, or it is an institution-based project because it was well connected with participatory forest management (PFM). Then target groups of the HVC project were selected from the previously established PFM. This feature enriched effectiveness and sustainability of the project.
- ∅ The project design was consistent with the local economic activities.

5.2.5. Impact

The impact of an intervention assesses the extent to which the intervention has generated significant positive or negative, intended, or unintended, higher-level effects. This section presents the impact of the project on the target beneficiaries.

5.2.5.1. Intended Positive Impact

The overarching goal of the project was to improve income and job opportunities for the target group. The percentage of beekeepers with beekeeping as a major source of income increased from 24.09% in the baseline year (2018) to 64.23% at the end of the project (2021) as shown in Table 12. It implies that about 64.23% of the surveyed target groups rely on beekeeping as their major source of income.

Table 13: Major income source of the beekeepers

No.	Main income sources	Main income source for households before the HVC project	Main income source for households after the HVC project
1	Annual crop	36.50%	10.95%
2	Coffee	13.87%	8.03%
3	Livestock	24.09%	14.6%
4	Honey	24.09%	64.23%
5	Spice	1.46%	0%
6	“Enset”	0%	2.19%

The intervention enhanced the production, productivity, and quality of honey which in turn improved income generated from honey. As a result, the contribution of income earned from honey to the total income of the household has increased. As illustrated in Table 13, the share of income generated from honey to the total household income increased from 21% in the base year (2018) to 23% at the end of the project (2021).

Table 14: Contribution of major income sources to the total household income

No.	Main income sources	% of Contribution to total household income before the intervention	% of Contribution to total household income after the intervention
1	Annual crop	14.0%	23%
2	Coffee	21.4%	17%
3	Livestock	27.5%	26%
4	Honey	25.9%	23%
5	Spice	3.5%	2%
6	“Enset”	8.2%	9%

The project improved the households’ average annual income from honey. As indicated in Table 14, households’ average annual income from honey increased from 11998.195ETB (before the intervention) to 20,603.358 ETB (after the intervention.)

Table 15: Households’ Average Annual Income from Honey

Variable	**Mean**	**Std. Dev.**	**Min**	**Max**
Annual Income from honey before the intervention	11998.195	6469.172	700	26000
Annual Income from honey before the intervention	20603.358	7465.567	4000	36000

The project beneficiaries have expressed their satisfaction with the intervention because they feel that the project has met its objectives by improving their average annual income. All of the surveyed respondents (100%) reported that the increase in income has ultimately resulted in improvements in

living standards where beneficiaries have upgraded the quality of their houses. The respondents revealed that they changed the thatched hut to a corrugated roofing house.

The intervention also enabled the target beneficiaries to meet the family's needs like sending children to school and paying for health expenses. As indicated in Figure 5, about 96.35% of the respondents revealed that the intervention has assisted them in fulfilling their family members' needs such as schooling, clothing, and health. For instance, Mr. Wondimu Bireda, one of the focus group discussants from Uwa kebele, stated that they dress well and the quality and style of dressing of the community are not different from those of the urban dwellers.

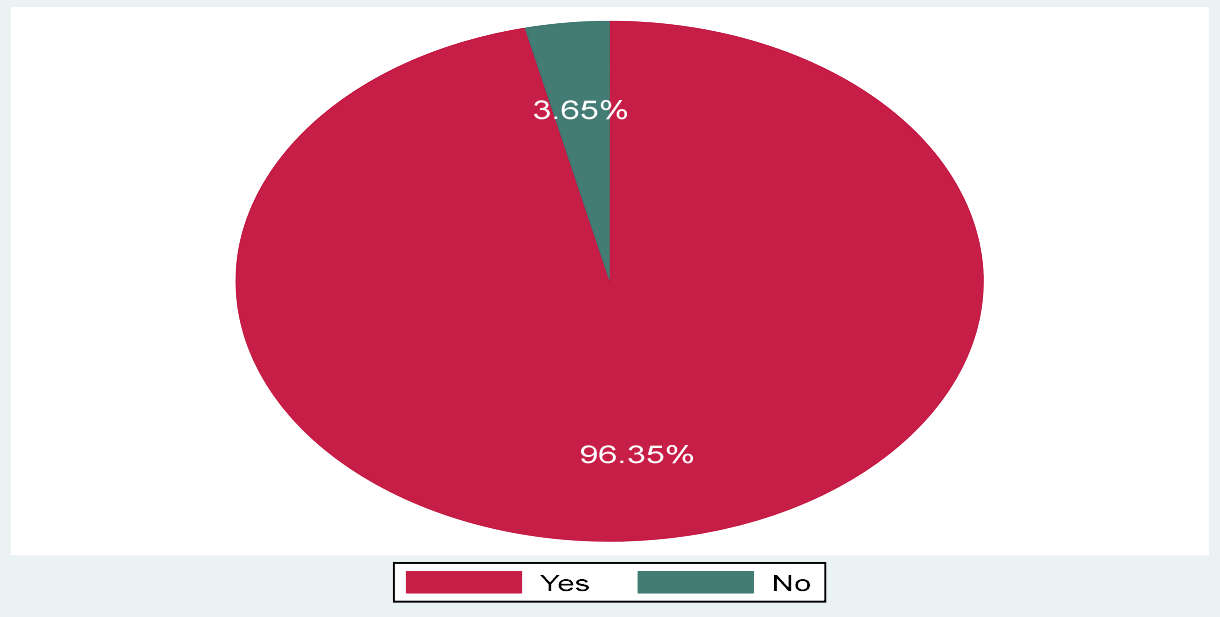

Figure 5:: Has the project assisted you in meeting your family's needs

Similarly, receiving skills and advice from training and technical advisors enabled the project beneficiaries to obtain essential skills to enter the market and sustain their businesses. Skills and techniques related to basic beekeeping practices, queen bee rearing, colony multiplication, and marketing were the most appreciated among the project beneficiary as they perceived them to be core skills to start up the honey business. Female owners expressed great satisfaction with the training phase, as it seems women are rarely targeted in capacity building and related business management programs. Females also had a greater tendency to share their skills and knowledge. From these different responses, it is clear that training and technical support were critical to the success of the beekeeping business. Although the honey expert did not progress as expected, individuals in the cooperatives perceived the training as useful to both their micro-businesses and their life skills in general. It is worth mentioning that technical specialists, implementing partners, and government experts regularly conduct meetings with beneficiaries and liaise through in-person engagements to provide advice and hands-on support.

The skills development and material support have positively impacted and improved the livelihood of beneficiaries. However, the cooperatives still need additional technical support to ensure long-term impact in terms of national and international market linkage.

5.2.5.2. Unintended Positive Impact

The project has brought about the following unintended positive impacts:

- ∅ The project resulted in a strong knowledge base and technology diffusion among the community. Even though beekeeping technology adoption by the target group was initially low due to lack of awareness, the technical and material support along with continuous monitoring and follow-up led to significant improvement in the areas of knowledge sharing amongst communities. Beekeeping technology and knowledge created by the project have been well adopted by the target group and diffused to the non-beneficiary beekeepers in the project area. As a result, 103 copy beekeepers were created because these beekeepers managed to copy the beekeeping knowledge and technology adopted by the target group.
- ∅ Minority ethnic groups like Manja who reside in the area are marginalized due to the social strata created based on differences in occupational and lifestyle including food items, and work type. Mr. Yingalign, Masha Sub-office Branch Coordinator (EWNRA), pointed out that there was no social interaction between Manja and other majority ethnic groups before the project intervention. The minority group was not interacting with other majority groups in any social affairs to the extent of not sitting together. The intervention significantly improved the improved relations and social interaction between these groups consequently enhancing the social cohesion at the local level. They participate in meetings and training without any discrimination from the community. Mr. Yingalign added that the Manja minority ethnic group did not follow a permanent settlement before the intervention. After being included in the HVC project, they started practicing a permanent settlement for the sake of practicing beekeeping.
- ∅ The project contracted local carpenters to manufacture and supply KTB beehives. It has ignited the local economy by awakening the woodwork enterprises in the area. In this regard, the project created job opportunities not only for the target group but also for woodwork enterprises in the intervention area.

5.2.6. Sustainability

Assessing the sustainability of a project enables us to determine if an intervention's benefits are sustainable financially, economically, socially, and environmentally. The project is sustainable when assessed from the following criteria:

- ∅ Social sustainability: it is socially sustainable because the project's main goal was to improve the income of the target groups which in turn improves the livelihood/well-being of the society. The project promoted equity and gender inequality as it was inclusive in addressing all

segments of the community (gender, minority, etc.). Disadvantaged and marginalized groups were included because the target groups were selected based on strong and objective criteria. Besides, the project promoted diversity, social cohesion, and quality of life for the target groups.

- ∅ Environmental sustainability: the project is environmentally sustainable since backyard beekeeping is more environmentally friendly than hanging beehives in the forest. Modernizing beekeeping practices improve the income of the beekeepers and reduce their dependence on the forest which in turn improves forest management. The project also raised awareness of the target groups on the importance of forests for beekeeping practices.
- ∅ Financial sustainability: the project area has a high potential for honey production and the community has experience in beekeeping practices. Besides, the prices of honey have been improved due to the intervention. Therefore, the beekeepers can generate enough income to sustain their beekeeping practices. Besides, the community revolving fund for distribution of the KTB beehives was based on a well-established system and strong contractual agreement between the project implementer and cooperatives, and between cooperatives and beekeepers.
- ∅ Economic sustainability: the project is economically sustainable because beekeeping supports long-term income generation without negatively impacting the social, environmental, and cultural aspects of the community.

The positive impacts of the project are likely to continue after the project phases out. The intervention has improved honey production, productivity, and quality which in turn improved the average annual income of the households. This has created strong economic incentives among the beekeepers. This can be evidenced in a high beekeeping technology diffusion which created 103 copy beekeepers in the project area. The project built an enabling environment for sustainable beekeeping practices. The intervention strengthened the systems, institutions, and capacities of beekeepers, forest product marketing cooperatives, and honey unions through training and support. The distribution of KTB based on a credit basis makes the beekeeping practices sustainable because it was arranged based on a well-established arrangement between forest product marketing cooperatives and beekeepers.

The revolving grant fund was an innovative strategy that ensures the sustainability of the beekeeping practices by solving credit constraints the beekeepers face in modernizing beekeeping. However, the overall current status of credit repayment is not satisfactory though the it variaes from cooperative to cooperative. Ajewodi Forest Product Marketing Cooperative has done exemplary work in collecting the credit. It has managed to fully collect the credit. Members repayed the credit from the dividend they earned. Contrary to this, other cooperatives are lagging behind in collecting the credit. The cooperatives collected only 12% and 13% of the total credit in 2019 and 2020 respectively. This challenges distribution of KTB beehives and accessories to new or existing supported beneficiaries in subsequent rounds after the project phases out. This casts doubt on sustainability of the revolving grant loan if the cooperatives fail to collect the credit timely.

The following factors contribute to the sustainability of the project:

- ∅ Strong engagement of key stakeholders in the implantation of the project has created and strengthened a sense of belongingness. Key stakeholders from the government offices were participating in training provision, monitoring, and follow-ups which are supposed to continue minimal support even after the project has been phased out.
- ∅ The project built an enabling environment for sustainable beekeeping practices in the project area. Particularly, the project contributed to strengthening the capacity of individual beekeepers, cooperatives, unions, and key stakeholders from government offices by providing training, material, and technical support.
- ∅ Beneficiaries of the HVC project were selected from well-established cooperatives which have legal entities.
- ∅ The community has a long time of experience in beekeeping, and they know the economic and social benefits of beekeeping.
- ∅ The project created strong economic incentives among beekeepers. There is also strong knowledge and technology diffusion in the project area.
- ∅ The project is very relevant and contributes to the existing policies and programs like the CRGE, the National Adaptation Plan (NAP), SDGs, and The Ten Years Perspective Development Plan. Therefore, the project has strong buy-in from the government which increases its likelihood of continuing after the project phases out.

5.2.7. Cross-cutting Issues

In Ethiopia, like many African countries, traditional beekeeping has been considered an activity for men. Many cultural taboos and beekeeping techniques have made it difficult for women to participate in beekeeping activities. The HVC project was designed in a way that can overcome challenges facing women in beekeeping. The project was aligned with the differing needs and priorities of men and women. It was designed in a way that can promote gender mainstreaming to enhance gender equality engagement in beekeeping practices. Gender perspective was integrated into the preparation, design, and implementation of the project. The project considered environmental, social, and economic factors in the project design. Beekeeping is an environmentally friendly activity that promotes environmental conservation. The HVC project was inclusive in that it provided equal opportunity for persons with disability. The evaluation team applied a gender lens to the OECD/DAC criteria to evaluate the project's performance in this regard as illustrated in Table 15.

Table 16: Applying a Gender Lens to the OECD/DAC Criteria

Criteria	**Performance**
Relevance	The intervention was designed in ways that respond to the needs and priorities of all genders. Women and minorities are disadvantaged groups as far as traditional beekeeping is concerned. The project was inclusive in that both women and minorities were included. The project was initially designed to set a quota of 50% for women to promote gender equality. However, the share of women in the target group was less than what was initially planned (34.2%) because the beneficiaries were selected based on objective criteria.
Coherence	The intervention supports national legislation and initiatives that aim to promote gender equality. Women are lagging in beekeeping practices as it was used to be perceived as men's activities. This has widened the income inequality between men and women. The project enabled women to participate in beekeeping and generate income that promotes gender equality.
Effectiveness	The project was effective and achieved the expected results in ways that contribute to gender equality. Women beekeepers are found to be more effective than expected. The intervention was adjusted to address the concerns of women and maximize effectiveness. For instance, the maximum number of KTB beehives to be provided to the target beneficiaries on a credit basis was 25 beehives per person. However, the project provided some additional beehives for outperforming women to incentivize them. For instance, Mrs. Asnakech Mekonnin from Uwa kebele of Masha woreda received 31 KTB beehives for her role model in beekeeping performance.
Efficiency	The project was efficient in that resources were allocated in ways that promote gender equality. From the very beginning, the project strived to ensure gender equality while selecting the target beneficiaries. Both male and female beneficiaries were given equal opportunities in distributing KTB and other material supports.
Impact	The project enabled women to improve their annual income from engagement in beekeeping practice which in turn improved their livelihood.
sustainability	The intervention contributed to gender equality within wider legal, political, economic, and social systems. It empowered women and minorities economically and socially. The intervention resulted in enduring changes to social norms that discourage the participation of women in beekeeping. The project proved that women can be effective in beekeeping. Moreover, it improved social interactions in the community.

6. Learning and Recommendations

This section presents examples of best practices distilled from the intervention, policy recommendations and opportunities to scale up, and recommendations for future projects.

6.1. Examples of Best Practices

The following points are some of the key best practices that are distilled from the intervention and therefore need to be replicated:

- ∅ Studies show that beekeepers in Ethiopia face several overlapping constraints that detrimentally affect the production, productivity, and quality of honey. The major constraints that affect honey production, productivity, and quality include lack of modern technology, lack of credit access, poor extension service, lack of beekeeping equipment, limited pre-and post-harvest management skill, poor market linkage, and lack of market information (Teferi, 2018; Wakgari & Yigezu, 2021; Wondifraw, 2018). Trying to improve production, productivity, and quality of honey by solving the major challenges partially cannot be effective as can be evinced from the previous interventions. Transforming the beekeeping sector to make it productive and effective requires an intervention based on a holistic approach. The HCV project is unique in regard because it followed a holistic approach to overcome the overlapping challenges facing beekeepers in the intervention area. The project provided full package support to overcome the major constraints in the beekeeping practices. The full package support refers to the fact that the intervention was intended to improve the production, productivity, and quality of honey. For this to happen, the project provided comprehensive support including material, technical, and market linkage.
- ∅ Before the HVC project implementation, there was a wrong belief that beekeeping is meant for males. The community used to believe that women cannot manage to practice beekeeping since it is a difficult task for them. The project broke the wrong belief and proved that women can be more effective than their men counterparts in backyard beekeeping practices if they get appropriate support. This proves that backyard beekeeping has a huge potential to improve food security and the economic status of women in the project area.
- ∅ Credit constraint is one of the critical bottlenecks for beekeepers, particularly for those who are at the bottom of their socio-economic status. This makes beekeeping technology adoption difficult for those who are credit-constrained. Accessing credit from formal financial institutions is very challenging for rural communities in Ethiopia. A revolving loan fund (RLF) is a gap financing measure primarily used for the development and expansion of small businesses like beekeeping practices at an individual level. The distribution of KTB beehives based on RLF, therefore, makes the HVC project unique and innovative.
- ∅ Transforming the honey sector requires discussion and common understanding and sharing of responsibilities among key stakeholders at all levels to solve problems that the sector has been facing. To facilitate for this to happen, the project has established a zonal honey sector forum.

The establishment of the honey sector forum is an innovative way of ensuring the sustainability of the project. To sustain the forum, the zonal administration, zonal livestock and fishery office, and zonal trade and marketing development office need to work in team and collaboration to mobilize members of the forum.

6.2. Recommendations and Opportunities to Scale-up

Based on the findings of the final evaluation, the following activities listed below are worth replicating, repeating, or scaling up:

- ∅ The direct beneficiaries of the HVC project are beekeepers who are selected from the existing PFM based on thorough objective criteria. The number of beneficiaries of the project was, therefore, very small relative to the total number of PFMs from which the beneficiaries were selected. This may create a dichotomy between beneficiaries and non-beneficiaries since both groups are members of the PFM. Therefore, scaling up the project by including more members of the PFM promotes inclusive livelihood and results in persistent natural resources conservation.
- ∅ To scale-up, up the distribution of the KTB on a credit basis, the forest product marketing cooperatives need to ignite and motivate the beekeepers to improve the credit repayment performance. To this end, the cooperatives should undertake strong commitment and continuous follow-up to collect the credit repayment on time and reach out to new or another round of existing supported beneficiaries.
- ∅ Woreda Cooperative Promotion Office needs to follow up and support the cooperatives in changing attitudes and raising awareness of the beneficiaries towards the credit repayment so as to improve the credit repayment performance. The office needs to work closely with the cooperatives to make bylaws enforcement in place so that the members abide by the signed contractual agreements.
- ∅ The different pieces of training and technical support were very much appreciated by supported beekeeping beneficiaries. However, many of the business owners believe that another round of capacity building will be beneficial for them. Therefore, it is recommended, to have another phase of training, in particular, advanced training in business financial management and sales and marketing. Micro-business owners require training to develop communication skills to be able to form efficient networks, especially those with the intent to expand. Women working in beekeeping will need more training on techniques to further develop and add value to their products. More consultation and advisory sessions were requested by beneficiaries, as they perceived this as an essential means to improve their capabilities in a faster way and strengthen linkage with both national and international markets.
- ∅ Provision of the KTB beehives based on a credit scheme basis played a great role in the success of the project. Had it been not for the credit scheme basis, the project beneficiaries who have a credit constraint would have not accessed the KTB beehives due to financial constraints.

Therefore, providing KTB beehives based on a credit scheme basis appeared to be a promising silver bullet for a credit constraint hindering technology adoption in beekeeping practices, therefore, needs to be replicated and scaled up.

- ∅ The evaluation identified gaps in the supply side for the honey unions/cooperatives. ADC believes that this will become a significant challenge as the beekeeping businesses grow and become more prominent or as well as when competition increases. Cooperatives lack the skills and resources to bond their businesses with the suppliers and with the market. Thus, we recommend that the HVCP or any other program with a similar focus conduct an assessment to understand the value chain around the supported beekeeping businesses and take the necessary steps to pre-empt the looming challenges.
- ∅ Following a holistic approach through providing full package support in an intervention to modernize the honey sector proved to be effective and efficient and hence it is worth replicating or taking it to scale.
- ∅ This project broke the wrong social belief that beekeeping is not suitable for women and so far, they were excluded and marginalized as far as beekeeping is concerned. The HVC project intervention proved that women are more effective in backyard beekeeping practices. Therefore, the related future project should pay due attention to women beekeepers in particular and gender transformative approaches in beekeeping in general. This means that the project created opportunities for individuals to actively challenge gender norms, promote positions of social and political influence for women in communities, and address income inequities between males and females.
- ∅ It is recommended that development partners should introduce the Integrated Social Cohesion and Development (ISCD) approach as it helps build social capital which could be of both direct and indirect support to economic development endeavors in the area. This is done by getting groups at tension with each other to work on common public service projects such as community wells, schools, health centers, or other priority community infrastructure and in the process build trust and social cohesion. This can be facilitated through NGOs, community leaders, or local government officials.

Annexes: Data Collection Tools

Annex 1: Household Survey Questionnaire

Household Survey Questionnaire

Dear respondent, Hello! My name is _____. I am collecting data on behalf of **ABBABOR Development Consult** for the consultant firm that has been contracted by **the Development Fund of Norway** to conduct the **"Final Evaluation of Honey Value Chain Project (HVCP)"**. The information we collect will help the Development Fund to assess the terminal conditions of income and job opportunities created by the project intervention. The questions take 20-30 minutes. Participation is entirely voluntary, and you are free to withdraw from the interview any time you feel uncomfortable or unwilling to participate, and you do not have to specify a reason. Your participation will be anonymous and confidential. I hope that you will agree to answer the questions since your views are important. If I ask you any question you do not want to answer, just let me know and I will proceed to the next question, or you can quit the interview at any time.

Are you willing to take part in the interview?

1. Yes 2. No

Part 1: General Information

Enumerator's Name: _____

Interview Starting Time _____(hh:mm)

Interview Date: _____ (dd-mm-yyyy)

Woreda _____

Kebele _____Name of Cooperative_____ Village _____

Geolocation _____

Part 2: Socio-Demographic Information

1. Are you head to this household?
    a. Yes
    b. No

2. What is your gender?
    a. Male
    b. Female
3. What is your age (in full year)? _____
4. What is your marital status?
    a. Single
    b. Married
    c. Separated
    d. Widowed
5. What is your highest level of educational status?
    a. Illiterate
    b. No formal education
    c. Grade 1-4
    d. Grade 5-8
    e. High School Complete
    f. Grade 12 Complete
    g. TVET complete
    h. College/University Graduate
    i. Other (specify)

If the answer to Q#1 is No [Q#6-Q#10]

6. What is the gender of the household head?
    a. Male
    b. Female

7. What is the age of the household head (in full year)? _____

8. What is the marital status of the household head?

    a. Single

    b. Married

    c. Separated

    d. Widowed

    e. Other

9. What is the highest level of educational status of the household?

    a. Illiterate

    b. No formal education

    c. Grade 1-4

    d. Grade 5-8

    e. High School Complete

    f. Grade 12 Complete

    g. TVET complete

    h. College/University Graduate

    i. Other (specify)

10. What is your relationship with the household head? _____

11. What is the total number of household members, including yourself? _____ Total number of males_____females_____

Part 3: Beehives, Accessories, Equipment, and Honey Production

12. When did you start backyard beekeeping as an income source?_____(year in GC)

13. How many traditional beehives did you own before HVC project intervention (before 2018)?_____
14. How many Kenyan top bar (KTB) beehives did you own before HVC project intervention (before 2018)?_____
15. How many modern beehives did you own before HVC project intervention (before 2018)?_____
16. How many traditional beehives did you own after HVC project intervention (in 2021?_____
17. How many Kenyan top bar (KTB) beehives did you own after HVC project intervention (in 2021)?_____
18. How many modern beehives did you own after before HVC project intervention (in 2021)?_____
19. How many KTB beehives did you get from the HVC project through the credit schemes? _____
20. Did the KTB beehives provide by the project fully satisfied your demand for beehives?
    a. Yes
    b. No
21. Did you get any beehive accessories from the project?
    a. Yes
    b. No
22. If your answer to Q#20 is 'Yes' what beehive accessories did you get from the project? (multiple answers)
    a. Queen excluder
    b. Bee brush,
    c. Smoker
    d. Protective cloth
    e. Water spray
    f. Hand glove
    g. Other (specify)
23. Did you get food graded plastic bags from your cooperative during the HVC project implementation?
    a. Yes
    b. No
24. Were the technical/material supports you received from the HVC project delivered to you on time?
    a. Yes

b. No

25. Honey production per hive

	Honey production per hive (in Kgs.) before the HVCP intervention	Honey production per hive (in Kgs.) after the HVCP intervention
Traditional beehive		
Kenyan Top Bar beehive		
Modern beehive		

26. What happened to quantity of honey you produced due to the project intervention?
    a. Increased
    b. Remained the same
    c. Decreased
    d. I do not know
27. What happened to quality of your honey due to the project intervention?
    a. Increased
    b. Remained the same
    c. Decreased
    d. I do not know

28. Did you receive technical and material support concerning beekeeping from the HVC project?

    a. Yes
    b. No

29. If your answer to Q#30 is 'Yes', did you get the support relevant to the beekeeping practices?

    a. Yes
    b. No

30. If your answer to Q#30 is 'Yes' what happened to honey production and its quality due to the material and technical support you received from the HVC project?

    a. Increased

    b. Decreased

    c. Remained the same

d. I am not sure

31. Are you aware of the presence of queen bee rearing and colony multiplication center constructed by the HVC project?
    a. Yes
    b. No
32. Have you ever obtained services from the queen bee rearing and colony multiplication center?
    a. Yes
    b. No
33. How do you rate your satisfaction with services of the center?
    a. Highly satisfied
    b. Satisfied
    c. Neurtral
    d. Dissatisfied
    e. Highly dissatisfied

Part 4: Market and Credit Facilities

34. Did the HVC project create market linkage for your honey?
    a. Yes
    b. No
35. Is the created honey market linkage sufficient to sell out all of the honey you produced?
    a. Yes
    b. No
36. What benefits did you get from the honey market linkage created by the HVC project? (multiple responses are possible)
    a. I can sell my honey at fair prices
    b. I can get timely honey market information
    c. Price distortions by local traders/brokers are minimized
    d. It has reduced my worries about where to sell my honey
    e. Other (specify)
37. To whom do you sell your honey?
    a. Honey cooperative
    b. Local market
    c. Local honey traders/collectors
    d. Other (specify)
38. Are you aware of the availability of credit scheme for provision of beehives?
    a. Yes

b. No

39. Did you received beehive from the HVC projec on credit basis?
    a. Yes
    b. No
40. Was the credit scheme suitable in terms of repayment amount and timing of repayment?
    a. Yes
    b. No

Part 5: Main Income Sources and Annual Income from the Sources

41. What was the main income source for your households before the HVC project intervention?
    a. Annual crop
    b. Coffee
    c. Livestock
    d. Honey
    e. Spice
    f. 'Enset'
    g. Other (specify)
42. What was the main income source for your households after the HVC project intervention?
    a. Annual crop
    b. Coffee
    c. Livestock
    d. Honey
    e. Spice
    f. 'Enset'
    g. Other (specify)
43. The estimated annual income of the households from different income sources

	Annual income from the source before the HVCP intervention	Annual income from the source after the HVCP intervention
Annual crop		
Coffee		
Livestock		
Honey		
Spice		

'Enset'		
Other		

44. Has the project intervention helped you improve quality of your house?
    a. Yes
    b. No
45. Has the project assisted you in meeting your family needs (school, clothing, health, etc.)?
    a. Yes
    b. No

Part 5: Capacity Building

46. During the HVCP implementation period have you ever taken capacity building training regarding beekeeping?
    c. Yes
    d. No

47. If your answer to Q#46 is 'Yes' what topics were covered in the training? (Multiple answers are possible)
    a. Basic beekeeping management
    b. Bee colony management, queen bee rearing, and multiplication
    c. Pre- and post-harvest honey quality control methods
    d. Other (specify)
48. If your answer to Q#46 is 'Yes' did the training improve your beekeeping practices and honey quality?
    a. Yes
    b. No
49. Did bee technicians visit your beekeeping during the project intervention?
    a. Yes
    b. No
50. Did you get enough technical support from the bee technicians?
    a. Yes
    b. No
51. Did the technical support you obtained from the bee technicians added value to your beekeeping practices?
    a. Yes

b. No

Part 6: Forest Conservation

52. Did the project improved forest conservation practices in your locality?

    a. Yes

    b. No

53. If your answer to Q#62 is 'Yes' in what ways did the project contribute to the forest conservation (multiple responses are possible)? _____

    a. The project raised my awareness that honey production depends on existence of forest
    b. The project improved my income and reduced my reliance on forest for IGA.
    c. The project gave me economic incentives for the retention of natural habitats
    d. Other (specify)

Annex 2: Focus Group Discussion Checklist Questions

Checklist of questions for FGD- Cooperative leaders and members (men, women)

General

1. What was the HVC project doing? For the livelihood of the community? For beekeeping, honey production, and honey quality? For sustainable forest management? For environmental services?
2. What is the trend of the households' annual income? Increasing/ Improving? Why?
3. Was the honey value chain established at zonal level effective? Did it add value to your beekeeping business? In what ways?
4. What major benefits did you get from the project?
5. Is there a connection between HVC and REDD+ projects?
6. What is the trend of the forest? Increasing/ Improving? Why?
7. Did you participate in planning and monitoring of the project? In what ways?

Implementation

8. How was the implementation of the HVC project?
9. Have you been involved in the implementation of the project (e.g., training, forums, workshops, utilization of the forest resources)? Please explain how.
10. Are you satisfied with implementation activities up to now? Explain why or why not.
11. Has the project implementation affected you (positive/ negative)? How? Explain.

12. Do you think women and men, young women and men, are equally included in the project? Please explain your answer.

13. What do you think should be improved in the future related project implementation?
14. Were the planned activities and supports undertaken as per the plan? Did the project deliver on time?

Benefits

15. What did you or your cooperative benefit from participation in the project?
16. Are you participating in any capacity-building activities of the project?
    a. If yes, how is your participation helping you?
    b. If not, please explain why not.

17. Was the capacity-building training relevant for you? What has changed because of the training? What aspect will be helpful for you if included?
18. What technical and material support did you get during the project implementation? Were the supports helpful?
19. Please tell us the modality of the supply of materials from the project to the cooperative.
20. If the agreed modality is the beehives supply is on credit basis, what is the status of the credit collection in terms of collecting the credit and buying additional beehives and supply to the beekeepers?
21. How will you manage the proper functioning of the system after the project phases out?
22. Did the project implementation contribute to the production, productivity, and quality of honey?
23. How did the project help you get connected to the market?

24. Do the project activities meet your needs? Please explain.

Gender

25. Did women participate in the following activities during the project period?

    ∅ Trainings
    ∅ Selection as target
    ∅ Group leadership
    ∅ Decision-making process?

26. What challenges, if any, were hindering women from being benefited from the project? What shall be done to tackle the challenges?
27. Was the project inclusive enough to address the needs of minorities? In what ways did the project include minorities, if any?

Annex 3: Key Informants Checklist Questions

Project staff, Government partners, DF, EWNRA, Cooperatives, and Unions

Relevance

1. Were the planned interventions relevant to the priority needs of the beneficiaries? Did the project do the right activities?
2. To what extent are the objectives, planned activities, and planned outputs of the program consistent with the intended outcomes and impacts?
3. To what extent gender aspects and the separate needs of women and men were considered in the program design and minority groups in the implementation process?
4. Do the project strategies consider the environmental, social, and economical contexts of beekeeping practices in the intervention areas?
5. Did you participate in the design process/need assessment of the project?
6. Were you doing monitoring regularly?
7. What major challenges were you faced during the project implementation?
8. What lessons can be learned from the project implementation?

Coherence

9. To what extent do the project interventions have linkage and integration with other stakeholders?
10. To what extent the project interventions were consistent with other actors' interventions in the same context?
11. Has the communication/ collaboration between the EWNRA and DF been adequate?

Efficiency

12. To what extent planned activities of the project have been delivered? Were there any delays in activity implementation?
13. Were the input supports (e.g., hives, protective clothes, hive operating tools, honey processing, and packaging equipment) you received from the project adequate?
14. Were the pieces of training adequate in the time allocated, appropriate pieces of training titles and contents identified and delivered, practical demonstrations provided, etc, training manual provided?

15. Was the proposed honey market linkage feasible and sustainable for both the buyers and the producers?
16. How many new beehives were used to increase honey production and quality as a result of the project implementation?
17. How many honey cooperatives and unions were supported to create linkage with the international market? Has the support increased their buying capacity?
18. Has the established and strengthened honey sector forum helped to coordinate the sector and facilitate the flow of information timely, efficiently, and effectively?
19. What weaknesses were observed in the implementation of the project, including increasing productivity of hives, quality, and marketing of honey? What should have been done to improve it?
20. What are major constraints that still affect the livelihood of the targeted HHs as a whole, and what variation among different segments of the beneficiaries?

Effectiveness

21. To what extent the beekeepers have attained the technical capacity and skill capacity to increase honey production and quality?
22. To what extent the targeted beekeepers have increased their volume of honey production and quality? income and reduced their food gap months?
23. To what extent does the honey export volume increase? Have the cooperatives and unions increased their volume of buying and selling?
24. Have the beneficiaries increased their income from honey production and marketing and improved their livelihood?
25. To what extent does the intervention strategy contribute to the conservation of natural resources and protection of the ecosystem?
26. What is a positive outcome in building self-confidence among the beneficiaries in the project area?
27. What are the community's perception and attitudinal changes towards the changes observed in the roles of the women, and youth?
28. How was the satisfaction of the beneficiaries and local government stakeholders in terms of the timely availability and quality of program inputs (materials, finance, and human resources) and quality of results?
29. Which component of the project was found the most effective in terms of
    - Promoting protection of the ecosystem?
    - Increasing the annual income of beekeepers from the production and marketing of honey?
    - Establishing and strengthening the honey sector forum?

- Linking honey unions and cooperatives to the international markets?

30. What were the major factors influencing the achievement or non-achievement of the objectives?

Impact

31. What has changed as a result of the project intervention? (Intended and unintended as well as positive and negative impacts, equal opportunities for women and men, improvement of social and economic condition, poverty reduction, cross-sector impact, or other relevant cross-cutting issues)?
32. What real/ significant is the difference the activities of the project have brought about for the social, economic, and healthy lives of the beneficiaries (following the livelihoods framework) beneficiaries?
33. Have the project interventions improved the lives and livelihoods of the beneficiaries? If so, to what extent?
34. Have pieces of training provided by the project brought changes in quality honey production and improved marketing by the beneficiaries?
35. To what extent beneficiaries have applied what they learned from the project interventions and what impacts these trainings have produced on their livelihoods, food security status, and income?
36. Which activities have been the most/least effective in bringing positive changes thought in the project design and why?

Sustainability

37. To what extent the positive impacts or changes of the program are likely to continue?
38. To what extent are community knowledge and capacity enhanced and how far communities are empowered to claim ownership of the project's objective and achievements?
39. To what extent the program intervention is institutionalized and built the capacity of a local institution to run the program after the departure of DF?
40. What actions/strategies can be recommended to ensure sustainability?
41. What were the major factors which influenced the achievement or no achievement of project sustainability?
42. Have the project's interventions contributed to making individuals, HHs, social groups of the community, and the entire community to be more initiated, motivated, and self-esteemed to tackle upcoming challenges by themselves without outside support?

Cross-cutting Issues

43. To what extent gender aspects and the separate needs of women, men, and other key stakeholders were considered in the project design and implementation process?
44. To what extent the participation of minorty groups was considered in the project implementation?
45. To what extent did the gender-sensitive approach impact the differing needs and priorities of gender groups?
46. Have environmental factors been considered adequately in the project design? Were mitigation measures put in place?
47. To what extent have good environmental practices been followed in implementing the project?
48. To what extent and how are we delivering appropriate and effective strategies for persons with disability?

Annex 4: Key Informants Checklist Questions: DF's and EWNRA's Management Team

a. What is DF's and EWNRA's leadership view of the project outcome in terms of alignment with and contribution to the overall strategic priorities of the two organizations?

b. In your view, did the results delivered by the project met the expectations of all stakeholders, including that of DF and EWNRA?

c. What were the major concerns with the program? Prob: challenges in relation to coordination, capacity of the implimenting organization, buy-in from the government, etcetra

d. Which external/internal factors influenced the project and how? Prob: budget utilization, inflation, political dynamics, etcetera.

e. In your opinion, how did the collaboration between DF and EWNRA go? What about between EWNRA and local government?

f. From a coordination standpoint, what are the key lessons learned from the project? What would you do differently?

g. What are your recommendations to take the project approach to scale?

Annex 5: List of HVCP Member Participants on FGD

No.	Name	Sex	Affiliation	Woreda/Kebele
1	Wondimu Bireda	M	Wododinbarona Forest Product Cooperative	Masha/Uwa Kebele
2	Yohannis Geneme	M		
3	Ayele Dilamo	M		
4	Bezabih Mamo	M		
5	Asnakech Mekonnin	F		
6	Tagay Garo	M		
7	Bizunesh Gebo	F		
8	Demekech Kekilo	F		

No.	Name	Sex	Affiliation	Woreda/Kebele
9	Mesfin Kidane	M		
10	Abezash Garefo	F	Wododinbarona Forest Product Cooperative	Masha/Beto Kebele
11	Dareko Deseno	M		
12	Adino Alemu	M		
13	Abel Alemu	M		
14	Sinkinesh Zeleke	F		
15	Jemaynesh Gebo	F		
15	Gojito Ademo	M		
16	Terefe Adasho	M		
17	Tariku Hussien	M	Ajewodi Forest Product Marketing Cooperative	Masha/Degele Kebele
18	Masresha Dachito	M		
19	Engida Ashenafi	M		
20	Endeshaw Zeleke	M		
21	Alemnesh Gebo	F		
22	Alemayehu Wodajo	M		
23	Mulunesh Angulo	F		
24	Amele AYano	F		
25	Gezahagn Gebito	M	Shuno Yerida Forest Product Marketing Cooperative	Andaracha/Tugri Kebele
26	Azeb Emiru	F		
27	Bizuayehu Bushiro	M		
28	Alemu Shobena	M		
29	Teshome Mamo	M		
30	Dekane Gebo	M		
31	Bisrat Melese	M		
32	Ayele Alemu	M		
33	Tariku Dale	M		
34	Tesfanesh Karo	F		
35	Takelech Achamo	F		
36	Ayele Andemo	M	Edit Forest Product Marketing Cooperative	Andreracha/ Beshifa Kebele
37	Felekech Angelo	F		
38	Amete Ademo	F		
39	Achame Shiwerasha	M		
40	Kifile Kasa	M		
41	Solomon Dulo	M		
42	Worku Harerasha	M		
43	Daniel Dakito	M		
44	Teka Kelo	M		
45	Aminite Abera	F		

Annex 6: List of Key Informants Interviewed

Key Informant	Affiliation	Gender	Responsibility
Addis Alem	Andaracha Woreda CPO	Male	Expert
Yohannis Alemayehu	Masha Woreda CPO	Male	Expert
Ambecha Alemu	Masha Woreda Livestock and Fishery Office		Head
Yingalign Bizuayehu	EWNRA, Masha Sub-Office	Male	Branch Office Coordinator
Endalkachew Lolasa	EWNRA, Masha Sub-Office	Male	Marketing and Livelihood Officer
Zerihun	Andaracha Woreda Livestock and Fishery Office	Male	Head
Birhanu Kidane	Masha Woreda Trade and Marketing Development	Male	Head