



Baseline Survey
RESilient LIVelihoods and Sustainable
Ecosystems in the Simien Mountain National
Park (SMNP)

FINAL REPORT

SUBMITTED TO:

CARE Ethiopia
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Acronyms

ADA = Austrian Development Agency

BAN-DRCE= BAN-Development Research Center for Excellence

CAPI=computer assisted personal interviews

CRGE= Climate Resilient Green Economy

DAs= Development Agents

EGSS=Environmental, Gender and Social Standards

ETB: Ethiopian Birr

EWCA = Ethiopia Wildlife Conservation Authority

FGD= Focus group discussions

GoE= Government of Ethiopia

HEWs= Health Extension Workers)

IGA= Income Generating Activities

IUCN =International Union for Conservation of Nature

KII =Key informant interviews

ORDA= Organization for Rehabilitation and Development in Amhara

RELIVES= REsilient LIVelihoods and Sustainable Ecosystems in the Simien Mountain

National Park (SMNP)

SMNP= Simien Mountain National Park

ToR= Terms of References

UNESCO= The United Nations Educational, Scientific and Cultural Organization

VSLA= Village Saving and Loan Association

Executive Summary

Background: Ethiopia is referred as the birthplace for wide varieties of fauna and flora. One of the protected areas of the country set aside more than five decades ago to conserve its exceptional habitats and unique flora and fauna is the Simien Mountains National Park (SMNP). The park has been under serious threat from the expansion of settlement and cultivation, overgrazing, deforestation and associated perturbation. The RELIVES project is expected to contribute to the realization of various policies, strategies, and development goals both at national, regional, and international levels.

Objective: The overall objective of the baseline study is to set a benchmark and a critical reference point for all log frame indicators and also inform project targeting where possible to help in project design. The baseline study also intends to inform any existing conflict affecting beneficiaries, setting priority for the community and also addressing such conflicts.

Scope: Geographically, the field level and secondary data collection for the baseline survey is undertaken in five woredas of North Gonder, Amhara region (SMNP) namely Debark, Janamora and Deyeda, Adarkay, and Telemit. Thematically the baseline survey covered key outcome and output variables including key performance indicators.

Methodology

Initially BAN-DRCE collected data in the five woredas listed above. They used a combination of household surveys, key informant interviews (KII), focus group discussions (FGD), and secondary data review.

However, the data presented in this report only covers four woredas (Debark, Janamora and Deyeda, Adarkay) as the implementing partners (CARE and ORDA) and the donor agreed that the project would not be implemented in Telemit after all.

Moreover, after conducting a validation meeting with government stakeholders where the data analysis from BAN_DRCE was presented, the participants of that meeting questioned some of the findings. As a result, CARE and ORDA collected additional quantitative data among 278 respondents. This additional dataset fed into the revision of the data analysis in this report, specifically in relation to the project Outcome Indicators 1. 2, 3.1 and 3.2, as well as Output indicators 3.1.1 and 3.2.1.

Three-stage probability sampling was used for the baseline. Accordingly, four intervention Woredas were identified and two kebeles were selected from each Woreda and the Kebeles were further sub-grouped into villages/ Gots. Then the beneficiaries were further disaggregated into female headed, female in male headed, male headed, youth female, youth male and persons with disability. The baseline survey gathered data from 372 respondents. Data was also gathered from KII, FGD, Observation, checklist and secondary data in which relevant organization and community representative were approached.

Data management and analysis: The data for the study was administered by using CAPI¹ methods through a face-to-face interview approach. Both primary and selected secondary data were collected through a checklist developed. Data quality assurance was undertaken both at the field and office level. The study primarily used descriptive statistics for the analysis using averages, ratios, indices, and percentages. A thematic analysis and summary report was produced for data gathered through key informant interview and focus group discussion. triangulation of data was made between the finding of the qualitative and quantitative study.

Findings by Outcomes and Outputs

Demographic Characteristics: out of the 372 respondents approached for the interview, 54% of the respondents were female while males accounted for 46%. The average age of the respondent is 36 years where the minimum age recorded was 18 while the maximum was 90 years. 83 percent of the respondents were married, 8% of the respondents were divorced and 5% of the respondents reported as single or never married. Female respondents occupy a larger share of divorced (13%), separated (3%), and widowed (5%) population than their male counterparts.

Close to 48% of the respondents do not have any formal or informal education; meanwhile, 40% of the respondents have a primary level of education, and those with a secondary level of education are limited to only 8%. More female respondents are illiterate (63%) compared to their male counterparts (37%). around 13 % of the respondents indicated having a household member with a disability

Findings by Outcomes and Outputs

Outcome Indicator 1.1: Percentage of restored land in targeted woredas (disaggregated by location (kebele and woreda): Out of the total 44,684 hectare of lands, only 14,050 (31%) of lands are found protected or conserved. Aderkay woreda has more protected/conserved lands followed by Debark woreda and Janamora. Beyeda woreda has less protected/conserved lands and followed by Janamora woreda.

Outcome Indicator 1.2: Percentage of human and livestock movements inside reserved parkland (disaggregated by location (kebele and woreda): Human contact stood at 84%, animal grazing in the park reached 66%, and the movement of animals inside the park was recorded at 45%.

Outcome Indicator 1.3: Percentage of people of all genders that have applied at least 3 practices to protect their livelihoods from negative impacts of climate related shocks and stresses (disaggregated by location, gender, age, vulnerability): 67% of the respondents are practicing at least three agricultural and natural resource management practices (**soil**

¹ Computer-Assisted Personal Interviews (CAPI) is a face-to-face data collection method in which the interviewer uses a tablet, mobile phone or a computer to record answers given during the interview

acidity treatment using lime, crop rotation, terracing, manure/compost, etc.) to protect their livelihood from the negative effect of climate change shocks.

Outcome 2: Diversified and improved livelihood options for women, youth and vulnerable groups

Outcome Indicator 2.1: % increase in net income of people in targeted kebeles (disaggregated by location, gender, age, vulnerability): the average net annual income of the households was 25,022 ETB for the year 2021/22. Gender wise, females respondents earn a lower annual net income (21,595 ETB) compared to their male counterparts (27,773 ETB).

Output Indicator 2.1.1: # and % of female VSLA members in targeted kebeles who are able to save at least twice per year (disaggregated by location, age, vulnerability): out of the total 201 female respondents, only 33 (16%) are VSLA members. About 17 (52%) of respondents have saved at least two times a year and 16(49%) saved only once a year. Debark has the highest number of women who have engaged in VSLA in their locality.

Output Indicator 2.1.2: # and % of women, youth, and vulnerable persons in targeted kebeles who diversified their income generating activities (disaggregated by location, age): about 60 (16%) of respondents are engaged in IGAs; of them 9 (15%) of respondents engaged at least two IGAs, whereas 51 (85%) of respondents engaged in one IGAs. Likewise, a quarter of the respondents (25%) reported are not engaged in any IGAs; young male and female respondents account for significant share of those not engaged in IGA. targeted by the study .

Outcome Indicator 2.2: # and % of people who report gender equitable attitudes towards social norms in targeted kebeles (disaggregated by location, gender, age and vulnerability): The study assessed gender equality using a gender equitable men scale. Higher scores represent more gender-equitable attitudes for the subject under consideration. thus, the maximum positive score will be 13 while the minimum is zero. Accordingly, for the baseline study it was found that the average GEM score was 7.9, the minimum score found was 4 and the maximum score was 12 more households scored a borderline score of 7 (125 respondents).

Outcome Indicator 2.3: # and % of entrepreneurs contributing to the green or circular economy in targeted kebeles (disaggregated by gender, location, age, vulnerability): few respondents were found engaged in entrepreneurship activity contributing to the green or circular economy. Only, 35% of respondents are engaged in green or circular economy enhancing businesses or IGAs. more female respondents (44%) were found engaged in green or circular economy enhancing businesses compared to their male counterparts (23%). Areas for potential promotion include home gardens (aromatic and medicinal plants and herbs and vegetables), indoor plants, flowers, fruit tree nurseries, animal production of dairy products, sewing, knitting embroidering, and carpet making.

Outcome Three: Capacities of EWCA/SMNP in inclusive participatory approaches are enhanced and coordination mechanisms at relevant regional, zonal, woreda and kebele level are improved.

Outcome Indicator 3.1: Percentage of people stating that collaboration in implementing the park management plan is more inclusive (disaggregated by gender, age, location, vulnerability, sectors): 30% of the respondents said that the park administration is multi-partnership, collaborative, and inclusive. Relatively more female respondents (37%) indicated as there is a good partnership between the community and the park administration. More youths (55%) indicated collaboration in implementing the park management plan is more inclusive manner.

Output Indicator 3.1.1: Percentage of people in the targeted kebeles satisfied with their last engagement with EWCA/SMNP (disaggregated by location, gender, age and vulnerability): overall, 4(19% satisfied and 6 highly satisfied) of respondents are satisfied with their last engagement with EWCA/SMNP administration. Proportion of male (34 %) followed by female (18 %) respondents are satisfied with their last engagement with EWCA/SMNP administration.

Outcome Indicator 3.2: Percentage of people of all genders in targeted kebeles satisfied with their engagement with service providers (disaggregated by gender, age, location, vulnerability, sectors): overall, 55% (40% satisfied and 15% highly satisfied) of respondents are satisfied with their engagement with service providers. Male (63%) and Female (48%) of respondents are satisfied with their engagement with service providers.

Output Indicator 3.2.1: % increase of local government sector officials reporting meaningful participation in EWCA/SMNP coordination and collaboration activities (disaggregated by location, sectors, gender, and vulnerability): The key informant interview result shows only 22% of sector office officials confirmed the presence of meaningful participation with regard to park conservation. Whereas Tourism office highlighted having 30% meaningful participation in EWCA/SMNP administration.

Existing Challenges and the Effects of the Conflict : The result from the qualitative data indicated the conflict has affected the community excessively. The war has caused the distraction of family structures and their bonds, material and property loss and finally disruption of community in general.

Conclusion

Mixed agriculture is the dominant livelihood or lifestyle in the intervention area and the dominant source of income is earned from crop sales. Diversifying the income source is one of the key pillars of the project to improve the resilience of the beneficiaries. Although limited, more young boys are engaged in generating income than girls in a household. Some households are living within the park and most of them are willing to relocate but they need

financial support, replacement land and house, and other support are needed by the respondents.

There have been many associations formed and established, however, they are getting weaker in performance and functionality. Absence of Social Analysis and Action (SAA) groups is observed in the target areas. A limited number of females in the intervention area are members of VSLA and the main reasons are unavailability of the VSLA, having a limited resources to save, and limited or no knowledge/awareness about VSLA. To build resilient livelihoods, households, and communities must be able to diversify their activities and have adequate support in terms of assets that are protected from the damaging effects of natural hazards and other shocks and stresses.

Recommendations

- ✓ The project should be aware of the infrastructural problems it might face.
- ✓ Priorities should be given for emergency response because most of the project areas have been affected by the war directly or indirectly. Then to those projects which provide development and help the people financially.
- ✓ There should be financial help to start their own business.
- ✓ Strengthening the collaboration between the park administration and the community should be a priority too. Efforts to foster the beneficence of the community form the park. Linking additional IGAs which can enhance the link between the park and the community.
- ✓ Selecting the appropriate implementing sector as a partner would serve as a good way of ensuring the sustainability of the project activities.

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1. Introduction

1.1 Background

Because of the diversity of ecosystems within the country and its long history, Ethiopia is referred as the birthplace for wide varieties of fauna and flora (Yalden, 1983). The country is mother to several crop and animal genetic resources, reflecting its long history of agriculture. Ethiopia has over 6,000 species of vascular plants (with 625 endemic species and 669 near-endemic species, and one endemic plant genus), 860 avian species (16 endemic species and two endemic genera), and 279 mammal species (35 endemic species and six endemic genera) (Feyisa, 2019).

One of the protected areas of the country set aside more than five decades ago to conserve its exceptional habitats and unique flora and fauna is the Simien Mountains National Park (SMNP). It is home to a number of threatened and endemic species, of which the Walia ibex *Capra walie* and the Ethiopian wolf *Canis simensis* are listed in the IUCN Red List as Endangered. Recognizing its spectacular landscape (criterion vii) and global significance for biodiversity (criterion x), the park was inscribed on the UNESCO World Heritage List in 1978. The interplay between the physical environment and population distribution in Ethiopia explains, to a great extent, the ever worsening problem of environmental degradation and the problem of land degradation (Aklilu, 2001).

The park has been under serious threat from the expansion of settlement and cultivation, overgrazing, deforestation and associated perturbation. These anthropogenic pressures result in the deterioration of the park habitats in general and the decline of populations of flagship species such as Walia ibex and Ethiopian wolf in particular. Past and present anthropogenic disturbances have an impact on the ecological processes of the SMNP ecosystem. According to the 2015 land use/cover change assessment, more than 40% of SMNP is highly disturbed by anthropogenic activities, 62.9% of the grassland area is intensively grazed by livestock and 8.7% of SMNP is currently under cultivation largely for barley and wheat. These land uses have contributed significantly to the reduction and degradation of key habitats and likely impacted key ecological processes. Households from all Kebeles around the park use it for grazing livestock. Accordingly, to improve the SMNP ecosystem improving the livelihood and provision of alternative livelihood options is very critical for sustainable development.

Anthropogenic pressures in the form of deforestation and forest degradation, encroachment of protected areas, overgrazing, unsustainable agricultural practices, and extensive soil erosion are threatening the sustainability of the ecoregion and its ecological functions and supply of ecosystem services. Poverty, rapid population growth, weak market access, and poor capacity in multisectoral planning and implementation are among the underlying factors driving the degradation of the ecoregion. Protection of the forests and water towers is critical to sustainable development and biodiversity conservation in the region.

According to Chambers & Conway (1992), there is a clear link between sustainable livelihoods and resilience. Sustainable livelihoods can evade or withstand various stresses and shocks, fostering resilience and the ability to recover and bounce back from adversities. With this notion CARE Ethiopia in partnership with local implementing partners through the financial assistance of ADA is on the verge of undertaking RELIVES project with the ultimate objective of improving the livelihood and resilience of the community and thereby improving conservation of the park.

The RELIVES project has various interlinks and relations, the project is expected to contribute to the realization of various policies, strategies, and development goals both at national, regional, and international levels. Various policies, strategies, and plans that address the socio-economic needs of Ethiopia are also relevant to the implementation of the RELIVES project. Some of the key economic and social development policies and strategies include the vision 2025 - that aspires to make Ethiopia a lower middle-income country, home growing economic development initiative, the 10-year development plan, and sectoral policies such as employment policy and strategy. Other relevant policies for this proposed project include the National Adaptation Plan for Climate Change (2019), The National Youth Policy (2004), the GoE's adoption of gender equity policies, and the National Plan of Action on Disability (2012- 2020, CRGE), Women empowerment and development plan, agricultural development strategies and transformation plan, forest genetic resources conservation strategy of Ethiopia, national strategy and plan of action for conservation, sustainable use and development of animal genetic resources etc.

1.2 Objectives of the study

The overall objective of the baseline study is to set a benchmark and a critical reference point for all log frame indicators and also inform project targeting where possible to help in project design. The baseline study also intends to inform any existing conflict affecting beneficiaries, setting priority for the community and also addressing such conflicts. The findings of the baseline will further be used to refine the indicators. Therefore, the major objectives are.

- To set the baselines for all log frame indicators (as disaggregated and indicated in the log frame which includes gender, age, location, and vulnerability).
- Inform project targeting and, project design (especially, to maximize the inclusion of all target groups, with a focus on marginalized and excluded groups, based on ADA's "Environmental, Gender and Social Standards" (EGSS) checklist) and to identify any additional potential opportunities to achieve our impact that is not yet included in the project's design and theory of change.
- Inform about any existing conflicts affecting beneficiaries & existing individuals/platforms addressing those conflicts, as well as priorities of the communities and all key project participants.

- To test the feasibility of proposed indicators and generate recommendations for refining the indicator list.

1.3 Scope

Geographically, the field level and secondary data collection for the baseline survey is undertaken in four woredas of North Gonder, Amhara region (SMNP) namely Debark, Janamora, Deyeda, and Adarkay. Thematically the baseline survey covered key outcome and output variables including key performance indicators.

2. Methodology

A baseline survey for Livelihoods and Sustainable Ecosystems typically involves collecting data on the current situation and conditions of the targeted community or ecosystem before any intervention or project implementation. To get a reliable finding and conclusion, the baseline study combined different methods particularly quantitative and qualitative methods of data collection and analysis. Accordingly, the baseline survey used a combination of household surveys, Key informant interviews (KII), Focus group discussions (FGD), and Secondary data review.

2.1 Sampling and methods of data collection

2.1.1 Quantitative data collection

For quantitative data collection, the main method used for the data collection was a household survey. Three-stage probability sampling was used for the baseline study to enable households to have an equal opportunity selection and also to enable analysis at the grass-root level through stratification of the target population (youth, women, persons with disabilities.). Accordingly for the household survey in the five intervention Woredas, two kebeles were selected from each Woreda and the Kebeles were further sub-grouped into villages/ Gots. Then the beneficiaries were further disaggregated into Female headed, female in male headed, male headed, youth female, youth male and persons with disability. Proportional allocation of each subcategory was made based on the recommendation from the client; then samples were selected using a probability sampling method. The study used a registry available at a kebele level and other additional information such as the knowledge of the local community - particularly the elders in the community, Health Extension Workers (HEWs) and Development Agents (DAs) to select households randomly by fulfilling the project requirements.

2.1.2 Sample size determination

Representative sampling is key to the accuracy and reliability of the results. The sample size must be assessed in terms of both the survey's available budget and its accuracy. The sample size value has been calculated using the following sample size formula suggested by Cochran (1977).

$$n = \frac{z^2 pq}{d^2} = \frac{1.96^2 * 0.5 * 0.5}{0.05^2} = 384$$

Where:

- n =
- n_0 is the minimum sample size
- P is expected prevalence (0.5)
- d is relative desire precision (0.05)
- Z is linked to a 95% confidence interval for cluster sampling (1.96)
- N estimated number of beneficiary households in SMNP 4 woredas (150700)

With population correction, the sample size will be

$$n = \frac{n_0}{1 + \frac{n_0}{N}} = \frac{384}{1 + \frac{384}{150700}} = 383$$

The total sample size with a 5% non-response rate made the total sample size for the baseline study 408 households. After the exclusion of the Tselemt Woreda, the baseline report presents data gathered from 372 individuals only as CARE and the donor decided to leave our Tselemt as implementation woreda in November 2023.

Table 2.1: Number of respondents from which data was collected

Woreda	Frequency	%
Aderkay	44	11.83
Beyeda	68	18.28
Debark	113	30.37
Janamora	147	39.52
Total	372	100

With regards to the distribution of the sample size by respondent type the finding from the field survey reveals the following distribution:

Table 2.2: Frequency distribution table showing the type of respondents from whom data has been collected.

Respondent type	Frequency	%
Women respondent in female headed household	27	7.25
Men respondents in male headed household	114	30.65
Respondent from Person with disability	21	5.65
Women respondent in male headed households	117	31.45
Young female (15 to 35) respondent	49	13.17
Young male (15 to 35) respondent	44	11.83

Ultimately systematic random sampling was used to select households after taking a list of beneficiaries from the villages/Gots level.

2.1.3 Qualitative data collection

Secondary data and document review

To fill some key output level or related indicators as well as to triangulate the findings of both quantitative household survey and that of qualitative data gathered in the form of Key Informant Interview and Focus Group Discussion checklist was developed to gather secondary data at Kebele and Woreda Level. Moreover, a review of documents from Woreda, Regional, National, and literature was undertaken for triangulation and referencing. Moreover, project documents of the RELIVES project, CARE Gender Marker, ToR, Project proposal, MEAL plan, and Logframe among others were used as reference and also input for the baseline.

Key informant interviews (KIIs)

The key informants are those who have perceptions, experience, and expertise on the subject matter to support the effectiveness of the project. With this notion key informant interviews were conducted with local government officials at the woreda level, with project implementing partner CARE and ORDA experts, and checklist interview was conducted with different stakeholder including the Semien Mountain National Park Administration (SMNP) Administration. The allocation of key informants with the number of interviews in each different level of data collection structure is given below in Table 2.3.1.

Table 2.3.1: KIIs undertaken for the baseline survey

No.	Participants	Number of KIIs
1	Woreda agriculture office	3 (3 male)
2	Woreda women and children affairs office	3 (3 female)
3	Woreda Cooperative Office	3 (3 Male)
4	Woreda environmental protection office	2 (male)
5	Woreda Tourism office	1 (1 male)
Total		12 (3 female and 9 male)

Table 2.3.2: Checklist filled

No.	Participants	Number of checklists
1	Woreda agriculture office	3 (3 male)
2	Woreda Cooperative Office	3 (3 male)
3	SMNP administration	1 (1 male)
4	Woreda Water Office	2 (2 male)
5	Woreda trade and investment office	3 (male)
6	Kebele Administration	10 (10 male)

Total	23
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Focus Group Discussions (FGD)

Focus Group Discussion (FGD) is one of the participatory types of information gathering methods that is used to assess the community views and perception about the existing situation, to find out the root causes of the problems that should be tackled, as well as the challenges and opportunities of the intervention. Accordingly, for the baseline study, various FGD sessions were organized between different groups primarily female only, youth only, and mixed groups. The baseline study was able to conduct 8 FGD sessions with the three groups. An average FGD session had 8 members. The FGD session was facilitated by using the standard checklist developed for the assignment.

Table 2.3.3: FGD session conducted for the baseline study

No.	Participants/FGD sessions	Number of FGD Sessions	No and gender of participants	Remark
1	Mixed group (community leaders, women, men, and youth)	2 (Janamora, Debark)	16 in total (8 male and 8 female participants)	In selected kebeles
2	Women only group (including persons with disability) Session	4 (Beyada, Janamora, Aderkay, Debark)	32 female participants	
3	Youth only (including Youth with disabilities) session	2 (Beyeda, Aderkay)	16 (8 male and 8 female) participants	
Total		8		

2.1.4 Data management and analysis

The data management of the baseline was conducted using CAPI² methods to conduct the survey and collect primary data through tablets, checklist of the secondary data was also gathered using tablet. Likewise, qualitative data was collected through note taking and recordings. Accordingly, the study primarily used descriptive Analysis using averages, ratios, indices, and percentages. Using percentages, mean, median, and frequency the baseline analyzed the situation of key project issues in the intervention area. Gender and geographic disaggregation are made to make comparisons among different groups and understand the dynamics of the situation among different groups. Moreover, triangulation of data was made between the finding of the qualitative and quantitative study where thematic analysis and summary report was produced for data gathered through key informant interview and focus group discussion.

In the qualitative analysis, data collection the steps include: (1) preliminary exploration of the data by reading through the transcripts and writing memos; (2) coding the data by segmenting and

² Computer-Assisted Personal Interviews (CAPI) is a face-to-face data collection method in which the interviewer uses a tablet, mobile phone or a computer to record answers given during the interview

labeling the text; (3) using codes to develop themes by aggregating similar codes together; (4) connecting and interrelating themes; and (5) constructing a narrative. To augment the further discussion, the visual data display has been created to show the evolving conceptual framework of the factors and relationships in the data. The findings of the study are presented in the following section.

3. Finding, Discussion, and Results

3.1. Demographic Characteristics

The baseline study gathered data from four Woreda and 8 kebeles where data was collected from 372 households. The distribution of households across kebeles and respondent types as described in the methodology section varies based on the proportion of population and prior allocation of distribution of type of respondents.

Sex, Age, and household structure of the population is one of the important demographic variables that affect the success of a given intervention or help in the design of any intervention that particularly targets improving the livelihood of beneficiaries through its effect on growth ambition and determination (Tull, 2017). For RELIVES project intervention areas the respondent's structure is equitable with some difference. Where out of the 372 respondents approached for the interview, 54% of the respondents were female while males accounted for 46%

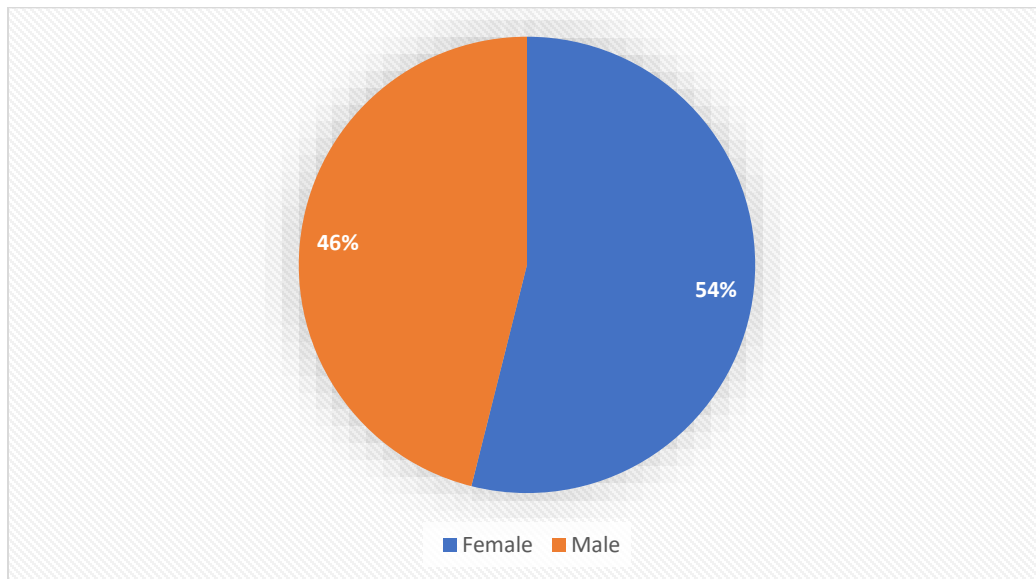


Figure 3.1.1 Sex of the respondents

With regards to the age structure of the target population, the study found that the average age of the respondent is 36 years where the minimum age recorded was 18 while the maximum was 90 years indicating the diverse nature of the respondents identified for the interview. Household size

is crucial for households' characteristics statistics that can influence the design and execution of the project. Likewise, the average household size in the intervention area is 5.4 members.

Table 3.1.1: Age and Household Size

Variable	Observation	Mean	Std. Dev.	Min	Max
Age of respondent	372	36	12.7	18	90
Household size	372	5.4	2.03	1	11
Male household member	372	2.7	1.5	0	7
Female household member	372	2.7	1.3	0	7

The study's findings indicate that within a specific household, there is equal number of male and female household members. The mean number of both male and female household members was 2.7.

With regards to the respondent's marital status in the intervention areas the study found out that over 83% of the respondents were married while the percentage of divorced respondents stood at 8%. Moreover, 5% of the respondents reported as single or never married. Decomposing the marital status by sex reveals that female respondents occupy a larger number among the divorced (13%), separated (3%), and widowed (5%) than their male counterparts.

Table: 3.1.2 Marital status of respondents

Marital status of respondents	Sex of respondent				Total	
	Female		Male			
	Count	%	Count	%	Count	%
Divorced	26	13	4	2	30	8
Married	150	75	158	92	308	83
Separated	6	3	0	0	6	2
Single/never married	9	4	9	5	18	5
Widowed	10	5	0	0	10	2
Total	201	100	171	100	372	100

Education and earning are always associated with each other. Education plays a vital role in the earnings of individuals in agriculture as well as in other occupations. It is because; the educated individual can perform more tasks and can easily adopt the new technologies and skills. Educated individuals have more earnings, more respect, and more dignity in society (Su, 2013, Ashraf and Qasim, 2019).

In RELIVES intervention areas, from the total respondents close to 48% of the respondents do not have any formal or informal education, hence, can be called illiterate. Meanwhile, 40% of the respondents indicated that they have a primary level of education, and those with a secondary level of education are limited to only 7%, less than 1% of the respondents indicated having a tertiary level of education. More female respondents are illiterate (66%) compared to their male counterparts (39%). This indicates a concern for use as well as adaptation of innovative practices, technologies, and systems that enable improvement in productivity, livelihood, lifestyle, etc. Thus, signaling the need for a differentiated intervention such as awareness creation, education, technical assistance, training, and other supports for male and female beneficiaries in the intervention areas. Moreover, more effort also needs to be made to enhance the education attainment level of female respondents such as promoting alternative adult literacy and numerous trainings.

Table 3.1.3: Household educational level by sex of the respondent

Education of the respondent	Sex of respondent				Total	
	Female		Male			
	Count	%	Count	%	Count	%
Primary (1-8)	63	31	85	50	148	40
Secondary (9-12)	15	7	12	7	27	7
Tertiary	0	0	2	2	2	1
Illiterate	113	56	66	39	179	48
Religious, adult education, etc	10	5	6	4	16	4
Total	201	100	171	100	372	100

The RELIVES project intends to ensure inclusive participation and benefit of vulnerable groups from the development endeavor. With this notion, the baseline further assessed the situation of the households and respondents by asking if there are household members with disabilities. Accordingly, the baseline study found that around 13 % of the respondents approached indicated having a household member with a disability whereas 87% stated having no household member with a disability.

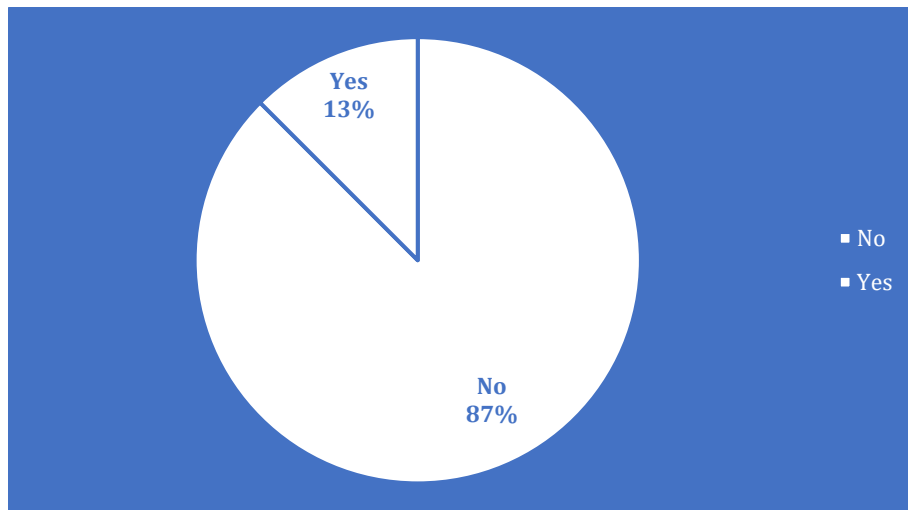


Figure 3.1.2 Household member disability situation

Mobility/physical impairments, Visual impairments, and Hearing impairments are the three dominant disability types observed in the intervention area where the first two each accounting for 33.3% of the total disability reported while the last disability type accounts for 17.6% of the disability type reported.

3.2. Findings by Outcomes and Outputs

Outcome One: Natural resources, biodiversity, and ecosystems are well protected through community and stakeholder involvement in the restoration, rehabilitation, and conservation measures in the SMNP and surrounding kebeles.

Outcome Indicator 1.1: Percentage of restored land in targeted woredas (disaggregated by location (kebele and woreda))

Restoring natural land and improving the safety of landscapes for humans, wildlife, and plant communities is crucial in many development programs. For this survey, the protected/conserved land/areas include closed bushes, open bushes and forest areas, and unprotected/unobserved areas/lands includes cultivated lands, grazing/grass lands, settlements and towns. As shown in Table 3.2.1, from the total 44,684 hectare of lands, only 14,050 (31%) of lands are found protected or conserved.

Among served woredas, Aderkay woreda has more protected/conserved lands with 9,302 (56%) hectare of protected/conserved land followed by Debark woreda with 2,938 (39%) hectare of protected/conserved land and Janamora woreda with 1,012 (12%) hectare of protected/conserved land. Beyeda woreda has less protected/conserved lands with 738 (6%) hectare of protected/conserved.

Table 3.2.1: The proportion of restored land (disaggregated by location)³

Woreda	Total area in hectare	Protected/restored land ⁴		Unprotected/unrestored land ⁵	
		In hectare	Proportion (%)	In hectare	Proportion (%)
Aderkay	16,613.40	9,362.48	56.35	7,250.92	43.65
Beyeda	12,080.78	737.77	6.11	11,343.01	93.89
Debark	7,476.73	2,937.57	39.29	4,539.16	60.71
Janamora	8,513.51	1,011.74	11.88	7,501.77	88.12
Total	44,684.42	14,049.56	31.44	30,634.86	68.55

The result from the qualitative data reveals that the community withstands climate change, and they are taking part in multiple conservation and rehabilitation practices, for instance planting new trees that can be used as commercial plants and protecting the old ones from being cut down. Additionally, they make stone walled terraces along the riverbeds.

“Mango is a good tree. It’s edible and it also contributes to the prevention of the climate change. For example, the area over there was a bare land few years back and its soil used to be eroded. But after landscaping was done and mango was planted on it, it is a beautiful place now. So, if the same thing is done over other places, it would be very good.” FGD participant in Aderkay Woreda

The findings also indicated that the local government is playing an important role in conducting campaigns and in awareness creation:

“The woreda involves the community by conducting campaigns in doing soil and water protection works. Then the community takes responsibility and conserves the works done afterwards. In addition, the water and soil protection work is strengthened by planting trees and through integrated watershed development. This helps the environment to recover and for its sustainability.” KII with Beyeda Woreda agriculture office

Thus, more work is required from the RELIVES project to restore degraded lands and improve the livelihood of the residents through climate resilient alternative income generating regenerative agricultural practices.

³ SMNP Land Use/Cover Assessment Final Report for RELIVES Project, CARE, 2023

⁴ Protected/conserved areas are closed bushes, open bushes and forest areas

⁵ Unprotected/unobserved areas are cultivated lands, grazing/grass lands, settlements and towns

Outcome Indicator 1.2: Percentage of human and livestock movements inside reserved parkland (disaggregated by location (kebele and woreda))

The human movement in and around the park could have its own negative effect on the park’s general ecosystem. Thus, knowing the level of physical movement of people for different purposes, i.e., livelihood, crossing the park to go other places, and dwelling in the park was assessed. Three indicators were taken to see the human and livestock contact with the preserved parkland in Semen Mountain. These indicators were humans crossing the park to perform their daily activity; animal grazing within the protected parkland and livestock crossing the park to move to other places for different purposes. Accordingly, 29.7 % of the population in the intervention areas crosses the park to undertake various tasks. Thus, human contact at the baseline is 29.7 %. With regards to the animal movement inside the park, it is found that the baseline value to be 7 %.

Table 3.2.2: Human and livestock movements inside reserved parkland (disaggregated by study woreda)

Variable		Woreda								Total	
		Aderkay		Beyeda		Debark		Janamora			
		Count	%	Count	%	Count	%	Count	%	Count	%
Crossing the park	No	33	75	13	19.12	15	13.27	0	0	61	16.4
	Yes	11	25	55	80.88	98	86.72	147	100	311	83.6
Animal grazing in the park	No	44	100	14	20.59	38	33.63	30	20.41	126	33.87
	Yes	0	0	54	79.41	75	66.37	117	79.59	246	66.13
Livestock passes through the park	No	44	100	18	26.47	83	73.45	59	40.13	204	54.84
	Yes	0	0	50	73.53	30	26.55	88	59.86	168	45.16

Table 3.2.2 shows that a total of 84% of respondents confirmed that they cross the park. The highest level of human crossing the park came from Janamora woreda where 100% of interviewed people say that they cross the park followed by Debark (87%) and Beyeda (81%) woredas. In Adarkay woredas 25% respondents confirmed that they cross the park. This might be indicative that the people in Janamora woreda have a lot to do crossing the park for their daily activities. Thus, more effort is needed in all woreda to decrease the number of humans crossing the park or minimize the effect of contact with the biodiversity of the protected parkland.

The survey results also revealed that 66 % of the respondents confirmed that the practice of animal grazing or movements in the park for the search of grass, water, and the like. Relatively there is high grazing of animals in Janamora with 80 % followed by Beyeda with 79% and Debark 66%. The survey revealed the absence of

animal grazing in Aderkay. Regarding the passing of animals in the park, the survey revealed that in total 45% of respondents confirmed that animals are passing through the park. The movement of animals to the park is found highest in Beyeda with 74% followed by Janamora with 60% and Debark with 27%. Animals are not passing in Aderkay woreda.

Regarding the movement of animals in the park, overall, the survey result revealed that in total 45% of respondents confirmed the practice of animal movements either for grazing or passing through the park with relatively highest in Beyeda with 74% followed by Janamora with 60% and Debark with 27%. The result is somehow in line with the findings of the SMNP land use/cover assessment for the period 2001-2023 conducted in Debark, Janamora and Beyeda woredas, which revealed the increasing trends of grazing lands across the woredas.

In alignment with the quantitative findings, the qualitative results reveal a human presence in the park for various activities such as market visits, collecting firewood, fetching water, and addressing social issues in the adjacent kebeles. Respondents also highlighted that severe land degradation in the area has led to the drying up of most water sources, compelling communities to rely on springs located inside and around the park. Consequently, residents cross the park to carry out routine tasks. Moreover, due to limited access to animal fodder, livestock enter the park either for grazing or to access drinking water.

The seasonal pattern of crossing varies, occurring predominantly from May to October. During this period, individuals residing outside the park move in and around it to access grazing areas, as most agricultural lands outside the park are covered with crops, resulting in a high demand for fodder during the summer season. These findings suggest the need to develop strategies to reduce livestock interaction with the park. The anecdote in the quote below provides a clear illustration of the changing dynamics of livestock interaction with the park.

“In Debark and Janamora woredas, there are large number of livestock. Due to severe land degradation springs dried up and land used for communal grazing was unable to produce more grass for livestock. The only water sources and grazing land are in and around the park. As a result, they are moving in and around the park to access water for human and livestock as well as to access grazing lands.” From KII zone agricultural department.

Outcome Indicator 1.3: Percentage of people of all genders that have applied at least 3 practices to protect their livelihoods from negative impacts of climate related shocks and stresses (disaggregated by location, gender, age, vulnerability)

Taking measures to protect one's livelihoods from the negative impacts of climate-related shocks and stresses is a positive step in building a positive and resilient economy. The protective measures planned for the project include soil acidity treatment with lime, crop rotation, manure/compost, etc. Accordingly, the baseline result reveals several agricultural practices that

the households are undertaking to protect their livelihood from the negative impact of climate change.

Table 3.2.3: *practices to protect livelihoods from negative impacts of climate-related shocks and stresses (disaggregated by location, gender, age, vulnerability)*

Variables	Adopted practices (soil acidity treatment using lime, crop rotation, terracing and manure/compost)	
	Adapted at least three practices (%)	Adapted less than three (%)
Sex of respondent		
Female	63.38	36.62
Male	64.79	35.21
Respondent type		
Women headed households	58.82	41.18
Men headed households	69.39	30.61
Person with disability	71.43	28.57
Women in male headed households	65.17	34.83
Young female (15 to 35 years)	63.89	36.11
Young male (15 to 35 years)	48.65	51.35
Woreda		
Aderkay	60.71	39.29
Beyeda	52.08	47.92
Debark	78.05	21.95
Janamora	55.24	44.76
Telemit	85.71	14.29
Age category		
18 – 35	68.18	31.82
36 – 64	59.17	40.83
65+	60.00	40.00
Total	64.08	35.92

Accordingly, as presented in Table 3.2.3 overall 64 % of the respondents are practicing at least three agricultural and natural resource management practices (**soil acidity treatment using lime, crop rotation, terracing, manure/compost, etc.**) to protect their livelihood from the negative effect of climate change shocks. Comparable percentage of male (64 %) and female (63%) respondents have applied at least three practices to protect their livelihoods from negative impacts of climate related shocks and stresses. From the household headship perspectives, more men headed households (69%) than women headed households (58 %) have applied at least three practices to protect their livelihoods from negative impacts of climate related shocks and stresses. Vulnerable groups like persons with disabilities found the highest (71%) next to men headed households, who applied at least three practices to protect their livelihoods from negative impacts of climate related shocks and stresses.

The qualitative findings indicate that the community's perception has changed over time and that now they have been more engaged in the protection of the park. This change has been attributed to the employment of the local militias as guards in the park and they have been teaching the community on the importance of the park.

"10 to 12 years back, the community used to cut trees like 'weyra' for the purpose of making farming materials. But after we saw the importance of protecting the park through various awareness creation events and also after the militias and other experts taught us about it, we started abstaining from such activities. Some of us even started to protect the forest and the park as it is our resource".
FGD participant in Aderkay

Young respondents with the age group 15-35 age group found the highest respondents who applied at least three practices to protect their livelihoods from negative impacts of climate related shocks and stresses with 68% followed by respondents with 65 and above age constituted 60%, and respondents with 36-64 age category constituted 59%. More respondents from Debark woreda (78.05%) have applied at least three practices to protect their livelihoods from negative impacts of climate related shocks and stresses followed by Aderkay 60.71%. Beyeda woreda (52.08%) has the lowest protection practice followed by Janamora woreda (55.24%), which may indicate the need for more effort. Also, young male aged 15 to 35 (48.65%) and women headed households (58.82%) need more attention..

Outcome 2: Diversified and improved livelihood options for women, youth and vulnerable groups

Diversifying and improving the livelihood options for women, youth, and vulnerable groups could foster gender equality, and enhance climate resilience and sustainable natural resource management.

Outcome Indicator 2.1: % increase in net income of people in targeted kebeles (disaggregated by location, gender, age, vulnerability)

Net income indicates the amount of net income people actually get from total earnings after completing certain economic activity in one year. As shown in Table 3.2.4 in the study area, the average net annual income of the households was 25,021.64 ETB for the year 2021/22. Gender wise, females (21,595.56ETB) earn lower annual net income compared to their male counterparts (27,727.59 ETB). Age wise, respondents with the age group 15-34 earn lower net annual income (23,404.84 ETB) followed by respondents with age group from 35-64 (25,773.31 ETB). Respondents with 65 and above age earn higher net annual income (37,562.50 ETB).

From the vulnerability perspective, women headed households (15,642.86 ETB) followed by people with disability (13,000 ETB) and young female respondents (18,276.92 ETB) earn lower annual net income.

Location wise, respondents in Janamora (20,228.60 ETB) earn lower net annual income followed by Aderkay (21,916.70 ETB) and Beyda (23,078.80ETB). Respondents in Debark (32,485.10 ETB) earn higher net annual income followed. Thus, the result shows that efforts are needed to improve the income of women, women headed households, persons with disability and people of young age.

Table 3.2.4: Net income of people in targeted areas (disaggregated by location, gender, age, vulnerability)

Variables	Average net income (ETB)
Sex of respondent	
Female	21,595.56
Male	27,727.59
Respondent type	
Women headed Household	15,642.86
Men headed Household	45,187.5
Person with disability	13,000
Women in male headed households	28,028.57
Young female (15 to 35 years)	18,276.92
Young male (15 to 35 years)	23,772.02

Woreda	
Aderkay	21,916.70
Beyeda	23,078.80
Debark	32,485.10
Janamora	20,228.60
Age category	
18 - 35	23,404.48
36 - 64	25,773.31
65 and more	37,562.50
Total	25,021.64

The majority of participants confirmed that they live a subsistent lifestyle. They also expressed that farming constitutes their primary livelihood, despite facing challenges such as insufficient farmland and a lack of agricultural inputs like fertilizers and oxen.

“ The living condition of our community is from hand to mouth. Since there’s no farming land and provision of fertilizers, we only make our daily lives, we don’t have any surplus thing to save or take to the market. Even the people that have farmland lack a lot of things to farm their lands. The ones who brew and sell ‘tela’ a local brewery also use wood as a source of energy, and they don’t have alternative energy saving stoves. The majority of the community are farmers, and they live with traditional farming practice. FGD participant from Aderkay

Output Indicator 2.1.1: # and % of female VSLA members in targeted kebeles who are able to save at least twice per year (disaggregated by location, age, vulnerability)

The number and proportion of women who are members of village savings and loans associations (VSLAs) and have active participation in saving is one indicator of women's economic empowerment. In the study area, out of the total 201 female respondents, only 33 (16%) are VSLA members.

Table 3.2.5: village saving and loan association (VSLA) membership

VSLA membership	Frequency	%
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No	168	83.58
Yes	33	16.42
Total	201	100.00

The number of females that took part in VSLA membership in their local areas and contributed or saved at least two times in one year was used as a measurement to see the level of their engagement and saving habits. As shown Table 3.2.6 the overall economic engagement of women is limited with some variation based on location, age, and vulnerability. From the total 33 females who are a member of VSLAs, about 17 (51%) of respondents have saved at least two times a year and 16(49%) saved only once a year. About 3 (75%) women headed households reported that they have saved at least twice in a year and 10 (45.45%) of women in male headed households have saved at least two times a year.

Debark has the highest number of women who have engaged in VSLA in their locality with 24 female VSLA members followed by Janamora with 6 VSLA female members. Moreover, a higher proportion of female VSLA members in Debark reported that they have saved at least twice per year, constituted 54.16%. Similarly, young respondents have a higher saving practice (59.26) than old ones (25.00%); and young females have a higher saving practice constituted 55.56%, which may indicate that working with young people, mainly with young female, may be an advantage to introduce more effect on women's saving practice.

Table 3.2.6: Female VSLA members who are able to save at least twice per year (disaggregated by location, age, vulnerability)

Variables	Response	Number of times saved		Total
		Once	At least twice	
Type of respondents				
Women headed households	Count	1	3	4
	%	25.00	75.00	
Women in male headed households	Count	11	9	20
	%	55	45	
Young female (15 to 35 years)	Count	4	5	9
	%	44.44	55.56	
Woreda				
Aderkay	Count	2	1	3
	%	66.67	33.33	
Debark	Count	11	13	24
	%	45.83	54.16	
Janamora	Count	3	3	6
	%	50.00	50.00	
Age category				

18 – 35	Count	11	15	26
	%	42.30	57.70	
36 – 64	Count	5	2	7
	%	71.43	28.57	
Total	Count	16	17	33
	%	48.48	51.52	

The limited performance and the multitude of challenges encountered by the VSLAs has been confirmed as prevalent by the community during the qualitative study. Although there was an agreement about the usefulness of the VSLA, the community stated that women are still not benefiting from such arrangements so far:

“Previously we contributed 60 Birr, some construction work was done with it and the remaining money was used for loan to start business and for family emergency. But now the performance of the group is not as it used to be. It is decreasing nowadays. The association has decreased providing loans and the amount of loan provided was very small – which forced us to stop borrowing. If there was money it would have benefited the women, but they say the money is not enough for everybody to borrow. We could have even done business with the money.” Female only FGD participant in Beyeda Woreda

Output Indicator 2.1.2: # and % of women, youth and vulnerable persons in targeted kebeles who diversified their income generating activities (disaggregated by location, age)

Women, youth, or vulnerable persons who have diversified their income-generating activity means that they are engaged in at least one additional income generating activities (IGAs) other than the household’s main income source. For example, the IGAs could be petty trading, on and off farm activities including small-scale plant and agricultural and animal production, processing, and preservation. As shown in Table 3.2.7, about 60 (16%) of respondents are engaged in IGAs; among them 9 (15%) respondents engaged in at least two IGAs, whereas 51 (85%) of respondents engaged in one IGA. Likewise, considerable percentage of the respondents (84%) reported not engaging in any IGAs; young male and female respondents account for significant share of those not engaged in IGA. .

Also, the result revealed that very few numbers of participants from each of the community segments indicating that they have diversified their income source., which implies that most of the community is still dependent on one source of income, which mostly is farming. Women in male headed households (16%), persons with disabilities (20%) and young male with 15 to 35 years (29%) of respondents engaged in more than one IGA sources. While no respondent in women

headed household and young male (15 to 35 years) reported engaging in more than one IGA. Geographically more households from Beyeda (23.08%) woreda engaged in more than one IGA followed by Aderkay (20%), Janamora (15.79%) and Debark (7.69%). 19% and 12% of respondents within the age category 36-64 and 18-35 respectively engaged in more than one IGA; and none of the respondents within the age category of over 65 took part in more than one IGA. Thus, the result indicates that huge effort is required in promoting and capacitating the community in having additional sources of income.

Table 3.2.7: Women, youth, and vulnerable persons who diversified their income-generating activities (disaggregated by location, age)

Variables		Number of IGAs		
		One	At least two	Total
Respondent type				
Women headed households	Count	3	0	3
	%	100	0	
Person with disability	Count	4	1	5
	%	80	20	
Women in male headed households	Count	16	3	19
	%	84.21	15.79	
Young female (15 to 35 years)	Count	11	0	11
	%	100	0	
Young male (15 to 35 years)	Count	5	2	7
	%	71.43	28.57	
Woreda				
Aderkay	Count	4	1	5
	%	80	20	
Beyeda	Count	10	3	13
	%	76.92	23.08	
Debark	Count	12	1	13
	%	92.31	7.69	
Janamora	Count	25	4	29
	%	86.21	13.79	
Age category				
18 - 35	Count	34	5	39
	%	88.1	11.9	
36 - 64	Count	16	4	20
	%	81.82	18.19	
65 and more	Count	1	0	1
	%	100	0	
Total	Count	51	9	60
	%	85	15	100.00

Some of the participants in FGDs have also indicated that they have tried beverage production as an alternative source of income but mentioned they cannot support it with energy saving technologies.

“There are also people who earn their income through selling commodities like ‘tela’, even though their number is very low. As the person before me explained the majority of the community members are farmers.” Aderkay woreda FGD Participant

Outcome Indicator 2.2: # and % of people who report gender equitable attitudes towards social norms in targeted kebeles (disaggregated by location, gender, age and vulnerability)

Gender equality can only be achieved when both male and female individuals are treated equitably. However, discrimination is a social menace that creates division. The gender equality measurement (GEM) scale includes 13 items in two subscales. Responses are categorized as agree; partially agree and do not agree for the inequitable subscale and scores are inverted for the equitable subscale. The study assessed gender equality using a gender equitable men scale. If the respondent is positive about gender equality, they will score 1, and if not 0. Each item is summed by scale and the sub-scales are then summed and combined. Higher scores represent more gender-equitable attitudes for the subject under consideration thus, the maximum positive score will be 13 while the minimum is zero. Accordingly, for the baseline study it was found that the average GEM score was 7.9, the minimum score found was 4 and the maximum score was 12 more households scored a borderline score of 7 where 125 respondents, or 30% scored average score of 7 followed by score of 8.

The low gender equality score was also reflected in the qualitative study, where government experts and community members indicated some progress made so far and the challenges outstanding for better gender equity, social norms and women empowerment.

There is anti-harmful traditional practices committee at kebele level, and they work with religious leaders as most the community is Orthodox Christian to eradicate harmful traditional practices. These religious leaders participate in minimizing huge and extravagant ceremonies in the community that puts load on the women. There are issues we didn't work on. For example, there are forceful abduction of women for marriage and underage marriage; even though we are working on these areas with the local community police, it is not enough yet. KII representative from Women, children, and social affairs office

Overall, although very limited on average comparatively more respondents in Janamora, and Aderkay were found to have higher GEM scores while those in Debark scored the least indicating the higher gap in social norms and the efforts needed to undertake such empowerment at individual, community level targeting it geographically. The table Below shows that the social norm is negative towards women. The younger generation although better with regards to attitude and norm of gender equality reflected by a relatively higher score in GEM. Even the

women themselves have low scores more efforts and support are required to bring socially and politically equitable gender norms.

Table 3.2.8: *People who report gender-equitable attitudes toward social norms (disaggregated by location, gender, age, and vulnerability)*

Variables		Gender-equitable attitudes		
		Less than average score	average and above average score	Total
Woreda				
Aderkay	Count	30	14	44
	%	68.18	31.82	
Beyeda	Count	49	19	68
	%	72.06	27.94	
Debark	Count	86	27	113
	%	76.11	23.89	
Janamora	Count	100	47	147
	%	68.03	31.97	
Sex of respondents				
Female	Count	148	53	201
	%	73.63	26.37	
Male	Count	110	61	171
	%	64.33	35.67	
Age category				
18 – 35	Count	149	56	205
	%	72.68	27.32	
36 – 64	Count	104	56	160
	%	65	35	
65 and more	Count	5	2	7
	%	71.43	28.57	
Respondent type				
Women headed households	Count	16	8	24
	%	66.67	33.33	
Male headed households	Count	81	36	117
	%	69.23	30.77	
Person with disability	Count	13	4	17
	%	76.47	23.53	
Women in male headed households	Count	90	33	123
	%	73.17	26.83	
Young female (15 to 35 years)	Count	37	11	48
	%	77.08	22.91	
Young male (15 to 35 years)	Count	21	22	43
	%	48.84	51.16	

Total	Count	258	114	372
	%	69.35	30.65	100.00

Outcome Indicator 2.3: # and % of entrepreneurs contributing to the green or circular economy in targeted kebeles (disaggregated by gender, location, age, vulnerability)

Respondents engaged in business or IGAs asked on the types of business they are engaged in to assess the businesses is/are helping or contributing to improve a green or circular economy. Respondents were asked to mention the type of IGAs or entrepreneurship they were engaged in. Then these lists of IGAs were rated against a pre-established criterion. Accordingly, as shown in Table 3.2.9, the overall results show that few of the participants have been engaged in IGAs or. Only, 35% of respondents found to have engaged in green or circular economy enhancing businesses or IGAs. Areas for potential promotion include home gardens (aromatic and medicinal plants and herbs and vegetables), indoor plants, flowers, fruit tree nurseries, animal production of dairy products, sewing, knitting embroidering, and carpet making⁶.

In terms of gender, a higher percentage of female respondents (44%) participated in businesses that contribute to the green or circular economy, in contrast to their male counterparts (23%). Geographically, Debark woreda exhibited the highest engagement in green or circular economy businesses or Income Generating Activities (IGAs) with 69%, followed by Aderkay (60%) and Beyeda (38%). In Janamora woreda, a lower percentage of respondents (13%) were involved in such endeavors.

Examining age groups, those aged 60 and above demonstrated the highest participation rate (100%) in green or circular economy businesses or IGAs, followed by the 36-64 age group (38%) and the 18-35 age group (32%). Moreover, when considering household characteristics, a greater proportion of respondents from women-headed households (50%) engaged in green or circular economy businesses or IGAs, followed by individuals with disabilities (40%) and young females in the 15-35 age group (33%).

⁶ Individual and groups who have engaged in potential IGAs that contributes to climate resilience and the protection of natural resources. Areas for potential promotion include home gardens (aromatic and medicinal plants and herbs vegetables), indoor plants, flowers, fruit tree nurseries, animal production dairy products, sewing, knitting embroidering, carpet making- only if the production of these products do not hurt the environment.

Table 3.2.9: Proportion of entrepreneurs contributing to the green or circular economy (disaggregated by gender, location, age, and vulnerability)

Variables		Entrepreneurs with green or circular economy		
		No	Yes	Total
Sex of respondent				
Female	Count	19	15	34
	%	55.88	44.12	
Male	Count	20	6	26
	%	76.92	23.08	
Woreda				
Aderkay	Count	2	3	5
	%	40	60	
Beyeda	Count	8	5	13
	%	61.54	38.46	
Debark	Count	4	9	13
	%	30.77	69.23	
Janamora	Count	25	4	29
	%	86.21	13.79	
Age category				
18 – 35	Count	26	12	38
	%	68.42	31.58	
36 – 64	Count	13	8	21
	%	61.90	38.10	
65 and more	Count	0	1	1
	%	0	100	
Respondent type				
Women headed households	Count	1	1	2
	%	50	50	
Male headed households	Count	12	3	15
	%	80	20	
Person with disability	Count	3	2	5
	%	60	40	
Women in male headed households	Count	9	9	18
	%	50	50	
Young female (15 to 35 years)	Count	8	4	12
	%	66.67	33.33	
Young male (15 to 35 years)	Count	6	2	8
	%	75	25	
Total	Count	39	21	60
	%	65	35	

In contrast to the above data, findings of the quantitative study show that only a handful of individuals are taking part in IGAs in general and in the green and/or circular economy in particular. Additionally, qualitative findings point out that opportunities for income growth still include strategies (use of fertilizers that might not be organic, production of charcoal) that cannot contribute to the green and circular economy.

“As agriculture bureau, what we do is supporting them increase their productivity on the land they already have. Since land is a scarce resource, the only thing the farmers can do is to increase their productivity by using different technologies, fertilizers, improved crop seeds, compost, and irrigation” however, as an alternative, providing women with financial loans so that they can produce improved cook stoves, planting and using eucalyptus tree as a source of income by making charcoal and firewood out of it could be possible livelihood options for the community in the woreda” KII with Beyeda Woreda agriculture office.

Outcome Three: Capacities of EWCA/SMNP in inclusive participatory approaches are enhanced and coordination mechanisms at relevant regional, zonal, woreda and kebele level are improved.

Enhancing the capacity of the park management is crucial for a positive and all-inclusive development of the park and the surrounding community. Thus, following inclusive participatory approaches establishing coordination mechanisms at relevant regional, zonal, woreda, and kebele levels are manifestations of enhanced capacity in park administration.

Outcome Indicator 3.1: Percentage of people stating that collaboration in implementing the park management plan is more inclusive (disaggregated by gender, age, location, vulnerability, sectors)

The respondents indicated that there exists limited engagement between the park administration and the community with regard to park management. The respondents highlighted as they participated in park management more specifically in planning park management activities and tasks. As shown in Table 3.2.10, overall, only (30%) of the participants have said that the park administration is multi-partnership, collaborative, and inclusive. Gender wise, relatively more female respondents (37%) indicated as there is a good partnership between the community and the park administration. Likewise, more youths (55%) indicated that collaboration in implementing the park management plan is more inclusive than other age group respondents.

Location wise, relatively higher respondents in Debark (39%) have stated that collaboration in implementing the park management plan is more inclusive followed by Aderkay (32%), Janamora (31%) and Beyeda (15%) (47%). Relatively, more respondents from young men (15-35) age group (56%) have stated that collaboration in implementing the park management plan is more inclusive followed by young females within 15-35 age group (53%), women headed households (33%), and person with disability (29%).

Table 3.2.10: People stating that collaboration in implementing the park management plan is inclusive (disaggregated by gender, age, location, vulnerability)

Variables		Multi-partnership/collaboration in management		
		No	Yes	Total
Sex of respondent				
Female	Count	126	75	201
	%	45.62.69	37.31	
Male	Count	133	38	171
	%	77.78	22.22	
Age category				
18 - 35	Count	162	43	205
	%	79.02	20.98	
36 - 64	Count	92	68	160
	%	57.5	42.5	
65 and more	Count	5	2	7
	%	71.43	28.57	
Woreda				
Aderkay	Count	30	14	44
	%	68.18	31.82	
Beyeda	Count	58	10	68
	%	85.29	14.7	
Debark	Count	69	44	113
	%	61.06	38.93	
Janamora	Count	102	45	147
	%	69.39	30.61	
Respondent type				
Women headed households	Count	16	8	24
	%	66.67	33.33	
Male headed households	Count	93	30	123
	%	75.61	24.39	
Person with disability	Count	12	5	17
	%	70.59	29.41	
Women in male headed households	Count	98	22	120
	%	81.67	18.33	
Young female (15 to 35)	Count	22	25	47
	%	46.81	53.19	
Young male (15 to 35)	Count	18	23	41
	%	43.9	56.1	
Total	Count	259	113	372
	%	69.62	30.38	100.00

Output Indicator 3.1.1: Percentage of people in the targeted kebeles satisfied with their last engagement with EWCA/SMNP (disaggregated by location, gender, age and vulnerability)

Respondents have different levels of satisfaction based on the participation arena. Respondents showed relatively the highest satisfaction with their participation regarding interaction with the park administration, while they showed the highest dissatisfaction with their engagement with the park administration. As shown in Table 3.2.11, overall, only 25% (6% satisfied and 19% highly satisfied) of respondents are satisfied with their last engagement with EWCA/SMNP administration. When we see it by gender disaggregation, (34%) of male respondents are satisfied with their last engagement with EWCA/SMNP administration, while only 18% of female respondents are satisfied with their last engagement with WECA/SMNP administration.

Location wise, more respondents in Beyeda woreda (37%) are satisfied with their last engagement with EWCA/SMNP administration followed by Debark (30 %) and Aderkay (25 %) woredas. Relatively less respondents in Janamora (16%) are satisfied with their last engagement with EWCA/SMNP administration. Relatively, more young men respondents (51%) are satisfied with their last engagement with EWCA/SMNP administration followed by person with disability 44%) and young females within 15-35 age group (29%). Relatively less proportion of women headed households 28% followed by women in male headed households (11 %) are satisfied with their last engagement with EWCA/SMNP administration..

Table 3.2.11: People satisfied with their last engagement with EWCA/SMNP (disaggregated by location, gender, age, and vulnerability)

Variables		Engagement with the park administration				
		Dissatisfied	Highly dissatisfied	Highly satisfied	Satisfied	Total
Woreda						
Aderkay 3	Count	22	11	2	9	44
	%	50	25	4.55	20.45	
Beyeda 4	Count	35	8	3	22	68
	%	51.47	11.77	4.41	32.35	
Debark 1	Count	39	40	13	21	113
	%	34.51	35.4	11.5	18.58	
Janamora 2	Count	112	11	9	15	147
	%	76.19	7.48	6.12	10.2	
Respondent type						
Women headed households	Count	15	3	2	5	25
	%	60	12	8	20	
Male headed households	Count	61	27	12	16	116
	%	52.59	23.27	10.34	13.79	
Person with disability	Count	8	2	3	5	18
	%	44.44	11.11	16.67	27.78	

Women in male headed households	Count	95	14	3	10	122
	%	77.87	11.48	2.46	8.19	
Young female (15 t35)	Count	28	4	4	12	48
	%	58.33	4.17	4.17	25	
Young male (15 t35)	Count	18	3	9	13	43
	%	41.86	6.98	20.93	30.23	
Sex of respondents						
Female	Count	125	40	11	25	201
	%	62.19	19.9	5.47	12.44	
Male	Count	102	12	18	40	172
	%	59.3	6.98	10.46	23.26	
Age category						
18 – 35	Count	103	52	12	35	202
	%	50.1	25.74	5.94	17.33	
36 – 64	Count	94	23	10	31	158
	%	59.49	14.56	6.33	19.62	
65 and more	Count	5	1	1	5	12
	%	41.67	8.33	8.33	41.67	
Total	Count	202	76	23	71	372
	%	54.3	20.43	6.18	19.09	

Outcome Indicator 3.2: Percentage of people of all genders in targeted kebeles satisfied with their engagement with service providers (disaggregated by gender, age, location, vulnerability, sectors)

Communities engage with different service providers for different services as individual or a community. These services may include but are not limited to education, health, justice, and environmental protection services. These services are provided by their assigned service givers. For the baseline study service related to environmental protection and ecosystem preservation are considered as indicators to undertake the analysis.

Respondents were asked to rate their satisfaction level of their engagement with community service providers. As depicted in Table 3.2.12, most of the participants in all the categories stated that they are satisfied with their engagement with service providers. This means that the work which has been done on enhancing environmental sustainability by different service providers has been satisfying for the community. Moreover, this satisfaction is manifested in all of the population segments there are. This can be understood by adding the highly satisfied and satisfied portion of the table for each category. The survey result revealed that overall, 55% (40 % satisfied and 15% highly satisfied) of respondents are satisfied with their engagement with service providers. Male with (63%) followed by female (48%) of respondents are satisfied with their engagement with service providers.

Location wise, more respondents in Beyeda woreda (66%) are satisfied with their engagement with service providers followed by those in Aderkay (59%) and debark (52%) woredas. Relatively less respondents in Janamora (48 %) are satisfied with their engagement with service providers. Relatively, more respondents of young male (15-35) age (51%) followed by person with disabilities (44%) are satisfied with their engagement with service providers, followed by yong female (15-35) age respondents (29%), and women headed household respondents 28% were satisfied with their engagement with service providers. Relatively less proportion of Male headed household (24%) women in men headed household (11%) are satisfied with their engagement with service providers.

Table 3.2.12: Participants' satisfaction level with their engagement with public service providers (disaggregated by gender, age, location, and vulnerability)

Variables		Engagement with the public service providers				Total
		Dissatisfied	Highly dissatisfied	Highly satisfied	Satisfied	
Woreda						
Aderkay	Count	16	2	5	21	44
	%	36.36	4.55	11.36	47.73	
Beyeda	Count	20	3	9	36	68
	%	29.41	4.41	13.24	52.94	
Debark	Count	44	10	19	40	113
	%	38.94	8.85	16.81	35.4	
Janamora	Count	63	13	20	51	147
	%	42.86	8.84	13.61	34.69	
Respondent type						
Women headed households	Count	15	1	3	5	24
	%	62.5	4.17	12.5	20.83	
Male headed households	Count	44	14	20	37	115
	%	38.26	12.17	20.39	32.17	
Person with disability	Count	2	0	8	9	19
	%	10.53		42.11	47.37	
Women in male headed households	Count	37	9	12	63	121
	%	30.57	1.744	9.92	52.07	
Young female (15 t35)	Count	23	4	6	15	48
	%	47.92	8.33	12.5	31.25	
Young male (15 t35)	Count	12	8	5	20	45
	%	26.67	17.78	11.11	44.44	
Sex of respondents						
Female	Count	92	13	20	76	201
	%	45.77	1.647	9.95	37.81	
Male	Count	44	20	34	73	171

	%	25.73	3.11.7	19.88	42.69	
Age category						
18 – 35	Count	83	18	29	71	201
	%	26.41.29	8.96	14.43	35.32	
36 – 64	Count	45	16	23	75	159
	%	228.3	10.06	14.47	47.17	
65 and more	Count	5	2	2	3	12
	%	41.66	16.67	16.67	25	
Total	Count	133	36	54	149	372
	%	35.75	9.68	14.52	40.05	100

The result from the qualitative study unveils that there have been efforts to promote and support the communities in implementing sustainable land management interventions and adapting to climate change. Towards this end, some trainings and teachings were provided to the community on how to treat degraded communal land, farmland and forest area with biophysical measures such as physical soil and water conservation; hillside terrace, cut-off drain, waterway, gully rehabilitation, check dams, micro-basin and basins.

“We select the most vulnerable area and then we educate the community. Then finally the community develops different water and soil protection structures suitable for the specific area either through campaigns or through incentives. But mostly the community develops the structures through campaigns and then trees are planted on the structures to change the physical water and soil conservation into biological conservation. The Woreda has a plant center which distributes plants to the community so that they can plant it for biological conservation of water and soil.” KII with Beyeda Woreda agriculture office

Output Indicator 3.2.1: % increase of local government sector officials reporting meaningful participation in EWCA/SMNP coordination and collaboration activities (disaggregated by location, sectors, gender, and vulnerability)

With regard to the meaningful participation of sector office officials in the park administration and conservation. The key informant interview result shows as there are a difference in meaningful participation at woreda with regard to park conservation. Higher participation was with Tourism offices (30%) and lower participation resulted in agriculture office (20%) with the average value of 22% of them confirmed that there is meaningful participation with regard to park conservation.

Table 3.2.13: local government sector officials reporting meaningful participation in EWCA/SMNP coordination and collaboration activities

Variables	Sectors			
	Agriculture	Cooperative	Tourism	Women, children & social affairs
local government sector officials reporting meaningful participation in EWCA/SMNP coordination and collaboration activities	Yes (20 %)	Yes (33%)	Yes (30%)	Yes (22%)

3.3. Existing Challenges and the Effects of the Conflict

The result from the qualitative data indicated the conflict has affected the community excessively. The war has caused the distraction of family structures and their bonds, material and property loss and finally disruption of community in general. Moreover, the destruction of infrastructures and service delivery facilities has been reported as a challenge for those who have been coming to help the community. Due to this, adverse effects like lack of clean water, limited source of income, lack of agricultural supplies especially fertilizers, and loss of materials and property to conduct daily income generating activities have been reported.

As an illustration of these, the women in Wembege Kebele reported that they used to engage in different IGAs and do farming to support their families before the conflict. However, currently they have nothing due to the conflict. Most of the women said that they had just returned from where they were displaced during the conflict. Additionally, they have also acknowledged that the environment is harsh safe to live in.

“Before the displacement, we used to do farming. well as you see our environment is naturally impacted. but still, the people are strong enough to afford their yearly spending. I sell tea and work at a restaurant. Well, that was what I did, but during the war, when they opened fire, we ran away to the desert. We ran away to a place called Debark. We have just returned after peace is restored. We now own nothing. All that we had is destroyed by the war. The farmers also don’t have fertilizer.” FGD women only participant women

The other effect of the conflict which has aggravated the economic and social burden on women was the death of family members especially those of the breadwinners of the household. Another participant worsened the scenario by adding that she is living alone with her kids, and she does not have anything left. The war has destroyed everything she has owned.

"I am a widow and I have children and I used to live growing cabbage and potato on a small land thanks to the support of the government. But now I have nothing left." FGD women only Janamora woreda.

Various community engagement and communication efforts beyond rehabilitation efforts are being made in the areas of intervention to curb the negative impact of the conflict. However, the capacity of the community to address some of the challenges they are currently facing is limited. Hence, requiring support from different stakeholder particularly government in ensuring the rule of law.

3.4. Priorities of the Communities

The community has concerns that are parallel to what the RELIVES project is planning to address. However, the community has also indicated additional priorities which are not included in the plan. The community has priority over food aid, fertilizer support, youth unemployment, even those with education and limited and inaccessible infrastructures including roads, health facilities, and schools.

We faced climate change and a decrease in crop productivity last year and its impact was very vast this year. The community is in a severe problem right now. It is very scary if the community doesn't get emergency aid. We have also a shortage of budget. For example, we asked for around six million birr this year to regulate the market and we only got around 1 million which is not enough. KII, Beyeda Woreda Cooperative Office

As you can see the area, we live in is not plain land; it has highs and lows. As I have said before, the majority of the community is farmers and we used to get a surplus number of fertilizers before. For example, a farmer used to get around eight Kuntal of fertilizers but after the national chaos due to the war, we couldn't get enough fertilizers. In addition, the number of people who have farming land in the kebele is very small. If I'm not wrong, the number of people who have farming land is not more than 800 or 900 farmers. So, the rest of the youth don't have any farming land because you can't get land from anywhere. There's a river down the park and we could have used it for irrigation and grow vegetables, fruits and wheat if is studied by the concerned body. In my perception, if a lodge is constructed here, the youth that doesn't have farming land could benefit from it by providing different services. And also, the area is favorable for breeding goats and beekeeping. Aderkay, men FGD member

4. Conclusion and Recommendation

4.1 Conclusions

Limited formal education-literacy level in RELIVES intervention and more female respondents have a limited level of literacy compared to their female counterpart. Mixed agriculture is the dominant livelihood or lifestyle in the intervention area and the dominant source of income is earned from crop sales. Diversifying the income source is one of the key pillars of the project to improve the resilience of the beneficiaries. Fathers are the breadwinners, but more mothers are also engaged in earning income. Although limited more young boys are engaged in generating income than girls in a household.

Some households are living within the park and most of them are willing to relocate but they need financial support, replacement land and house, and other support are needed by the respondents. This needs the coordinated effort of different stakeholders that the project needs to capitalize on. Moreover, there is a negative contact between the residents and the park where human and livestock movement in and around the park is observed. This has been raised as a concern by different actors including the community.

There have been many associations formed and established, however, they are getting weaker in performance and functionality. The result has also pointed to the absence of Social Analysis and Action (SAA) groups in the target areas. A limited number of females in the intervention area are members of VSLA and the main reasons are unavailability of the VSLA, having a limited resources to save, and limited or no knowledge/awareness about VSLA. Those who saved at VSLA have done it once a year majorly few saving more than two times a year.

To build resilient livelihoods, households, and communities must be able to diversify their activities and have adequate support in terms of assets that are protected from the damaging effects of natural hazards and other shocks and stresses. Resilient livelihoods also require strengthening by way of creating a wide range of capacities among households and communities: from technical and financial to organizational.

The experiences, and successes in building resilient livelihoods among disaster-affected and high-risk communities have sufficiently accumulated. Reflection and learning with communities have established that the strategies of diversifying, protecting, and strengthening livelihoods can contribute to achieving resilience.

Livelihood assets and capacities that have survived the test of chronic disasters, and livelihoods that have been sustained over the years, are proof that achieving resilience in livelihood is possible. Although the community priority is health related projects, a project related to agriculture and business and a project that would construct roads and also lower market inflation as well as provide improved seeds so that the people can improve their lives.

4.2 Recommendations

- The project should be aware of the infrastructural problems it might face. The qualitative data indicated that the infrastructure was limited and even destroyed during the conflict. Thus, preparation and coping mechanisms such as using vehicles designed for hard to reach areas; being psychologically and logistically ready for implementation and evaluation trips; has to be well planned and clearly stated.
- Priorities should be given for emergency response because most of the project areas have been affected by the war directly or indirectly. Then to those projects which provide development and help the people financially.
- The community has a lot of products including honey. There should be financial help to start their own business.
- The project should pay special attention to the emergency needs of farmers and that helps on increasing the product and productivity of the farmers.
- Strengthening the collaboration between the park administration and the community should be a priority too. Efforts to foster the beneficence of the community form the park. Linking additional IGAs which can enhance the link between the park and the community.
- Selecting the appropriate implementing sector as a partner would serve as a good way of ensuring the sustainability of the project activities. As they have said, consulting with the appropriate office will help in choosing the right implementing partner.

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Annexes: Tabulations

Education of the HH head	Sex of respondent				Total	
	Female		Male			
	Count	%	Count	%	Count	%
Primary	63	31.34	85	49.71	148	39.78
Secondary	15	7.46	12	7.01	27	7.26
Tertiary	0	0	2	1.17	2	0.54
illiterate	113	56.22	66	38.6	179	48.12
religious, adult, self-educated	10	4.98	6	3.51	16	4.3
Total	201	100	171	100	372	100

Types of disability	Freq.	%
Cognitive impairments	3	6.38
Hearing impairments	9	19.15
Hearing impairments and Invisible impairment/ problems of speech	1	2.13
Mobility/physical impairments	15	31.91
Mobility/physical impairments and Invisible impairments/Tremor or he as abnormal body movement	1	2.13
Visual impairments	17	36.17
Visual impairments Mobility/physical impairments	1	2.13
Total	47	100.00