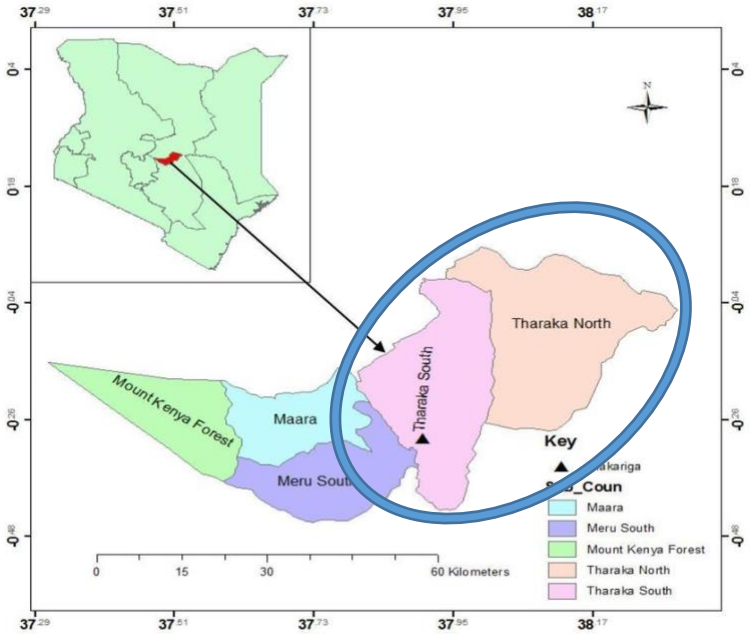
End-term evaluation of the project: "Strengthening Resilience against Climatic Shocks and Stresses among Vulnerable Communities in Tharaka North and South Sub Counties in Tharaka Nithi County, Kenya"

(Project No. DMCDD-20-A-03)



FINAL REPORT

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The consultants for this end-evaluation wish to express their gratitude to IAS Kenya for the honour and opportunity to be of service to the organization, and to their beneficiaries in Tharaka North and South sub-counties of Tharaka Nithi County, through this assignment.

It is our hope that our efforts, through this assignment, will contribute towards the wider efforts by IAS K to improve the lives and livelihoods of the vulnerable people of Tharaka North and Tharaka South Sub-counties, of Tharaka Nithi County in Kenya.

Signed on this 4th day of March 2022, in Nairobi, Kenya, by:

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DISCLAIMER

This is the work of an independent consultant. Any opinions expressed in this report should in no way be taken to represent the position of IAS Kenya.

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ACRONYMS AND ABBREVIATIONS

ASAL	Arid and Semi-Arid Lands (ASALs),
CBO	Community Based Organizations
CEDRA	Climate change and Environmental Degradation Risk and adaptation
CSG	County Steering Group
CSOs	Civil Society Organizations
DMCDD	Danish Mission Council Development Department
DRR	Disaster Risk Reduction
EIE	Education in Emergency
FDB	Formal Duty Bearers
FGD	Focus Group Discussions
GHC	Greenhouse Gas
GNDR	Global Network for Disaster Risk Reduction
IAS K	International Aid Services- Kenya
ILO	International Labour Organization
K4R	Kenya for Resilience
KHF	Kenya Humanitarian Forum
KII	Key informant interviews
MS Excel	Microsoft Excel
NDMA	National Disaster Management Authority
NGO	Non-Governmental Organization
OECD	The Organisation for Economic Co-operation and Development's
DAC	Development Assistance Committee
OSU	Ohio State University
RUA	River Users Association
SHG	Self Help Groups
SPSS	Statistical Package for the Social Sciences
TOR	Terms of Reference
UNICEF	United Nations Children's Fund
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
USC	University of Southern California
USNLM	United States National Library of Medicine
WASH	Water and Sanitation Coordinating Forum

EXECUTIVE SUMMARY

Introduction

In the month of February 2022, International Aid Services Kenya commissioned an end-evaluation of the project: *"Strengthening Resilience against Climatic Shocks and Stresses among Vulnerable Communities in Tharaka North and South Sub Counties in Tharaka Nithi County, Kenya"* funded by the Danish Mission Council Development Department (DMCDD) (Project No. DMCDD-20-A-03. The evaluation was done at the end of the planned implementation period of two years, in line with international best practices in project management. The evaluation involved field visits and engagements with stakeholders from the project implementation area, as well as the project implementation team. Information obtained from the exercise form the core of this report.

Objectives

The overall goal of the evaluation was to contribute towards the accountability of the implementation of the Resilience Enhancement Project by establishing and documenting information on the performance of the project and its achievements against set objectives, indicators and targets. The specific objectives of the evaluation were to review the overall goal and objectives of the project against its outputs and activities, and determine if they were ideal for the intervention; assess the progress of the implementation of project activities; assess the performance of the project against the set objectives and indicators; specifically review the performance so far of the project against the standard evaluation criteria of relevance, efficiency, effectiveness, impact, and sustainability; document the challenges and lessons learnt up to this point to inform future programming activities; and based on the above, make appropriate recommendations.

Methodology

Among the methodologies employed by the study included a desk review of available documents for secondary data and information; general interviews; administration of qualitative and quantitative questionnaires; key informant interviews; and data analysis with the help of SPSS, and MS Excel application.

Findings

- **Project goal and objectives:** The evaluation determined that the overall goal and all the three objectives of the project were highly relevant for the challenges the project aimed to address, and were therefore ideal for this intervention, scoring 4 out of 5
- **Progress of the implementation of activities**: The project scored 3 out of 5 on the implementation of activities and outputs
- **Relevance:** The project scored 5 points out of 5 on the relevance criterion
- **Efficiency:** The project scored 3 points out of 5 on the efficiency criterion

- **Effectiveness:** The project scored 4 points out of 5 on the effectiveness criterion
- **Impact:** The project scored 4 points out of 5 on the impact criterion
- **Sustainability:** The project scored 4 points out of 5 on the sustainability criterion
- **Risk assessment:** The following risks were identified and ranked from the highest to the lowest:
    - Charcoal burning: 12
    - Over reliance on rain fed agriculture: 12
    - Deforestation: 12
    - Over reliance of wood fuel and products: 9
    - Overstocking: 9
    - Unsustainable sand harvesting: 8
    - Unsustainable agricultural land use practices: 8
    - Quarrying mining: 6
    - Rampant riparian farming: 2
    - Poor nurturing of planted tree especially indigenous trees: 1

Recommendations

i. Seek for funding for a climate change adaptation intervention in the same area, that targets climate change, livelihood, resilience, and capacity building, to build on the achievements of this project

ii. Develop a resilience and climate change adaptation monitoring, evaluation, accountability and learning (MEAL) system to harvest, store and share information generated from this and similar interventions.

iii. Consolidate the wealth of information generated during this and similar intervention into a document that can be used for reference or sharing.

iv. Conduct a knowledge, attitudes and practice (KAP) study among the project beneficiaries, to determine the resilience changes that have and have not taken place within the target communities, to identify obstacles to desired changes, for redress.

FINAL REPORT OF THE END-TERM EVALUATION OF THE PROJECT: "STRENGTHENING RESILIENCE AGAINST CLIMATIC SHOCKS AND STRESSES AMONG VULNERABLE COMMUNITIES IN THARAKA NORTH AND SOUTH SUB COUNTIES IN THARAKA NITHI COUNTY, KENYA"

1. INTRODUCTION

This is a report of the end term evaluation of the project: "Strengthening Resilience against Climatic Shocks and Stresses among Vulnerable Communities in Tharaka North and South Sub Counties in Tharaka Nithi County, Kenya," funded by the Danish Mission Council Development Department (DMCDD) under Project No. DMCDD-20-A-03)

1.1 Background

IAS Kenya is a Non - Governmental Organization registered under the NGO Coordination Board in Kenya. IAS K was registered in 2004 and is affiliated globally to both IAS Alliance and programme countries. IAS K envisions "A World where Communities are empowered to Live Dignified Lives". In its mission, the organization "seek to empower communities through the promotion of access to education, sustainable livelihood, environmental stewardship, and human rights."

IAS K has partners that work together in project implementation. IAS K is committed to developing organizational capacity and supporting the effective functioning and efficiency of its partners. IAS K is involved in country and county coordination mechanisms with other stakeholders through representation in meetings. At the International level, IAS K is a full member of the Global Network for Disaster Risk Reduction (GNDR), national level, IAS K is a member of various forums, including the Kenya Humanitarian Forum (KHF) chaired by – UNOCHA, Water and Sanitation Coordinating Forum (WASH) chaired jointly by UNICEF and the Government of Kenya, Country Director's forum, Arid and Semi-Arid Lands (ASALs), Education in Emergency (EiE) Kenya for Resilience (K4R) among others.

At the county level, IAS K is involved in the County Steering Group (CSG) and recognized as a partner with NDMA, among others at grassroots levels. It is in these forums that IAS K shares its project implementation for information sharing and coordination purposes.

1.2 Project Context

This project was a follow up on the recommendation of a community resilience research commissioned by IAS K in Tharaka North and Tharaka South Sub-counties of Tharaka Nithi County in Kenya, where IAS K is implementing water supply interventions. It further included guidelines on how to efficiently and effectively plan, intervene and mitigate disaster risks and climate change adaptation in fragile situations. The research sought an in-depth understanding of the underlying causes and effects of common shocks and stresses against the community resilience system and disaster risk reduction (DRR). The research report provided

recommendations that were incorporated into the project. Informed by the research findings, coupled with IAS K' long term experience on the ground, the project purposed to use a holistic systems approach to resilience building in the target areas.

The project goal was to achieve a strong local capacity to combat hunger, diseases and extreme poverty through a holistic community systems approach to building resilience in Tharaka Nithi County. The specific objectives of the intervention were to:

- Strengthen community resilience system to withstand climatic shocks and stresses among the most vulnerable communities in Tharaka North and Tharaka South Sub-counties;
- Reduce negative impact of climate change and related shocks and stresses;
- Increase knowledge and institutional capacity of IAS K and target communities to plan and respond effectively to climate change impacts, especially recurrent drought.

In the process of undertaking this intervention, IAS K also committed to the implementation of the overall IAS Accountability Framework, whose nine (9) commitments have helped IAS Kenya in all its project implementation. With the project having come to the end of its planned implementation cycle, and in line with global best practices in project management, IAS Kenya commissioned an end evaluation of the project, with a view to generating accountability and learning outcomes. The exercise was conducted in the month of February 2022, and this is the evaluation report. The report states the objectives of the evaluation; the approach and methodologies that were employed; and the key evaluation issues that were addressed. It then delves into a detailed discussion of the findings of the evaluation, before presenting a way forward in a manner of recommendations addressing key evaluation issues identified.

1.3 Aim and objectives of the evaluation

The purpose of the end-term evaluation was to contribute towards the successful completion of the implementation of the project, by determining and providing accountability information about the extent to which the set objectives and expected results have been achieved.

The specific objectives of the evaluation were to:

- Review the overall goal and objectives of the project against its outputs and activities, and determine if they were ideal for the intervention
- Assess the performance on the programmatic implementation of the project
- Assess the performance of the project's overall impact, on the target beneficiaries
- Specifically review the performance, of the project against the standard evaluation criteria of relevance, coherence, effectiveness, efficiency, impact, and sustainability
- Provide an understanding of what change (positive or negative) happened; how the change happened; and how the project contributed to the change
- Provide information on how IAS K monitored group performance and adapted project strategies
- Carry out risk assessment for the project for a possible climate change adaptation project

- Identify lessons learned and challenges encountered, and provide recommendations for future design in related projects
- And based on the above, make appropriate recommendations

1.4 Scope of Work

The physical scope of the evaluation where it was conducted was Tharaka North and South Sub Counties of Tharaka Nithi County, in Kenya. The evaluation activities covered five (5) locations of Maragwa, Kathangachini and Kanjoro (in Tharaka North Sub-County), and Kamanyaki and Chiakariga (in Tharaka South Sub-County). In line with the terms of reference, and to obtain the desired information, the evaluation purposed engagement with targeted peasant farmers at a ratio of 63:37 in favour of women, and within the standard productive age 18 to 60 years.

The primary scope of content was based on the evaluation objectives, with key information areas obtained from the project logical framework document, summarised below.

KEY INFORMATION AREA	DESIRED INFORMATION
Under Project goal: To achieve a strong local capacity to combat hunger, diseases and extreme poverty through a holistic community systems approach to building resilience in target communities	
Project goal	Local capacity to combat hunger, diseases and extreme poverty through a holistic community systems approach to building resilience
Under Objective 1: Strengthened community resilience systems to withstand climatic shocks and stresses among the targeted communities in Tharaka North and Tharaka South:	
Community awareness on issues of climate change; natural resource management; environmental conservation; relevant development policies; gender and social inclusion, and water harvesting.	10 CSOs have a clear plan for addressing climatic shocks
	Demonstration of acquired knowledge and application on resilience practices among individuals in the target communities
The cause and effects of common shocks and stresses are analysed and understood with a view to addressing them.	Number of church /community meetings held for analysing common shocks and stresses
	Number of sensitized church / community members who understand common shocks and stresses.
	Number of DRR action plans aimed at remedying common shocks and stresses identified.
Formal and moral duty bearers, including community 'gatekeepers' are engaged and lobbied to support resilience building action in Tharaka	Number of resilience building initiatives undertaken with support from religious, and formal duty bearers
	Frequency of meetings between community groups and duty bearers
Local advocacy capacity is strengthened through trainings, use of media and technical support	Number of trainings held
	Number of advocacy events or resilience issues escalated to the larger community or relevant institutions by the target churches and CBOs towards the authorities
Under Objective 2: Reduced negative impact of climate change on local households	

Reduced negative impact of climate change on local households	Quantities of crop harvests (Kgs) and livestock (heads) sustained per year.
	Number of people with access to water within 30 minutes, sufficient for domestic use and livelihood activities.
Improved farming practices with drought resistant crops variety and animal husbandry	Number of trainees practicing livestock care and improvement.
	Number of upgraded livestock breed distributed
Promotion of diversified livelihood activities and marketing networks.	Number of livelihood activities by household
	Number of farmers with access to improved markets for their produce.
Collective action in protection of environment and conservation of natural resources and ecosystem	Number of community initiatives towards conserving the environment and natural resources through community action
	Number of trainings conducted for community earth dam committees and river user association
Under Objective 3: Increased knowledge and capacity of IAS-K and target communities to plan and respond effectively to major climatic shocks and stresses, especially drought.	
Increased knowledge and capacity of IAS-K and target communities to plan and respond effectively to major climatic shocks and stresses, especially drought.	Number of resilience projects developed including reporting and monitoring of the projects in IAS K.
	Number of community members with increased capacity to mitigate the causes and effects of climate change
Resilience knowledge gaps among IAS K staff identified and capacity building conducted accordingly	Degree of resilience knowledge gap assessed among IAS Program staff.
	Number of IASK staff who are able to practice resilience.
Local knowledge on resilience is improved through awareness creation, trainings, exposure and Practical demonstration	Number of demonstration farms established
	Number of trainings conducted among the local community

Table 1 – Study areas based on LFA

Efforts were made to bring out specific information on the following key indicators:

Objectives	Indicators
Objective 1	1.1 proportion of HH with diversified farming methods 1.2 number of functional networks addressing resilience activities in the community 1.3 No of people adapting to coping strategies
Objective 2	2.1 proportion of vulnerable individuals in the community. 2.2 No of alternative livelihoods implemented by community members
Objective 3	3.1 no of community led initiatives responding to drought 3.2 no of faith based led initiatives responding to drought 3.3 no of community response plans being implemented
Climate change Issues	a) Evaluate climate change issues and challenges b) Assess risks of the project c) Propose clear recommendation on mitigation d) Develop a risk matrix

Table 2 - Key indicators to be tracked

Similarly, the evaluation also covered the standard OECD-DAC evaluation criteria of efficiency, effectiveness, relevance, impact and sustainability, where specific questions were asked to generate information from specific evaluation criteria, as presented below.

Evaluation Criteria	Key questions
Relevance	• What activities and processes has been particularly useful for the target partners, actors and beneficiaries? • Was the project in line with the project partners, actors and stakeholders' policies, strategies and programmes? To what extent was the project relevant to the needs and priorities of the targeted institutions? • To what extent has the project complemented other interventions, including of the project partners and stakeholders, other development programmes or schemes? • Did the project respond to identified problems and was the design adequate to address these problems?
Effectiveness	• Has the project been able to achieve its objectives as defined in the project plan? • Have there been any external factors that have hindered or facilitated the project to meet its set objectives. • Has the project made a difference when it comes to project partners and stakeholder's resilience and if so, in what ways? • Has the project empowered the stakeholders and project actors with better skills and knowledge on how to build and enhance resilience? Kindly provide examples here.
Efficiency	• Do the outcomes of the program represent value for money? • To what extent is the relationship between inputs and outputs timely, cost-effective and to expected standards?
Impact	• How well did the program work? • Did the program produce or contribute to the intended outcomes in the short, medium and long term? • For whom, in what ways and in what circumstances? • What unintended outcomes (positive and negative) were produced? • To what extent can changes be attributed to the program? • What were the particular features of the program and context that made a difference? • What was the influence of other factors?
Sustainability	• Will the changes caused by this programme continue beyond the life of the project? • What, mechanisms have IAS Kenya and partners put in place to sustain the key programme results? • How has the programme worked with local partners to increase their capacity in a sustainable way? • What motivations /mechanisms exist for partners to continue playing these roles? • What are the risks facing sustainability of programme results? • Provide some key recommendations/possible outcomes that the IAS Kenya can carry forward in the next phase.

Table 3- Key information areas of the evaluation criteria

2. METHODOLOGY

The evaluation used a careful mixture of participatory methodologies that succeeded in making the exercise engaging with both IAS Kenya staff as well as with other stakeholders. Some of the methodologies that proved crucial to the evaluation are described below.

2.1 Desk Review

A comprehensive desk review of the relevant project documents was undertaken to gain background information of both the project and evaluation. The exercise was helpful in offering an insight into the issues to be addressed by the evaluation. The project application document yielded most of the project information including the targeted project areas, the project goal and objectives, the targeted beneficiaries, the planned project activities, the project duration and work plan, and the expected project results. The project results framework, as well as the periodic reports provided very valuable information on the project targets and achievements so far. Literature on climate change and environmental degradation risk and adaptation assessment (CEDRA) were also reviewed.

2.2 Study Design

An exploratory study design was deemed to be most appropriate for such a study, and was adopted, being an evaluation of an intervention, whose outcomes were not known in advance. “The purpose of conducting exploratory researches is to develop more understanding about the problem. Such a design is aimed at reaching reliable conclusions without bias, and finding out all the desired information based on feedback received from respondents selected from the study population (Bhasin, 2020). This design allowed the evaluation to explore the spaces beyond the limits of the key information areas, without prescribing the depth or breadth of such efforts, resulting in the obtaining of information crucial for the exercise.

2.3 Study Population

The evaluation went along with the standard understanding a “study population” to imply all those people affected by, or who may affect the project. Such people are in the frontline of influencing the direction and pace of implementation of a project, given their proximity to the project. Similarly, and because of the same proximity, they are also the ones likely to be affected most by the same project. These people form the target population of a study, as it distinguishes between study population and study sample (USNLM, 2018). For this evaluation, and from the population living in the target project area, the evaluation identified the following as the population groups of interest

Target beneficiaries	No.
Peasant farmers	250
Self Help group members	125
Members of RUA's	25
Targeted CSOs members	10
Field monitors under NDMA	10
Staff from the Water department	5
Staff from the agriculture department	5
Staff from the Livestock department	5
Local Authority (chiefs/asst. chiefs)	5
Community elders	60
TOTAL	500

Table 4- Primary and secondary beneficiary groups

2.4 Study Sample

In any study, any inferences from a sample refer only to the defined population from which the sample has been properly selected. From the above study population, a random sampling approach was used to arrive at the study sample, and the *Slovin's Formula* was instrumental in this process. Based on the *Slovin's Formula*, the ideal sample size for this study was calculated to be at least 119 respondents, as shown in the table.

Formula	n = N/(1+Ne2)
N = Study population size	500
e = error margin of 8% (at 95% confidence level)	0.08
e*e	0.0064
N*e*e	3
(1+Ne2)	4
n = N/(1+Ne2)	119
Ideal sample size	**119**

Table 5 - Calculation of the study sample

In this formula, n = N/(1+Ne2), where n is the sample size, N is the target population size, and e is the margin of error to be decided by the researcher (Castillo, 2016). The study adopted 8% error margin, informed by an opinion that an acceptable margin of error used by most survey researchers typically falls between 4% and 8% at the 95% confidence level. It is affected by sample size, population size, and percentage (Pollfish, 2021).

From the onset, the evaluation treated the ideal sample size as indicative rather than prescriptive, and purposed to interview as many people as time and resources allowed. This position was, informed by the scholarly opinion that while maintaining a representative sample is essential in a study, the more respondents interviewed the better (QuestionPro, 2021). This process in turn informed the sampling plan that was developed for this evaluation.

Category	Stakeholder Group	Population	Sample
Project Implementation	IAS K Programme staff	1	1
	IAS K field staff	5	1
Primary targets	250 peasant farmers	250	50
	125 Self Help group members	125	20
	25 members of RUA's	25	5
	CS Groups	10	10
Secondary targets	Field monitors under NDMA	10	5
	Staff from the Water department	5	5
	Staff from the agriculture department	5	5
	Staff from the Livestock department	5	5
	Sub- County staff	5	2
	Local Administrators (chiefs/asst. chiefs)	10	5
	Community elders	50	5
TOTAL		**506**	**119**

Table 6 - Sampling plan

2.5 The Use of Questionnaires

The evaluation developed questionnaires for the purposes of collecting both qualitative and quantitative information from the large pool of respondent households randomly selected to represent peasant farmers and members of self-help groups. The evaluation benefitted from the known advantages of questionnaires in a study, including the fact that they are inexpensive, practical to administer; they offer a quick way to get results; they are easy to analysis and visualize; and they ensure respondent anonymity (Debois, 2019).

2.6 Key informant interviews (KII)

The evaluation conducted interviews with key informants to obtain information from strategically placed respondents whose unique position in the project design, implementation, or engagement with the target communities granted them access to information that was specific about the critical points of the project. Among those interviewed using KII included:

- Community elders
- Self-help group leaders

- Leaders of RUAs
- Representatives from the local authority
- Local officers from national agencies
- IAS Kenya programme staff

2.7 Focus Group Discussions (FGD)

The evaluation also used the focus group discussion method to capture information from members of a homogeneous group for the purposes of triangulation of information against secondary data and information collected, as well as primary information collected from individual respondents. Among the known advantages of FGD are that it brings many respondents together in one session; participants can "feed off each other" as they respond to each other's comments; participants can support or disagree with one another, creating more energy and thus more data; focus groups can get at perceptions, attitudes, and experiences more than a quantitative survey (OSU, 2012). FGD was held for each of the partner groups, and indeed benefitted from their collective memories as well as instant correction and verification of information shared during the sessions.

2.8 Data and Information Analysis

The study will involve scientifically accepted data analysis techniques including comparative analysis, and causal effect analysis, among other analysis methods, to generate the evaluation findings. Primary data will be triangulated among various sources and methodologies, and will be crosschecked against secondary data. MS Excel and SPSS tools will be central to data analysis efforts.

2.9 The Use of CEDRA

No country today is immune from the impacts of climate change. In terms of costs, natural disasters cost about $18 billion a year in low- and middle-income countries through damage to power generation and transport infrastructure alone. They also trigger wider disruptions for households and firms costing at least $390 billion a year (World Bank, 2021). In responding to the risk assessment component outlined in the study objectives, the climate change and environmental degradation assessment (CEDRA) method proved very useful to this evaluation.

The CEDRA process is designed to help local humanitarian and development agencies take a structured approach to identifying possible impacts of climate and environmental change. It helps in accessing and understanding climate and environmental science and compare this with communities' knowledge and experience from the past and present, and the projected impacts of climate and environmental change in a given location (Wiggins, 2009).

CEDRA helped this evaluation to assess the likelihood of environmental shocks and their impacts occurring and their likely scale of impact. Through CEDRA, the evaluation was able to prioritize which impacts any new project can respond to, and how. It also assessed which impacts others could be made aware of and encouraged to respond to. The strength of this method was its provision for inputs from stakeholders and communities.

2.10 Rating Scale

The following rating scale was used to give a quantitative picture of the performance of the project against set objectives and indicators.

IMPLEMENTATION	SCORE	IMPACT
The activity was implemented in:		**The target was:**
a completely appropriate, efficient and timely manner	**5**	completely achieved
a largely appropriate, efficient and timely manner	**4**	largely achieved
a moderately appropriate, efficient and timely manner	**3**	partially achieved
an appropriate and timely manner but to a very limited extent	**2**	achieved to a very limited extent
neither an appropriate, nor an effective or timely manner	**1**	not achieved to any discernible extent
an unverifiable manner	**X**	unverifiable

Table 7 - Proposed performance rating

3. PRESENTATION AND DISCUSSION OF FINDINGS

The section that follows is a presentation and discussion of the findings of the evaluation. The section commences with a presentation of general respondent information as a way of introduction, before it presents findings on the objectives and key evaluation areas, as well as on performance against outputs, outcomes, and evaluation criteria. These are followed by findings on the risk assessment, before a summarised presentation of challenges and lessons learnt. It ends by presenting a set of recommendations responding to the issues raised.

3.1 Respondent Information

Even though the evaluation managed to reach a higher number of primary respondents than was in the sampling plan, it only managed to reach a gender distribution of 60% to 40% in favour of females, as

is shown below.

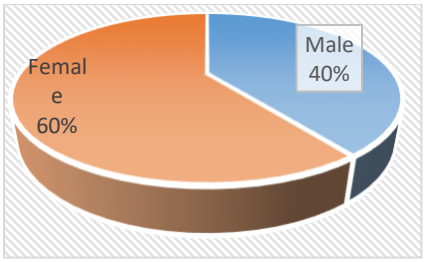

Figure 1 - Respondent distribution by gender

	Male	Female	Total
Chiakariga	11	14	**25**
Kamanyaki	10	15	**25**
Kanjoro	14	11	**25**
Kathangachini	10	15	**25**
Maragwa	17	36	**53**
Total	**61**	**92**	**153**

Table 8 - Respondent distribution by location

This was determined by the normal population distribution of the target locations, and was explained by the fact that more men than women were away in other towns and locations due to employment reasons. Still, this distribution of respondents qualifies the position of the evaluation that information in this report is to a large extent representative of most of the people living in the target locations.

3.2 Performance of the overall goal and objectives against outputs and activities

The first evaluation objective was to review the overall goal and objectives of the project against its outputs and activities, and determine if they were ideal for the intervention. In executing this charge, the evaluation re-looked at the project goal of achieving a strong local capacity to combat hunger, diseases and extreme poverty through a holistic community systems approach to building resilience in target communities. It identified the key components of the goal that had to be achieved by the subsequent objectives of the project, which were identified as:

- a strong local capacity to combat hunger, diseases and extreme poverty
- the use of a holistic community systems approach
- building resilience in target communities

Objective 1 of the intervention responded to the third key component of the overall goal by targeting a strengthened community resilience systems to withstand climatic shocks and stresses among the targeted communities in Tharaka North and Tharaka South. Among the activities undertaken to achieve this objective included CSOs having a clear plan for addressing climatic shocks; a demonstration of acquired knowledge and application on resilience practices among individuals in the target communities; church and community

analysing common shocks and stresses; resilience building; and escalation of advocacy events or resilience. To this extent, it was possible to establish that the overall goal was in line with its first objective, as well as the planned activities under this objective.

Objective 2 of the intervention responded to the first key component of the overall goal by targeting a reduced negative impact of climate change on local households. Among the activities under this objective included improved crop production; improved animal production; access to sufficient water for domestic use and livelihood activities within 30 minutes; alternative livelihood activities for households; and access to improved markets for produce. On this basis alone, it was possible to establish that the second objective was also in line with the overall goal.

A combination of the implementation of objectives 1 and 2 responded to the second key component of the overall goal, by targeting a holistic approach to building resilience against climatic shocks and stresses, while at the same time mitigating against the impact of the same.

Objective 3 responded to both the first and the third key component of the overall goal by targeting increased knowledge and capacity of IAS-K and target communities to plan and respond effectively to major climatic shocks and stresses, especially drought. Among the activities for this objective included the development of new resilience projects; increased capacity to mitigate the causes and effects of climate change for community members; the establishment of demonstration farms.

On the strength of the above assessment, the evaluation established that the overall goal and objectives of the project were in line with its outputs and activities, and that together, they were ideal for this intervention. Since the project locations and the beneficiaries have been perennial victims of climatic shocks and stresses, any intervention that targeted building their resilience against such shocks was ideal. One that targeted mitigating against the impact of such shocks and stresses, and using a holistic approach, was in fact very ideal for the area and for the people, earning this component a high score of 4 out of 5 on the rating scale.

3.3 Performance on the Programmatic Implementation of the Project

In assessing the performance of the project against the planned outputs and deliverables, the evaluation relied upon the expectations of the project's Logical Framework Analysis (LFA) document (Annex 11). This was used to develop the Logical Framework Analysis Attainment Matrix (Annex 12), which listed down the planned project activities, and a summarised attainment against each. These were weighted against the Rating Scale to provide a quantifiable assessment of the performance against the planned outputs, presented below.

From Annex 12, nine (9) outputs under Objective 1 were attained, out of a targeted nine (9). This included CSOs having a clear plan for addressing climatic shocks; target community members able to demonstrate acquired knowledge and application on resilience practices; community meetings being held for analysing common shocks and stresses; church and community members sensitized to understand common shocks and stresses; DRR action plans aimed at remedying common shocks and stresses developed; resilience building initiatives undertaken with support from religious, and formal duty bearers; frequent meetings

held between community groups and duty bearers; trainings held; advocacy events or resilience issues escalated to the larger community or relevant institutions by the target churches and CBOs towards the authorities.

From this explanation, it is evident that the outputs under Objective 1 were largely attained, and this was commendable. However, a number of outputs were only partially attained, thus affecting the performance under this objective. For instance, 50% of the targeted community members were to demonstrate acquired knowledge and application on resilience practices among individuals, with the baseline establishing that up to 30% of the targeted community members could demonstrate the acquired knowledge. The evaluation established that 45% of the target community could demonstrate the acquired knowledge and application on resilience practices, leaving a small shortfall of 5%. Similarly, the project attained 5 community meetings with a population of 500 instead of the planned 8 church or community meetings (with a projected population of 1,000 people) sensitized and showing an understanding of common shocks and stresses. On the same note, 2 DRR action plans on drought response were developed instead of the planned 8 DRR action plans. These examples showed that in a number of activities, the project managed to attain only partially the targets it set out to achieve.

Under Objective 2, on reduced negative impact of climate change on local households, there were nine (9) outputs to be delivered, and all of them were attained except one: the upgrading of upgraded livestock breed and subsequent distribution of 10 Gala he-goats. On the number of people with access to water within 30 minutes, 35% had access to water for domestic use, against a target of 13%. However, water was still a scarcity in the target area, and more need to be done about it. Similarly, 16% of the target population had access to water for livestock, against a target of 14.8%, even though distances to water sources are still long and unfavorable to animals.

Under Objective 3, on increased knowledge and capacity of IAS-K and target communities to plan and respond effectively to major climatic shocks and stresses, especially drought, there were six (6) outputs to be delivered. All the activities were only partially delivered except two: staff trained on resilience and risk management; and 50% of community members with increased capacity to mitigate the causes and effects of climate change, against a planned target of 45%. For instance, against a planned target of 90%, only 85% of resilience projects were developed for the area; 10 IASK staff were able to practice resilience, against a planned target of 23; and 2 demonstration farms were established against a target of 5.

It was based on these attainments that it was possible for the evaluation to award a score of 3 out of 5 on the project's performance against the programmatic implementation and attainment on outputs. This average score was heavily influenced by the many activities that were only partially attained.

3.4 Performance, of the Project Against the Standard Evaluation Criteria

The evaluation assessed the performance of the project implementation against the standard evaluation criteria of relevance, efficiency, effectiveness, impact, and sustainability. Findings in this regard, together with the scores for each, are presented in the section that follows.

3.4.1 Relevance

From engagements with respondents, this project was both timely and relevant to the target people as well as locations. These are people who for many years have been victims of climatic shocks and stresses, with most of them trying to cope as best as they could, using mostly traditional coping mechanisms. The capacity to cope has always been very low, with the knowledge and understanding of the resilience concept equally low, and the application of these even lower.

The evaluation assessed the relevance of the overall goal of the project, which was to strengthen resilience against climatic shocks and stresses among vulnerable communities in Tharaka North and South Sub-counties in Tharaka Nithi County. In these two project locations, where disasters are frequent, and keep damaging the lives, livelihoods, and livelihood assets of large populations, this goal was very well defined and very relevant.

The evaluation also assessed the relevance of the specific objectives. The first specific objective was targeting the strengthening of community resilience systems to withstand climatic shocks and stresses among the targeted communities in Tharaka North and Tharaka South. The evaluation found this to be relevant and fitting in the context of the project locations and its targeted beneficiaries. In the past, coping with climatic shocks and stresses has been event specific and mostly reactionary in response to the shock or stress. Resilience has not been treated as a way of life, for communities to be ready for it when shocks or stresses occur. The relevance of this objective was notable in its aim to elevate resilience to be an integral component of the daily activities of the target communities. This would result in a holistic approach to such shocks or stresses, addressing resilience alongside other aspects of life of a targeted community, and therefore leading to its sustainability.
The second specific objective was to reduce negative impact of climate change on local households. This was perhaps the most relevant of the three specific objectives, since it addressed the pain point where the target beneficiaries were most affected by shocks and stresses. This objective had the greatest impact among more people; making them more resilient; and contributing towards the overall goal.

The third specific objective was to increase knowledge and capacity of IAS-K and target communities to plan and respond effectively to major climatic shocks and stresses, especially drought. This objective focused on the participation of the community in the formulation and implementation of resilience related activities. Its major relevance was in the fact that communities are permanent features in their locations, and as such were the focal point of the sustainability of any resilience interventions in their area. They were also very reliable sources of local knowledge needed in designing interventions that were specific to their environment. Targeting them for empowerment and involving them in the formulation and implementation of resilience-related activities was a forward-looking strategy aimed at retaining resilience capacity within target communities.

Lastly, the evaluation assessed the activities and outputs that were designed to deliver the objectives of the project under 3.3 above, and established that they were all relevant with regards to contributing towards the overall goal and the specific objectives. Based on the above information, it was possible to conclude that the project had largely met the evaluation

criterion of relevance and justified a score of 5 out of 5 on the rating scale. This was a high score for a good performance, for which the implementation team deserve commendation. The evaluation was conscious of the fact that relevance is a non-absolute criterion which cannot be met absolutely, as it is impossible to establish that all aspects of relevance were met. Still, and based on available information, the evaluation was satisfied that most aspects of relevance had been met, giving it a justification for the posted score.

3.4.2 Efficiency

In assessing the efficiency of the implementation of the project, the evaluation looked at the project inputs (resources), and their utilization in the processes leading to the achievement of the project's output reported in 3.3 above. These are discussed below.

3.4.2.1 Human resource efficiency

To begin with, the evaluation looked at the human resource efficiency and established that the project was wholly implemented by field-based staff who only moved within the expansive project locations. Working with existing community groups like the RUA and self-help groups increased the human resource efficiency, while developing local capacity for sustaining the objectives of the intervention beyond the project period.

3.4.2.2 Time efficiency

As a resource, time is a key component of efficiency, especially where secondary activities are dependent on when the preliminary ones are undertaken. To this extent, the project utilised the planned implementation time well and completed it within reasonable time despite the challenges encountered. The implementation team managed to adjust to the challenges caused by Covid-19 restrictions on gatherings and movement, and this may account to a large extent for the under-achievements reported in 3.3 above.

In summation, it was established that a number of factors affected the efficiency of the implementation process, with some of them like Covid-19 restrictions, being out of the control of the project. Still, it gave the evaluation the justification to award a score of 3 out of 5 on the Rating Scale, on the project performance against the efficiency criteria. It was an acknowledgement of the fact that the good work done by the implementation team had somehow been watered down by the few incidences of under-performance reported.

3.4.3 Effectiveness

In assessing the effectiveness of the project and its implementation, the evaluation examined a number of core effectiveness areas, namely achievement of set objectives; external influencing factors and how these were managed. It also looked at the notable difference made by the project, as well as the empowerment of target beneficiaries for the sake of sustainability after the project period. Findings and discussions in this regard are presented below.

3.4.3.1 Achievement of set objectives

The first item to be examined was whether the project had been able to achieve its objectives as defined in the project document. Reference was made to 3.2 above, that discussed in details the project performance against the overall goal and the set objectives, and where the project scored 4 out of 5. The only rational conclusion here was that this component of effectiveness had been achieved satisfactorily.

3.4.3.2 External influencing factors

The evaluation looked next at any external factors that could have hindered or facilitated the project to meet its set objectives, and one has already been mentioned above, namely Covid-19 in the mid-2020 and all of 2021. This affected the time element of the delivery, as all the planned activities had to be halted at some point, and when they resumed, time had lapsed and new ways of implementing the activities, had to be improvised, some of which were not time or cost efficient. In 2021, the target locations also experienced a drought and its related impact on the resilience of the area and the people. It was the effectiveness of the implementation that saw mitigation measures being taken, leading to the achievements reported in 3.3 above.

3.4.3.3 Notable difference made

The evaluation then examined the way the project had made a difference when it comes to project beneficiaries and their capacity for resilience. It was established that from the achievement on the outputs discussed in 3.3 above, the project made a big difference in the lives of project beneficiaries as well as their local environment. Members of CSOs were trained in developing DRR plans; they were also trained in engagements with both the community as well as people in authority, for the purposes of escalating issues affecting the community. Members of the community were sensitized in the application of resilience knowledge and practices. Target beneficiaries improved in their food production, contributing significantly in their resilience against the shocks and stresses that came with the 2021 drought. IAS K staff gained capacity in resilience knowledge and practices. All these underscored the notable difference the intervention made in the lives of the beneficiaries as well as key stakeholders.

3.4.3.4 Empowerment of stakeholders

The evaluation also examined if and how the project empowered the stakeholders and project actors with better skills and knowledge on how to build and enhance resilience and established that this too was achieved. The number of CSO members participating in capacity building and the related work with regards to resilience, will ensure that this knowledge and capacity is resident within the community for many years to come. The future impact may be possible where these trained members may also train other people within the community, and in the process realise a multiplier effect. Two DRR plans were jointly developed for integrating resilience in community interventions, thereby empowering stakeholders in undertaking the exercise. Similarly, after capacity building, members of CSOs collectively engaged with the local governments on their concerns regarding DRR. If they sustain this even after the project period, this will be a major difference made in the empowerment of the target local communities.

It was on the basis of the above assessments that the project was deemed to have met the "effectiveness" criterion well enough to register an overall score of 4 out of 5 on the rating scale.

3.4.4 Impact

In assessing the impact of this project, the evaluation looked at a number of factors, and their potential to bring lasting change in the resilience of the target beneficiaries, their wider communities, and their environment. Findings on the assessment of these factors are presented below.

3.4.4.1 Achievement of expected outcomes and their impact

First was the extent to which the expected outcomes had been achieved, and how this had resulted in making a difference in enhancing the resilience of the target communities. Section 3.2 already established the extent to which the overall and specific objectives were attained, so the evaluation focused on the changes that were realised instead, with emphasis on the impact on enhancing the resilience of target communities, the direct and indirect contribution to their lives, and their ownership of outcomes.

*3.4.4.2 **Contribution to the lives of beneficiaries***

Next, to be examined was the project's contribution to the lives of the beneficiaries. It was the changes in the knowledge of resilience and application of resilience practices of members of the community that were expected to have a direct impact in their lives. The evaluation engaged with information showing that some members of the target communities were already benefiting from the impact of the project, and that many more would be feel the impact over time. Already, 10 members of CSOs were engaging with local leadership in escalating issues affecting their community, for redress. As they get bolder in such engagements, they will soon be pushing for more community issues to be addressed by people in authority, and this may result in policy change that may benefit the community and their area permanently. Secondly, they were learning new things that they will apply in their future engagement with their own communities in enhancing resilience among themselves. Further, a new and holistic approach to resilience has been introduced into target communities. This will change their approach to dealing with climatic shocks and stresses in future, conscious of the inter-connectedness of resilience issues, and the need to deal with them in an equally holistic manner. The evaluation has already reported on resilience related indicators, showing that changes or milestones in the resilience of target communities was already taking place. Food production has already increased markedly, as is the number of livestock being kept by farmers, strengthening their food security situations and also improving their livelihood assets. This makes them more likely to cope with any emergent shock or stress than before. And now with their new capacity to develop DRR plans, CSOs and community members are more likely to collectively engage the local governments on their concerns regarding DRR, which if addressed would have an impact on their lives in a sustainable way. The evaluation established all these as being proof of the immediate impact of the project on the lives of beneficiaries, with indications that more impact will be felt even in the future.

3.4.4.3 What has changed, and how IAS K contribute towards this

The evaluation made an effort to examine what has changed, and how IAS K has contributed towards this. From engagements with respondents and key implementation staff, it was established that the target community is now focusing on the diversification of their livelihood rather than depending on traditional sources of livelihood. People who grew crops only have now adopted keeping of one livestock or two, for additional livelihood support. Further, more people have increased their practicing of rain water harvesting to improve their access to water during the dry season. Further, due to the construction of earth dams, distances to water sources have reduced a lot. A new practice of growing of pasture for the target livestock keepers has been introduced in the area and is picking up slowly. This will soon be an alternative source of livelihood for many people in the target locations. Advocacy work has also picked up, as more people join the existing voices in articulating issues that affect them to people in authority. Lastly, over the project period, and through awareness creation, ensuring gender representation when selecting participants for trainings and working with successful women has been a motivation for other women. This measure has been highly effective, as it has seen an improvement in the participation of women in organised activities. All these are a direct result of the engagement by IAS K with the target communities and the respective community groups.

3.4.4.4 Ownership of outcomes

The last thing to be looked at was the ownership of the outcomes of the project, as this guaranteed their being put to effective use for many years to come. From engagements with respondents, the evaluation established that the key outcomes of this intervention, mainly in the form of resilience skills, shared knowledge, and resilience practices, would remain with members of target communities forever. In future, these would even be used to continue enhance resilience knowledge and practices for many years to come. Further, the same members are likely to use information acquired during this project to impart skills and knowledge to new members of the community, and in the process continuate the holistic approach to resilience among target communities well into the future. This element of extended ownership was identified by the evaluation as an added benefit. Resilience approaches, methods or tools developed by IAS K will remain in their records, and be used in engagements with other target beneficiaries in other locations. All these were established to be proof the ownership element of the outcomes of this intervention.

It was based on the above findings that the evaluation awarded a score of 4 on the Rating Scale, for attainment on the impact criterion. Once again, no absolute impact is achievable regardless of the intervention, but this one had a lot of impact on the key stakeholders, particularly the target communities as well as IAS K members. The high score awarded for performance against this criterion was therefore justified.

3.4.5 Sustainability

In assessing the sustainability component of the intervention, the evaluation looked at two elements: the sustainability of the project and its activities; and the sustainability of the benefits from the intervention. Findings from these efforts are presented and discussed below.

3.4.5.1 Sustainability of the project objectives and its activities

It was the position of this evaluation that as a funded project, the direct and organised activities of this intervention will only survive up to the end of the project. However, the objectives of the intervention will prevail within target communities as both individual as well as collective objectives. Over time, the holistic approach to resilience will be adopted by members of the target communities, and this may even be copied by neighbouring communities. Still, this too is the reason why a follow up intervention targeting continued enhancement of resilience will be very crucial for this community. Such an intervention will target the enhancement of resilience skills, knowledge, and practices among the same target communities, as a way of cementing the future sustainability of the objectives and activities of this particular intervention.

In this regard, IAS K may consider exploring three possible options for the continued sustenance of the project overall goal and objectives. First, DMCDD could commit to fund subsequent phases of the project for a defined or undefined period, always subject to the availability of resources. Secondly, both IAS K and DMCDD could consider looking for other funding agencies to continue with a new phase of this intervention, for the benefit of the target communities. Alternatively, IAS K and community members could engage with the county government to factor into their budget funding for activities of a similar nature, to enhance the achievements of this project, and the resilience of target communities.

3.4.5.2 Sustainability of the benefits of the project

The key to sustainability of the benefits and impact of this project was actually obtained at the onset of the project, when the IAS K wisely chose to work with existing groups of actors at the community level, who were already on the ground and active in resilience activities for their own benefit, without any additional motivation. Choosing to work with existing and newly formed self-help groups, CSOs, and RUAs, was an advance sustainability choice by the project designers, for which they deserve to be commended. These are people who will be in the same project locations, and within the same communities, long after the project has ended. This project only brought them together for a common engagement on a new resilience approach that addresses all their resilience concerns in a holistic way. These actors will continue with their resilience work, even without the formal and organized activities of this project, thereby fulfilling the first sustainability criteria. Secondly, resilience communities and groups brought together by this project, and who have established a relationship between themselves, will sustain that engagement on their own, without requiring the presence of IAS K or the project. This will promote further sharing and learning among themselves, and hopefully even provoke their seeking for funding for themselves, from any other development agencies, for new interventions targeting community resilience. This is another proof of the sustainability of the benefits of this intervention. Further, a lot of information was generated from the capacity building activities, from meetings, and from engagements between key stakeholders. If these are packaged properly, they may form very vital community-based resilience resource material that may be used by these or other communities in similar situations, and for many years to come.

To this extent, the sustainability of this intervention and its benefits was validated, earning the project a score of yet another 4 out of 5. Much as sustainability is usually the biggest challenge in most interventions, the same was not and will not be the case for this intervention.

3.5 Challenges, Lessons Learned, and Future Project Designs

The project encountered a number of challenges during its implementation, that had an impact in the achievement of the planned objectives and activities. This included:

- A delay in commencing the implementation of project activities. This may have affected the achievement of some of the targets, besides putting a strain on the implementation team to adjust to the new time realities
- Covid-19, and its restriction in interactions and movement. This affected most of the activities that brought many people together, like trainings. In mitigation, the implementation team scaled down the implementation of activities until gatherings were allowed again, and complied with all the laid-out public health guidelines for the rest of the project period
- Pressure on the planned budget as a result of increased expenses for mitigating against Covid-19. This included the purchase of face masks and sanitizers, among other things.
- The 2021 drought and its impact on the achievement of the project objectives. This affected most efforts that depended on water like the growing of crops, and the planting trees

Based on the lessons learned, going forward the following should be considered in any future design of similar projects:

- New projects should be designed to strengthen the objectives and activities of the ending project
- Sustainability must be factored in at the beginning of any new project, to ensure that the communities are already taking lead in most activities during the implementation period. This will ensure that those activities continue smoothly even after the new project has closed
- Capacity building should still be part of any new intervention. Capacity building is never enough, and must also be enhanced at all time, to promote its effectiveness and the application of any acquired skills, knowledge, and practices
- A new project should target expanding the abilities of communities for expanded community capacity building by adopting and supporting the “Train the Trainers” (TTT) approach
- To enhance the holistic approach to resilience, a new project should explore far and wide and introduce new crops in the target areas
- Covid-19 has not gone away yet, as new variants keep emerging. A very healthy provision should be considered for all activities that may be affected by the pandemic, and advance mitigation measures put in place. That will include alternative gathering methods for activities requiring large groups
- Budget provisions must be made to cater for additional expenses brought about by Covid 19, to avoid any subsequent budget deficits

3.6 Risk assessments

To capitalize on the experiences of this project and its processes, the evaluation undertook two risk assessments to inform any possible climate change adaptation project in the same area. Findings from the assessment are presented below.

3.6.1 Project Risk Assessment

The evaluation undertook a project risk assessment and details appear in Annex 7. Among the main findings of the assessment are summarised below:

- The highest project risk was established as economic risks, specifically risk from unexpected financial loss due to an economic downturn, which scored a high risk of 9. The mitigation was identified as adhering to financial standards.
- Next in project risk level was environmental risks, from lack of or delayed rains, and harsh climate to work in, also scored at 9. In mitigation, there will be a need to create awareness on climate change and the importance of rain water harvesting structures. Part of adapting to this will also involve working in the early morning and late evenings hours
- Also identified were social risks, mostly from the society, including very high expectation from the target group; conflict over resources; and a possible up surge of Covid-19, scored at a risk level of 6. Among the mitigation measures will include the involvement of the community from the very onset of the project and clarifying roles; signing of MOUs with stakeholders, outlining roles, responsibilities, and expectations; and adhering to MOH protocols.
- Being an election year in Kenya, it was prudent to also factor in political risks, emanating from the promotion of personal interests, tensions and political uncertainties, so characteristic of the country in such a year. This risk posted a fairly high score of 6, and must be taken seriously. Among the mitigation measures to be considered include continuous communication of project objectives to the beneficiaries, and strategic engagement with the political class.
- The last to be considered was technical risks from programmes and projects. This may come in the form of the safety of constructed water pans; delays from consultants or contractors, also scored at 6. Among the mitigation measures to be considered includes having a lateness penalty clause in contracts with consultants and contractors; built-in and protected lead time in work schedules; and communicating schedules fairly early, to give room for equally timely follow ups.

As Annex 7 will show, all other risks are fairly low, with scores of less than 5. One has a score of 4 while the next two have a score of 3 each. The last one has a score of only 2, hence the position of this evaluation that their risks were too low to be of any meaningful concern.

3.6.2 Climate change and environmental degradation and risk adaptation (CEDRA)

The evaluation used an abridged version of the CEDRA assessment method (Annex 6) to

identify the potential environmental risks prevalent in the project area, as a way of informing any future projects in the area. The top four risks are briefly discussed below.

- **Charcoal burning** came at the top with a risk level of 12. Its immediate harm to the environment was uncontrolled deforestation from cutting trees with no replacements, besides air pollution in the form of the carbon dioxide it releases into the atmosphere. These increase the severity of climate change by advancing global warming. They also contribute towards food insecurity due to the long-term impacts of climate variability and change as a result of deforestation.
- **Over reliance on rain-fed agriculture** also posted a score of 12. This has led to low food production and high levels of rural poverty. This contributes to environmental degradation; forest degradation; human-wildlife conflict; reduced availability and quality of water to downstream users; and reduces sustainable livelihood opportunities.
- **Deforestation** also scored a risk level of 12. When trees that help in the regulation of climate by absorbing CO2 from the atmosphere are cut down, absorption of CO2 is reduced, carbon is released into the atmosphere, adding to the greenhouse effect.
- **Over reliance of wood fuel and products** posted a score of 9. Forest degradation and over exploitation of natural resources leads to more emission of GHCs in the atmosphere

The table below captures details of the other findings

CEDRA Assessment

	Activity	Climate and environmental impact	Significance	Likelihood	Ranked Risk
1.	Charcoal burning	• Air pollution; when trees are logged and burnt, they release the carbon they have stored throughout their lifetime into the atmosphere as carbon dioxide. This increases the severity of climate change by advancing global warming • Deforestation • Food insecurity due to the long-term impacts of climate variability and change as a result of deforestation.	4	3	**12**
2.	Over reliance on rain fed agriculture	• Over reliance on rain fed agriculture has led to the persistently high levels of rural poverty. The high prevalence of rural poverty contributes to environmental degradation which in turn reduces sustainable livelihood opportunities; as well as creating negative environmental externalities that include forest degradation, including human wildlife conflict and reduced availability and quality of water to downstream users. These negative environmental externalities consequently lead to climate variability and change.	3	4	**12**
3.	Deforestation	• Trees help in regulation of climate by absorbing CO_2 from the atmosphere. If they are cut down, the beneficial effect is lost and the carbon stored in the trees is released into the atmosphere adding to the greenhouse effect.	4	3	**12**
4.	Over reliance of wood fuel and products	• Forest degradation and over exploitation of natural resources thus leading to more emission of GHCs in the atmosphere	3	3	**9**
5.	Overstocking	• Unsustainable livestock keeping i.e. of cows and sheep produce large amounts of methane when they digest their food	3	3	**9**
6.	Unsustainable sand harvesting	• Unsustainable sand harvesting could result in pollution, riverbank collapse, deepening of river beds, soil erosion including biodiversity loss especially when coupled with the impacts of dams and climate change • Land use and land cover changes that impact negatively on ecosystem goods and services especially soil degradation that reduces the ability of the biological system to support the needs of local communities	2	4	**8**

7.	Unsustainable agricultural land use practices	• Soil degradation that is evident in the county leading to increased risks in productivity • Deforestation leading to death and diseases as a result of flooding and prolonged drought.	4	2	**8**
8.	Quarrying-this fall under two categories i.e., those mining stones and ballast, and those mine marram.	• Quarrying occurs in agricultural lands with most of them being in private land and next to rivers. The main environmental changes of these quarries is that they are point sources of pollution, they degrade the environment and they are rarely rehabilitated after exploitation of the resources leading them as eye sores and sources of pollution and scenes of accidents as pits are left open and so are man-made cliffs. • Quarrying is also a health hazard to the surrounding communities especially during the rainy seasons posing landslides to the population and breeding sites for mosquitoes.	3	2	**6**
9.	Rampant riparian farming	• Collapsing of river banks due to farming in the riparian areas. • Sedimentation of rivers • Eutrophication of water bodies by fertilizers that end in the water bodies also occurs. Pollution from pesticides used in agriculture is also prevalent.	2	1	**2**
10	Poor nurturing of planted tree especially indigenous trees	• Increased pollution through reduced carbon sinks	1	1	**1**

Table 9 – CEDRA for Tharaka North and South

4. CONCLUSION AND RECOMMENDATIONS

Over time, the end-evaluation of a project has become standard practice, particularly among donor-funded project that place process and results accountability in their priority list, and demand for it as part of the activities of any projects they have funded. However, an evaluation is just one method of availing evidence-based information on the performance of a project on various project parameters. The strength of an external end-evaluation is that it is done from the perspective an external third party, thus increasing the possibility of objectivity during the assessment. By its nature, an end-evaluation exercise offers an opportunity for a project to avail proof on the fulfillment of its obligation to deliver on the promised outputs and outcomes in a systematic way that also captures the processes leading to this.

From the onset, this evaluation exercise set out to collect data and information showing the performance of the Tharaka resilience against climatic shock project. The evaluation stated the methods used and their effectiveness in capturing the targeted information, together with an analysis and discussion of the information obtained as well as the resultant findings. This report is therefore merely a summation of an extensive exercise undertaken over a fair period, and that interacted with many stakeholders and gathered very valuable information about the implementation of the project.

It was based on the above findings that the evaluation made the following recommendations:

i. Seek for funding for a climate change adaptation intervention in the same area that targets climate change, livelihood, resilience, and capacity building. This will build on the holistic approach of this project and strengthen resilience and improved livelihoods of the target beneficiaries.

ii. Develop a resilience monitoring, evaluation, accountability and learning (MEAL) system for the target location to harvest, store and share climate change adaptation and resilience information generated from this and similar interventions. This will promote learning about climate change and resilience in the area and beyond.

iii. Consolidate the wealth of information generated during this and similar intervention into a document that can be used for reference or sharing. This may form a very vital community-based resilience resource material that may be used for capacity building for future interventions. Focus for the document should be the learning and utilization of the local knowledge which can be harnessed through the engagement with the elders.

iv. Conduct a knowledge, attitudes and practice (KAP) study among the project beneficiaries, to determine the resilience changes that have taken place within the target communities, and identify any obstacles to desired changes, for future redress.

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