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MONITORING REPORT

PULA

Project Title	PULA: Offering farmers crop and livestock insurance
Project Start Date	2015
Project End Date	Ongoing
Monitoring Report number	01
Date of Report	14 December, 2021
Project ID	02-2021
Monitoring Period	November 2019 – November 2021
Prepared By	Barun Gurung and Daniele Ramiarmanana,
Contact Information	Barun: 77-6412 Kepano PI, Kailua Kona, HI 96740 USA; Daniele: Pres Lot II P 110 Tambohobe Fianarantsoa 301 Madagascar



Table of Contents

1 Project Details	4
1.1 Summary Description of the Implementation Status of the Project	4
1.2 Project Developer	4
1.3 Other Entities Involved in the Project	5
1.4 Project Start Date	5
1.5 Project Crediting Period	5
1.6 Project Location	5
1.7 Title and Reference of W+ Methods	5
2 Implementation Status	5
2.1 Implementation Status of Project Activities	5
3 Data and Parameters	6
3.1 Data and Parameters Available	6
3.2 Data and Parameters Monitored (Same as above for both domains)	10
3.3 Monitoring Plan	10
A. Knowledge and Education	10
B. Food security	10
C- Do No Harm indicators	11
4 W+ RESULTS	11
4.1 Results	11
4.2 Summary Analysis of Results	12
4.2.1. Current Performance	12
4.2.2. Calculation of percent of change	15
CONCLUSIONS	16
APPENDIX 1: Detailed summary of analysis	18
Sample size	18
Sampling frame	18
Data collection / Survey tools	18
Distribution of the respondents	19
2. Project Results	20
2.1 Results Summary	20
2.2 Analysis of Findings - Education and knowledge	21
Knowledge	21
Comprehension / Application	21
Analysis / Evaluation	22
Behavioral change	23
Calculation of W+ Knowledge and Education percent of change	24



Challenges	25
2 Analysis of Findings - Food security	26
Main source of food and income	26
Roles of women and men in the food production	27
Coping strategies during food insecurity	27
Knowledge in diseases related to food insecurity	29
Calculation of W+ Food Security Percent of Change	31
Challenges during periods of food insecurity	32



1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The Company provides opportunities for farmers, including women, to access insurance to cushion them against the impacts of climate change. They also provide education and information on good agricultural practices through training on insurance, agronomy support, pesticide application and post harvesting. They also provide advisory services which is done through phone on in person when possible. The main benefits include increased agricultural production and insurance against climate and other risks. Pula is in 13 countries in W. Africa and East and Southern Africa. They consider Kenya to be the country with some of the best gender impacts

Conditions Prior to the Project's Initiation of Activities

According to the Nyanya FDP group, which is constituted of female beneficiaries of the project, life was difficult prior to the PULA interventions. It was characterized by low agricultural productivity due to poor agricultural practices that was compounded by adverse effects of climate change. The majority of those present in the meeting reported that they experienced low agricultural yields, over-reliance on traditional farming methods and lack of knowledge on the best agricultural practices and technology.

Results and key findings

The Knowledge and Education and Food Security W+ Domains were applied to measure the changes to women's lives. The following is a summary of findings in the two Domains.

Knowledge and Education

- The total change in Knowledge for Pula users from baseline conditions is **65%**
- The total number of women beneficiaries is 14,250

Food Security

- The total change in Food Security for Pula users from baseline conditions is **2%**
- The total number of women beneficiaries is 14,250

1.2 Project Developer

Organization name	PULA
Contact person	Faith Kinyanjui
Title	Human Resource Manager



Address	ABC Place, 2nd Floor – Block F, Waiyaki Way, Westlands, Nairobi
Telephone	+ 254 722629495
Email	faithk@pula.io

1.3 Other Entities Involved in the Project

Organization name	WOCAN
Role in the project	Technical support for application of the W+ methods
Contact person	Dr. Jeannette Gurung
Title	Executive Director
Address	77-6412 Kepano Place, Kona, HI. 96740
Telephone	+ 1 808 464 1703
Email	jeannettegurung@wocan.org

1.4 Project Start Date

Pula commenced its service in the area in 2015.

1.5 Project Crediting Period

November 2019 – November 2021

1.6 Project Location

The project activities are implemented in Kitui County, Kenya within the 1.2597° S, 36.7770° GPS coordinates

1.7 Title and Reference of W+ Methods

Measuring changes in women's **Education and Knowledge** and **Food Security** generated through Pula's services.

2 IMPLEMENTATION STATUS

2.1 Implementation Status of Project Activities

Pula began its activities in 2015 and is continuing.



2.2 Where applicable, describe how non-double counting measures are being implemented.

NA

2.3 Where applicable, describe how non-permanence risk factors are being monitored and managed.

NA

2.4 Methodology Deviations

There were no method deviations

2.5 Project Description Deviations

NA

3 DATA AND PARAMETERS

3.1 Data and Parameters Available

Knowledge and Education

Indicator	WL
Data unit	Total number of women beneficiaries
Description	Number of women beneficiaries of the project is 14,250
Source of data	Survey
Description of methods to collect information and procedures applied	<p>The sample size parameters are as follows:</p> <ul style="list-style-type: none"> • Population size = 600 • Assumed proportion 20% • Level of acceptable error = 5% • Level of significance= 95% • Required sample size – 237 <p>Two sets of surveys were applied: users of Pula services (170) , and to non -users (67) to serve as a control population</p>
Purpose of the data	The purpose pf the data was to establish the changes in knowledge by users of Pula by comparing it to non-users.
Comments	NA

Data / Parameter	A - retention
Data unit	



Description	Education / Knowledge retention from training inputs/interventions
Source of data	Survey
Description of methods to collect information and procedures applied	Enumerators were trained and employed to apply the surveys. While conducting the surveys, the enumerators were closely supervised through visits or phone calls by the survey supervisors. Additionally, at the end of each day, enumerators submitted their results and their data was screened by survey supervisors.
Purpose of the data	This corresponds to the Education and Knowledge formula
Comments	NA

Indicator	B = changes in behavior
Data unit	
Qualitative data	NA
Description	Behavioral changes as a result of the training interventions
Source of data	Survey
Description of methods to collect information and procedures applied	Enumerators were trained and employed to apply the surveys. While conducting the surveys, the enumerators were closely supervised through visits or phone calls by the survey supervisors. Additionally, at the end of each day, enumerators submitted their results and their data was screened by survey supervisors.
Purpose of the data	This corresponds to the Education and Knowledge formula
Comments	NA

Indicator	C
Data unit	
Qualitative data	NA
Description	Challenges women faced in the application of the education/knowledge
Source of data	Survey



Description of methods to collect information and procedures applied	Enumerators were trained and employed to apply the surveys. While conducting the surveys, the enumerators were closely supervised through visits or phone calls by the survey supervisors. Additionally, at the end of each day, enumerators submitted their results and their data was screened by survey supervisors.
Purpose of the data	This corresponds to the Education and Knowledge formula
Comments	NA

Food Security Domain

Indicator	A
Data unit	
Description	Access to food sources
Source of data	Survey
Description of methods to collect information and procedures applied	Enumerators were trained and employed to apply the surveys. While conducting the surveys, the enumerators were closely supervised through visits or phone calls by the survey supervisors. Additionally, at the end of each day, enumerators submitted their results and their data was screened by survey supervisors.
Purpose of the data	This corresponds to the Food Security formula
Comments	NA

Indicator	B
Data unit	
Description	Coping strategies
Source of data	Survey
Description of methods to collect information and procedures applied	Enumerators were trained and employed to apply the surveys. While conducting the surveys, the enumerators were closely supervised through visits or phone calls by the survey supervisors. Additionally, at the end of each day, enumerators submitted their results and their data was screened by survey supervisors.



Purpose of the data	This corresponds to the Food Security formula
Comments	NA

Indicator	D
Data unit	
Description	Nutrition knowledge
Source of data	Survey
Description of methods to collect information and procedures applied	Enumerators were trained and employed to apply the surveys. While conducting the surveys, the enumerators were closely supervised through visits or phone calls by the survey supervisors. Additionally, at the end of each day, enumerators submitted their results and their data was screened by survey supervisors.
Purpose of the data	This corresponds to the Food Security formula
Comments	NA

Indicator	E
Data unit	
Description	Psychosocial challenges
Source of data	Survey
Description of methods to collect information and procedures applied	Enumerators were trained and employed to apply the surveys. While conducting the surveys, the enumerators were closely supervised through visits or phone calls by the survey supervisors. Additionally, at the end of each day, enumerators submitted their results and their data was screened by survey supervisors.
Purpose of the data	This corresponds to the Food Security formula
Comments	NA

Data / Parameter	F
Data unit	
Description	Decision making

Source of data	Survey
Description of methods to collect information and procedures applied	Enumerators were trained and employed to apply the surveys. While conducting the surveys, the enumerators were closely supervised through visits or phone calls by the survey supervisors. Additionally, at the end of each day, enumerators submitted their results and their data was screened by survey supervisors.
Purpose of the data	This corresponds to the Food Security formula
Comments	NA

3.2 Data and Parameters Monitored (Same as above for both domains)

There were no changes in the data and parameters available and those that were eventually monitored.

3.3 Monitoring Plan

B. Knowledge and Education

Outputs	Increased knowledge and skills	<p>Large proportion of beneficiaries can explain with high level of confidence improved water management and conservation, drought adapted crop, proper manure application and selection of better crops</p> <p>Large proportion of beneficiaries have knowledge on insurance's rules</p>
Immediate Outcomes	Application of acquired knowledge and skills acquired	Beneficiaries can explain which of the two ways of agriculture is better: i) traditional practice. ii) new practice learned from PULA
End outcomes	Change in behavior	Beneficiaries have shared their experience with others

B. Food security

Results Chain	OUTCOME	INDICATORS
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Outputs	Increased period of food sufficiency	% of change in food sufficiency
Immediate Outcomes	Increased awareness in diseases related to food insecurity	% of change in knowledge linking diseases with food insecurity conditions
End outcomes	Increased women's decision making regarding dietary concerns in the household	% of change in decision making regarding dietary concerns in households

C. Do No Harm Indicators

Indicators	<ul style="list-style-type: none"> 97% of beneficiaries report that the project has not denied them access to participate in the activities through a selection process that excluded them
Question (s)	<ul style="list-style-type: none"> Have you been denied opportunities to participate in the training events? Have you been denied opportunities to receive benefits from the project?

4 W+ RESULTS

4.1 Results

W+ Domain	<i>Knowledge and Education</i>
Indicator	Retained and applied knowledge and skills acquired from trainings facilitated by Pula
Description	Training on adapted water management and conservation practices, selection of better crops in arid zones, and better manure application..
Situation	The trainings are ongoing
Prospects	A large proportion of those benefiting from Pula's service require additional knowledge and skills on marketing , communication, leadership, and technology skills. Follow-up support need to be conducted to strengthen their technical capacities.



W+ Domain	Food Security
Indicator	Increased food sourcing options for women
Description	Women are provided with two additional food sourcing options through increased crop productivity with new agricultural technology and insurance payments that are associated with the PULA intervention.
Situation	Food insecurity poses a complex set of challenges that require time and various strategies to affect any level of change in the situation. Similar levels of change in food security situations have been reported in other countries that have employed multiple intervention strategies to combat food insecurity ¹ .
Prospects	<p>Pula’s future strategies should consider enabling longer term interventions with service providers to address the Condition (or material needs) and Position (or strategic interests) of women and men effected by food insecurity. Some recommended actions are:</p> <ul style="list-style-type: none"> • Development of technical and marketing skills • Enhancing organizing capacity of local women to enhance their access and decision making with local and regional centers of power. Specifically, these include leadership and communication skills.

4.2 Summary Analysis of Results

4.2.1. Current Performance

Pula in collaboration with WFP, Kitui county, insurance companies provides opportunities for farmers, including women, to access insurance to cushion them against the impacts of climate change. They also provide education and information on good agricultural practices through training on insurance, agronomy support, pesticide application and post harvesting. They also provide advisory services which is done through phone on in person when possible. The main benefits include increased agricultural production and insurance against climate and other risks. The total number of beneficiaries are 14,250 women.

Summary of results

Knowledge and Education

¹ Mercy Corp reports a 1.75% change from baseline conditions through several interventions that to address food insecurity in Nepal. These include provision of: small irrigation schemes, hybrid, drought-resistance seeds, farming knowledge, access to markets, and cash vouchers in extreme cases.



Categories of measurement	Key findings Knowledge & Education
Knowledge	<p>A large percentage of the beneficiary population feel confident in recalling the content of the trainings, and applying them to their contexts.</p> <p><u>Knowledge confidence</u></p> <ul style="list-style-type: none"> • agriculture: 88% • Insurance claims: 23% • Insurance rules: 60% • insurance scheduling: 52%
Behaviorial changes	<p>A similarly large percentage of those who received trainings on agricultural technologies shard their knowledge with family members.</p> <p><u>Knowledge sharing pattern with others:</u></p> <ul style="list-style-type: none"> • Family: 70 % • Friends: 50% • Neighbors: 56% • Business owners: 11% • No one: 24%
Challenges	<p>There are numerous challenges cited for the limitations in agricultural production</p> <p><u>Challenges to production</u></p> <ul style="list-style-type: none"> • Balancing home and work roles: 49% • Lack of access to extension support: 56% • Lack of access quality inputs: 69% • Time poverty: 82% • Need for more training: 85%
Percentage of change	65% change from baseline conditions



Food Security

Categories of measurement	Key findings Food security
Food coping strategy	<p>Reducing number of meals is the main coping strategy for the households during food shortage periods</p> <ul style="list-style-type: none"> • Limiting number of meals a day: 75% • strategic cooking practices (adding water): 49% • Choosing less nutritious meal options: 49% • Compromising on culturally significant food (mixing grains): 28% • Limiting adult intake (women and men): 10%
Income sourcing strategy	<p>During periods of food insecurity, women adopt a series of means to source income to purchase food. These include:</p> <ul style="list-style-type: none"> • Borrowing money or food: family and friends: 67% • Work in exchange for food or money: 71% • Credit system with local shops, landowners: 68% • Emergency aid: 9%
Knowledge of diseases related to food insecurity	<p>The majority of women (99%) were unable to identify any diseases related specifically to food insecurity.</p>
Decision making	<p>Regarding dietary concerns, women make the decisions in the households</p>
Challenges	<p>78% of women beneficiaries reported an increase food prices in the market during food insecurity.</p>
Psychosocial impacts of food insecurity	<p>Women reported the following psychosocial concerns/events during periods of food insecurity:</p> <ul style="list-style-type: none"> • Fear: 65% • Anxiety: 42% • Depression: 71% • Shame: 38% • Violence: 21%

Percentage of change	2 % ²
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4.2.2. Calculation of percent of change

Percent of change is calculated using the formula:

$$KG (K) = WL * [\text{Sum A } (a_1+a_2+a_3+a_4+a_5+\dots+\dots+a_n) + \text{Sum B } (b_1+ b_2+\dots+\dots+ b_n)] - [\text{Sum C } (c_1+c_2+c_3+c_4+\dots+\dots+\dots+ c_n)]$$

Table 1 : W+ calculation sheet for Knowledge and Education Scores

Score	Respondent Type	
	User (n=170)	Non-User (n=67)
Knowledge Score (A)	14.81	11.37
Behavior Score (B)	4.00	1.28
Challenge Score C	4.37	3.90
Final W+ Score (A+B-C)	14.44	8.76

Percentage difference for Knowledge and Education among beneficiaries among project intervention area and non-project intervention area = 65%

Variables considered in calculating W+ units for food security are access to food score (A), food coping strategy Score (B), nutrition knowledge score (D) , Nutrition knowledge score (D), decision making score (F) and challenge score (C).

Table 2: W+ score calculation sheet for Food Security

Score	Respondent Type	
	User (n=170)	Non User (n=67)
Access to food score (A)	5.51	5.52
Food coping strategy Score (B)	4.61	4.19
Challenge Score C	2.59	2.28

² Regarding average period of food sufficiency from their farm production, data shows their status as beneficiaries did not guarantee a significant increase in the production to ensure the food consumption need



Nutrition knowledge score (D)	2.08	2.06
Psychosocial Score E	1.91	1.93
Decision making Score (F)	2.08	2.03
Final food security W+ Score (A+B+D+F-C-E)	9.78	9.60

Table 3: W+ calculation for Food Security

Average W+ Score for users(WU=A+B-C)	9.78
Average W+ Score for non-users(WNU=A+B-C)	9.60
Percentage Change from baseline ((WU-WNU)/WNU)	2%
Total beneficiaries (Wc,p)	14,250

Percentage difference for Food Security among beneficiaries among project intervention area and non-project intervention area = 2%

Observations, Context and Recommendations

On an average, the period of food insecurity ranges from 4 – 6 months a year. Pula’s strategic aim to provide opportunities for farmers to access insurance and agricultural technologies to cushion against the impacts of climate change is an important first step in addressing food insecurity.

There has been a significant uptake of the knowledge generated through the training interventions. Changes in the food security situation however requires time and on-going and sustained interventions that respond to both natural conditions like drought as well as the systemic inequities that limit access to development opportunities and reproduce asymmetries.

Pula’s future strategies should consider enabling longer term interventions with service providers to address the Condition (or material needs) and Position (or strategic interests) of women and men effected by food insecurity. Some recommended actions are:

- Development of technical and marketing skills
- Enhancing organizing capacity of local women to enhance their access and decision making with local and regional centers of power. Specifically, these include leadership and communication skills.

CONCLUSIONS

Training given by PULA provided women knowledge on adapted water management and conservation practices, selection of better crops in arid zones, and better manure application for



increasing production. A large proportion of women beneficiaries were highly confident in remembering , explaining and sharing the knowledge they gained from the training both on agricultural practices and insurance's rules.

Compared to the non-beneficiaries, a large proportion of those benefiting from Pula's service require additional knowledge and skills on marketing , communication, leadership, and technology skills. Follow-up support need to be conducted to strengthen their technical capacities.

Signature of Preparer

This W+ Monitoring Report was prepared by:

Barun Gurung

14 December 2021

Name

Date

Signature

APPENDIX 1: DETAILED SUMMARY OF ANALYSIS

1 Sample size

The sample size for the survey was 237 including 170 beneficiaries and 67 non beneficiaries

Sampling frame

Sample size was calculated in compliance with the general guidance on sampling, as found in Guidelines for sampling and surveys for CDM project activities and program of activities.

http://cdm.unfccc.int/Reference/Guidclarif/meth/meth_guid48.pdf.

The final sample size using this method is as follows.

Sample size calculation	
Population size =	600
Assumed proportion	0.20
Level of acceptable error	5%
Confidence level	95%
Required Sample Size	237

Data collection / Survey tools

Individual surveys were carried out to measure changes in education & knowledge and in food security of women who benefited from the project's activities namely trainings. Trainings were related to irrigation water management and water conservation, crop selection, proper manure application and insurance's rules. Data were collected using ODK application. Women beneficiaries and non-beneficiaries were interviewed individually.

Among the beneficiaries, 23 women (14%) did not received any training yet. The reasons is that (1) the chair women who participated in the training did not share the training yet or (2) they don't have phone to get messages on adequate technologies or (3) they join the group later.

Surveys were conducted by 10 enumerators who are used to work with PULA. Surveys were conducted during 3 days from 10 to 12 November 2021.

Distribution of the respondents

Surveys for control group and project beneficiaries were carried in different wards of Kitui Rural and Kitui East which are subcounties of Kitui. The county suffers from erratic rainfall patterns. The drought affects the households, mainly women in different ways (direct and indirect):

- food shortages due to low yield and low production. Many households are not able to meet their basic food needs. Daily meals are reduced for all family members.
- difficult access to improved seed (local or hybrid) and other farm inputs
- difficulty in paying children's scholarship fees
- increase in illness incidence

The villages for the surveys were selected in different final destination points (FDP) as it was called by World Food Program (WFP).

Constituency	Ward	FDP
Kitui Rural	Kwavonza/ Yatta	Kawongo / Muvitha
		Makusya/Muselele
	Kanyangi	Kalulini
	KwaVonza	Kambi CC
Ndungini		
Kitui East	Voo / kyamatu	
	Zombe / Mwitika	Malatini
		Kaliku market
	Mutito / Kaliku	Kitoo musukini
Endau /Malalani	Kathua /ikisaya	

Table 4: Geographical distribution of respondents

	Non beneficiaries	Beneficiaries	TOTAL
Kitui East	36	84	120
Kitui Rural	31	86	117
TOTAL	67	170	237

2. PROJECT RESULTS

2.1 Results Summary

Categories of measurement	Key findings Knowledge
Knowledge	Large proportion of beneficiaries are confident in remembering, and applying knowledge they gained from trainings
Behaviorial changes	Women recognize the services they received from PULA such as training and insurance. Large proportion of the beneficiaries share their knowledge to their family members.
Challenges	Lack of access to quality farming inputs, too much workload remain constraints women faced in agricultural production. Large proportion of women beneficiaries (85%) require more training to perform their responsibilities.
W+ knowledge generated	The total percent of change is 65% from baseline.

Categories of measurement	Key findings Food security
Food coping strategy	Reducing number of meals is the main coping strategy for the households during food shortage periods
Income sourcing strategy	During periods of food insecurity, large proportion of women work in exchange of food or/and borrow money or food from others
Diseases knowledge	Majority of women (99%) are able to identify the diseases linked to food insecurity . For them, wasting and stunting are associated to food insecurity
Decision making	Regarding dietary concerns, women make the decisions in the households
Challenges	78% of women beneficiaries reported an increase food prices in the market during food insecurity. However, compared to the non beneficiaries, less of them complain about lack of assistance.



W+ Food security units generated	Total percent of change from baseline is 2%
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2.2 Analysis of Findings - Education and knowledge

The following outcomes associated with reasoning ability were generated through a knowledge survey, whose aim was to assess changes in specific content of learning of individuals.

Different levels of reasoning were asked to state the outcomes

1. knowledge
2. Comprehension
3. Application
4. Analysis
5. Synthesis
6. Evaluation

Knowledge

Most of women (85%) were highly confident in remembering the contents of the trainings on farming methods and technologies they received.

Comprehension / Application

Concerning the level of confidence on how they can explain and describe the different technologies, less than 60% of non-beneficiaries can give details on the water management and savings, proper manure application. However, more than 86% of beneficiaries can explain with high level of confidence these technologies.

Table 5: level of confidence in explaining technologies

	Non beneficiaries		Beneficiaries		TOTAL	
	No	%	No	%	No	%
the need for selecting right crop for your climatic zone?	46	69%	146	86%	192	81%
how Zai Pit technology leads to increased crop yields	28	42%	153	90%	181	76%
the techniques of water management for good crop production	33	49%	151	89%	184	78%
water savings methods such as digging terraces	36	54%	156	92%	193	81%
the proper manure application techniques to crops	33	49%	150	88%	182	77%
the benefits and weaknesses of selecting right crops for different climatic zones	34	51%	146	86%	180	76%

Analysis / Evaluation

Referring to the ability of comparing the difference between the traditional practices and the improved farming , 88% of the beneficiaries can make the difference with confidence .

Table 6 ; How confident are you to explain which of the two ways of agriculture is better: i) traditional practice. ii) new practice I learned from PULA

	Beneficiaries	
	No	%
Confident	149	88%
Not Confident	4	2%
Somewhat Confident	17	10%
Total	170	100%

86% of the beneficiaries are very confident in training their family members/ friends/neighbours on how to make simple plans (insurance and agricultural technologies) on how to improve crop yields.

Behavioral change

Among the beneficiaries, 83 % and 85% of beneficiaries can state the services given by PULA , training and insurance respectively.

Table 7: What are the services received from PULA?

	Beneficiaries	
	No	%
Training	141	83%
insurance	145	85%
Others	2	1%
TOTAL	170	

Concerning the knowledge on insurance's rules , beneficiaries are far more able to outline these rules than the non beneficiaries. In fact , only 11% of them did not know any rules.

Table 8 : Knowledge of insurance's rules

	Non beneficiaries		Beneficiaries		TOTAL	
	No	%	No	%	No	%
Insurance claim	2	3%	53	31%	55	23%
Rules of insurance	20	30%	122	72%	143	60%
Schedule of insurance payment	10	15%	112	66%	122	52%
Don't know any rules	45	67%	19	11%	64	27%

Table 9: Sharing insurance improved farming knowledge?

	Non beneficiaries		Beneficiaries		TOTAL	
	No	%	No	%	No	%
Family members	22	33%	145	85%	167	70%
Friends	12	18%	105	62%	117	50%
Neighbours	15	22%	119	70%	134	56%
Other business owners	4	6%	22	13%	26	11%
None	43	64%	14	8%	56	24%

Table 10: Feedback to Pula

	Beneficiaries	
	No	%
Always	60	35%



Never	56	33%
Sometimes	54	32%
TOTAL	170	

Calculation of W+ Knowledge and Education Percent of Change

Formula for calculation W+

Education and knowledge generated by women= Number of women targeted * [(Sum of Scores on Education and Knowledge Retention) + (Sum of Scores on Behavioral Change) – (Sum of Scores on Challenges for Women)]

Symbolically,

$$KG (K) = WL * [\text{Sum A } (a_1 + a_2 + a_3 + a_4 + a_5 + a_6 + \dots + a_n) + \text{Sum B } (b_1 + b_2 + \dots + b_n)] - [\text{Sum C } (c_1 + c_2 + c_3 + c_4 + \dots + c_n)]$$

Where a1, a2, ... are different variables used to capture Education and Knowledge retention of the respondents. The number of these variables may differ by the project type.

b1, b2, ..., bn refers to the variables used to capture the Behavioral Change among the respondents. The number variables may differ by the project intervention type.

C1, c2, c3, c4, ... , cn refers to the variables used to measure the Challenges for Women among the respondents. The number of variables may differ by the project intervention type.

Table 11 : W+ calculation sheet for knowledge and education

Score	Respondent Type	
	User (n=170)	Non User (n=67)
Knowledge Score (A)	14.81	11.37
Behavior Score (B)	4.00	1.28
Challenge Score C	4.37	3.90
Final W+ Score (A+B-C)	14.44	8.76

Table 12 : W+ calculation for knowledge and behavior

Average W+ Score for users ($WU=A+B-C$)	14.44
Average W+ Score for non-users ($WNU=A+B-C$)	8.76
Percentage Change from baseline ($(WU-WNU)/WNU$)	65%
Total beneficiaries (Wc,p)	14,250

Percentage difference among beneficiaries among project intervention area and non-project intervention area = 65%

Challenges

The lack of access to quality farming inputs, time constraints due to workload are remaining constraints to women. Seeds, mainly taken from the previous harvest are used for home consumption during the period of food insecurity. They have to rely on available seeds in the market which are often poor quality.

Women have limited discretionary time left over after household chores, family obligations and food production activities.

Table 13 : Challenges in farm production

	Non beneficiaries		Beneficiaries		TOTAL	
	No	%	No	%	No	%
Balancing conflicting interests of home and work	28	42%	88	52%	116	49%
Lack of extension support services	35	52%	98	58%	133	56%
Lack of access to quality farming inputs	41	61%	123	72%	164	69%

Table 14: Emotional challenges

	Non beneficiaries		Beneficiaries		TOTAL	
	No	%	No	%	No	%
Access to land and other resources	23	34%	70	41%	92	39%
Work burden that leads limited time	56	84%	138	81%	194	82%
Limited mobility	19	28%	48	28%	66	28%
Doubts of your marketing skills	15	22%	48	28%	62	26%
Doubts of your communication skills	7	10%	20	12%	27	11%
Feel that you may fail because you are a woman	8	12%	31	18%	39	16%

Table 15 : Challenges to your existing levels of knowledge on insurance and farming techniques?

	Non beneficiaries		Beneficiaries		TOTAL	
	No	%	No	%	No	%

Training course was too short	15	22%	70	41%	84	36%
Training content not sufficient	8	12%	49	29%	57	24%
More training required	48	72%	145	85%	193	81%
Others challenges	6	9%	2	1%	8	3%
No challenges	4	6%	3	2%	7	3%

2 Analysis of Findings - Food security

Main source of food and income

In the survey sites, population (76%) rely mainly on their own agriculture production for their source of food. For them, agriculture is the primary source of income

Table 16: Main source of food

	Non beneficiaries		Beneficiaries		Total	
	No	%	No	%	No	%
Self produced agri-products	50	75%	131	77%	181	76%
Locally produced products	29	43%	77	45%	106	45%
Local market products	38	57%	96	56%	134	57%
Forest products	2	3%	4	2%	6	3%

Table 17: Source of income

	Non beneficiaries		Beneficiaries		Total	
	No	%	No	%	No	%
Agriculture	45	67%	137	81%	182	77%
Employment -Regular	1	1%		0%	1	0%
Home based or informal business	17	25%	25	15%	42	18%
Non agriculture labor	4	6%	5	3%	9	4%
Remittances		0%	3	2%	3	1%
Total	67	100%	170	100%	237	100%

Roles of women and men in the food production

According to surveyed samples, women and men are equally involved in production process for food production . Men participate in processing and marketing but not in cooking and serving. Women’s agricultural cultivation responsibilities are in addition to their domestic responsibilities and tasks within their households.

Table 18: Roles of men in food production

	Non-beneficiaries		Beneficiaries		Total	
	No	%	No	%	No	%
Production	54	81%	132	78%	186	78%
Processing	26	39%	68	40%	94	40%
Marketing	21	31%	53	31%	74	31%
Cooking / Serving	3	4%	6	4%	9	4%
Other	2	3%	9	5%	11	5%

Table 19 :Roles of women in food production

	Non-beneficiaries		Beneficiaries		Total	
	No	%	No	%	No	%
Production	52	78%	147	86%	199	84%
Processing	44	66%	123	72%	167	70%
Marketing	47	70%	121	71%	168	71%
Cooking / Serving	50	75%	130	76%	180	76%
Other	0	0%	1	1%	1	0%

Coping strategies during food insecurity

The most cooking and consumption-based coping strategies utilized by households (non beneficiaries and beneficiaries) is reducing number of meals per day . Almost 50% of the households eat less nutritious food and find strategic cooking practices like adding more water .

Table 20: Cooking and consumption strategies that are used during food crisis?

	Non-beneficiaries		Beneficiaries		Total	
	No	%	No	%	No	%
Limiting adult female food intake	7	10%	17	10%	24	10%
Limiting adult male food intake	7	10%	17	10%	24	10%

Reducing number of meals per day	47	70%	131	77%	178	75%
Eating less nutritious food options	27	40%	88	52%	115	49%
Strategic practices in cooking (like adding more water, etc.)	33	49%	84	49%	117	49%
Compromising on culturally significant food (mixing grains)	17	25%	50	29%	67	28%
Other		0%	1	1%	1	0%

Different outcomes indicators were quantified for food security. They reflect the quantity and the quality of the household's dietaries.

Regarding average period of food sufficiency from their farm production, data in the following table shows that being beneficiaries did not guarantee a significant increase in the production to ensure the food consumption need.

Table 21 : Period of food sufficiency from the farm production

	Non-beneficiaries		Beneficiaries		Total	
	No	%	No	%	No	%
0-3 months	19	28%	59	35%	78	33%
4- 6 months	25	37%	55	32%	80	34%
7- 9 months	16	24%	35	21%	51	22%
9-12 months	7	10%	19	11%	26	11%
More than 1 year		0%	2	1%	2	1%
Total	67	100 %	170	100%	237	100%

Several coping strategies related to income sources were adopted by the households during periods of food insecurity. A series of questions about how households manage to cope with a shortfall in food for consumption were asked. Working in exchange for food or money is the most common strategy adopted by the households. Other strategies such as borrowing money and taking credit with local shops or landowners are also practiced by households. Proportion of beneficiaries borrowing money during periods of food insecurity is higher (70%) compared to the non beneficiaries (58%).

Table 22: Income sourcing strategies during periods of food insecurity

	Non-beneficiaries		Beneficiaries		Total	
	No	%	No	%	No	%
Borrowing money/food from family and friends	39	58%	119	70%	158	67%
Working in exchange for food/money	45	67%	122,4	72%	167	71%
Credit system with local shops or landowners or neighbors	45	67%	117,3	69%	162	68%
Emergency Aid	7	10%	13,6	8%	20	9%

Knowledge in diseases related to food insecurity

Almost all women (99%), beneficiaries or not able to identify the diseases that are linked to food insecurity.

Table 23 : Knowledge of diseases linked to food insecurity

	Non-beneficiaries		Beneficiaries		Total	
	No	%	No	%	No	%
No	1	1%	2	1%	3	1%
Yes	66	99%	168	99%	234	99%
TOTAL	67	100%	170	100%	237	100%

Table 24: Proportion of women having knowledge on diseases

	Non-beneficiaries		Beneficiaries		Total	
	No	%	No	%	No	%
Risk of birth defects	15	23%	44	26%	59	25%
Anemia	23	35%	76	45%	99	42%
Cognitive problems	13	20%	24	14%	37	16%
Wasting and stunting	58	88%	146	87%	204	87%
Diabetes	7	11%	20	12%	27	12%
Heart disease	2	3%	3	2%	5	2%
Frequent colds	16	24%	35	21%	51	22%
Others	4	6%	8	5%	12	5%

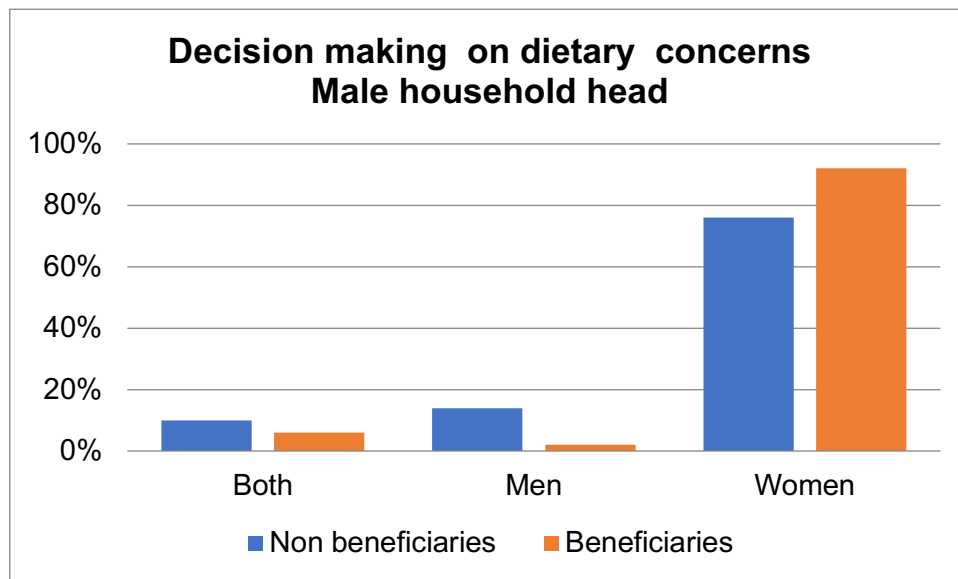
79% (53 out of 67) non beneficiaries and 81 % (138 out of 170) fear failing their roles as mothers, wives, daughters in times of food insecurity. Most of women experiencing fear (73%) feel depressed for beneficiaries women.

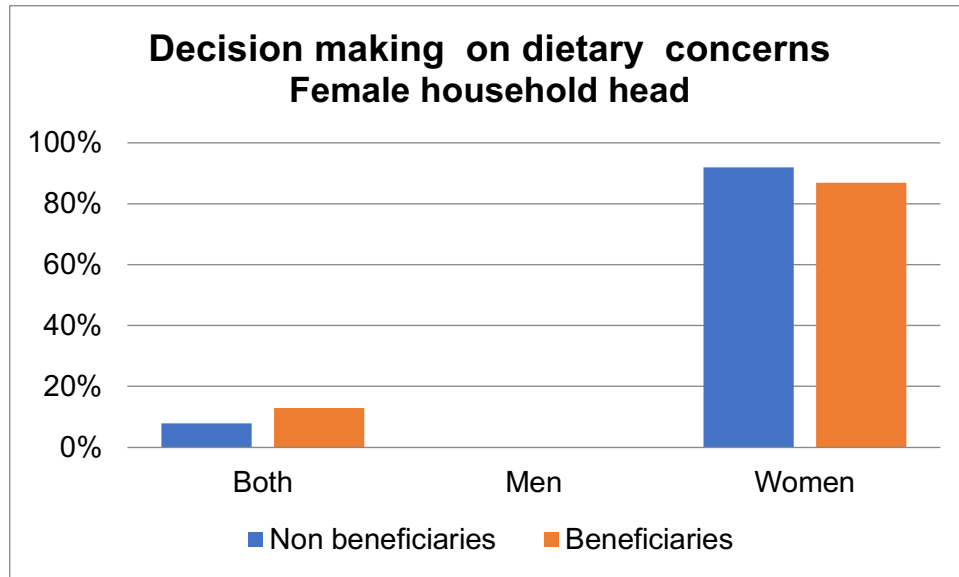
Table 25: Symptoms of fear experienced by women

	Non-beneficiaries		Beneficiaries		Total	
	No	%	No	%	No	%
Fear	39	74%	86	62%	125	65%
Anxiety	25	47%	55	40%	80	42%
Depression	34	64%	101	73%	135	71%
Shame	15	28%	58	42%	73	38%
Violence	16	30%	25	18%	41	21%

Women’s agency and contested practices

More than 85% (85% for non-beneficiaries and 89% for beneficiaries) said that women make decisions regarding dietary concerns in the household?





Calculation of W+ Food Security Percent of Change

Variables considered in calculating W+ units for food security are access to food score (A), food coping strategy Score (B), nutrition knowledge score (D), Nutrition knowledge score (D), decision making score (F) and challenge score (C)

Table 26: W+ score calculation sheet for food security domain

Score	Respondent Type	
	User (n=170)	Non-User (n=67)
Access to food score (A)	5.51	5.52
Food coping strategy Score (B)	4.61	4.19
Challenge Score C	2.59	2.28
Nutrition knowledge score (D)	2.08	2.06
Psychosocial Score E	1.91	1.93
Decision making Score (F)	2.08	2.03
Final food security W+ Score (A+B+D+F-C-E)	9.78	9.60

Table 27: W+ Units calculation for food security domain



Average W+ Score for users(WU=A+B-C)	9.78
Average W+ Score for non-users(WNU=A+B-C)	9.60
Percentage Change from baseline (WU-WNU)/WNU	2%
Total beneficiaries (Wc,p)	14,250

Percentage difference among beneficiaries among project intervention area and non-project intervention area = 2%

Challenges during periods of food insecurity

During food shortage, women face different challenges. Their main complaint is the increase in food prices in the market

Table 28: Challenges faced during natural disasters or extreme food shortage/periods of food insecurity?

	Non beneficiaries		Beneficiaries		TOTAL	
	No	%	No	%	No	%
Lack of relevant aid/assistance from external sources	50	75%	117	69%	168	71%
Increased food prices in the market	48	72%	133	78%	181	76%
No access to the market	5	7%	26	15%	30	13%
No access to financial resources	24	36%	65	38%	89	37%
Lack of food storage practices	2	3%	9	5%	11	4%
Indebtedness	7	10%	26	15%	32	14%
Sexual harassment	2	3%	7	4%	9	4%
Social stigma	4	6%	19	11%	23	10%
Social Exclusion	11	16%	41	24%	52	22%