AGRIBUSINESS FOR THE DEVELOPMENT OF RURAL AREAS IN KENYA

BANDO PROFIT 2019 – AID 012313/02/4

Rural Community Engagement Through Market Research

The Experience of Kapluk Community

INTRODUCTION

- The first phase of the project involved reaching an agreement (MOU) with Moi University. The MOU was done in order to provide young graduate engineers with opportunities in line with ‘Bando Profit 2019’.
- Another key purpose for signing the MOU was so as to involve Moi University in the process for selecting the target community to be involved in the initiative.
- The selection of young engineers from various disciplines was done and a suitable training framework ‘modules’ was arrived at to ensure multi-disciplinary exchange of information. This would equip the trainees with the necessary skills to enable them manage agri-business activities.
- The aim of this was to train young engineers for employment in the ‘Bando Profit’ initiative and to create a dedicated group in the company able to work in a capacity building project.

PROJECT IMPLEMENTATION

Meeting The Community

- Upon engaging the Moi University team, JV Almacis proceeded to have the first engagement with members of the community. The activities carried out during this visit include a general inspection of the area and meeting with all stakeholders.
- The members of the community are currently not practicing any profitable economic activity and do not have anything linking them together.

Training

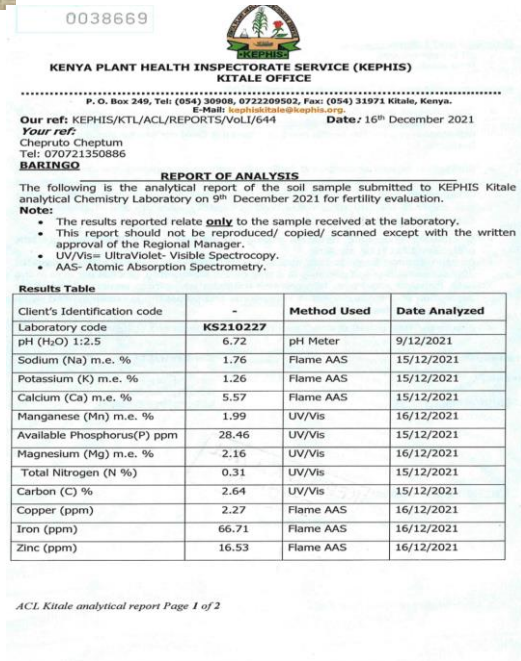
- On the other hand, training for the graduate engineers also began at the Moi University.

Faulu Micro-Finance

- There was a need to link the farmers with an agency providing micro-finance. JV Alma CIS identified Faulu Micro-Finance bank to educate farmers and see if in the process they might obtain some loans.
- JV Alma CIS started doing mapping activities to identify the land area mass under irrigation.

Soil Analysis Recommendations

- A soil analysis to determine the properties of the soil in the area was also done.



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KENYA PLANT HEALTH INSPECTORATE SERVICE (KEPHIS)
KITALE OFFICE

P. O. Box 249, Tel: (054) 30908, 0722209502, Fax: (054) 31971 Kitale, Kenya.
E-Mail: kephiskitale@kephis.org.

Our ref: KEPHIS/KTL/ACL/REPORTS/VoLI/644 **Date:** 16th December 2021

Your ref:
Chepruto Cheptum
Tel: 070721350886
BARINGO

REPORT OF ANALYSIS

The following is the analytical report of the soil sample submitted to KEPHIS Kitale analytical Chemistry Laboratory on 9th December 2021 for fertility evaluation.

Note:
- The results reported relate **only** to the sample received at the laboratory.
- This report should not be reproduced/ copied/ scanned except with the written approval of the Regional Manager.
- UV/Vis= UltraViolet- Visible Spectrocopy.
- AAS- Atomic Absorption Spectrometry.

Results Table

Client's Identification code	-	Method Used	Date Analyzed
Laboratory code	KS210227		
pH (H_2O) 1:2.5	6.72	pH Meter	9/12/2021
Sodium (Na) m.e. %	1.76	Flame AAS	15/12/2021
Potassium (K) m.e. %	1.26	Flame AAS	15/12/2021
Calcium (Ca) m.e. %	5.57	Flame AAS	15/12/2021
Manganese (Mn) m.e. %	1.99	UV/Vis	16/12/2021
Available Phosphorus(P) ppm	28.46	UV/Vis	15/12/2021
Magnesium (Mg) m.e. %	2.16	UV/Vis	16/12/2021
Total Nitrogen (N %)	0.31	UV/Vis	15/12/2021
Carbon (C) %	2.64	UV/Vis	15/12/2021
Copper (ppm)	2.27	Flame AAS	16/12/2021
Iron (ppm)	66.71	Flame AAS	16/12/2021
Zinc (ppm)	16.53	Flame AAS	16/12/2021

ACL Kitale analytical report Page 1 of 2

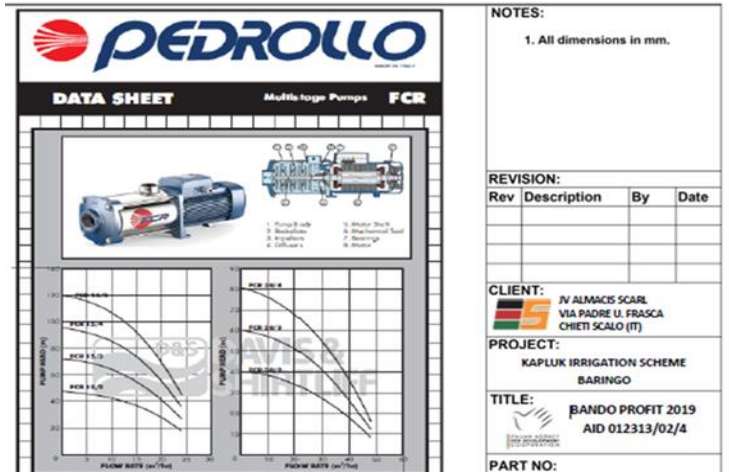
FIELD WORK/ COST INFORMATION

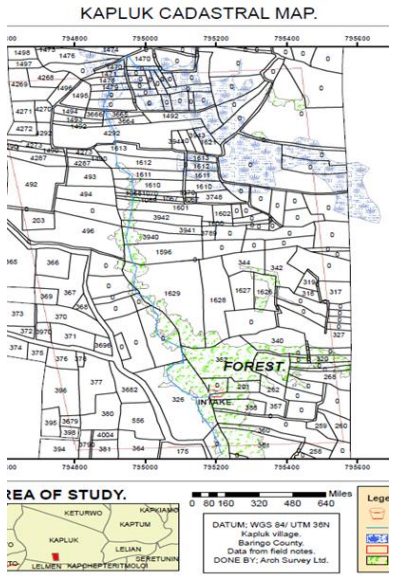
- The project team then proceeded to conduct a market research to determine the viability of the crops which the farmers intend to plant.
- The target markets were Kabarnet and Eldoret towns.
- With regard to the cost information, the production costs and labor costs were collected to if the farmers could afford to conduct agribusiness to repay the loan from JV Alma CIS.
- The farmers were practicing ‘barter’ trade meaning they only did farming for subsistence purposes and the produce was exchanged with other members of the community with a different product.
- It was the goal of JV Alma CIS to move the members of the community from subsistence farming to Agribusiness. In order to curb the challenge of lack of a consistent source of water, JV Alma CIS decided to install an irrigation scheme.
- Since the farmers lacked sufficient skills for farming, JV Alma CIS also decided to involve professional agricultural officers to help farmers get better yields.

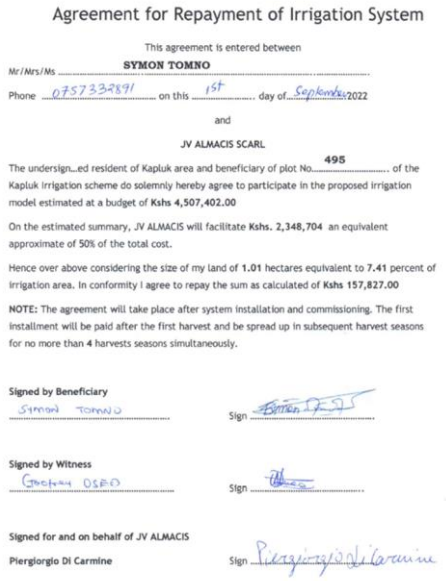
CROP	YIELD/ACRE		COST OF PRODUCTION /ACRE (Ksh.)	KAPLUK UNiT COST	ADD TRANSPORT ESTIMATE TO ELDORET	TOTAL PROD. COSTS TO ELD	ELD UNIT COST	KAP GAIN	ELD GAIN	KAP SUM PROFIT	ELD. SUM PROFIT
Beans	Without Irrigation	100 Kgs	12,200	122	1200	13,400	134.00	19	37	1900	3700
	With Irrigation	600 kgs	14,640	24.4	2700	17340	28.9	32	48.20	19200	28920
Green Grams	Without Irrigation	100 Kgs	14,500	145	900	44,400	154	33.3	41.33	3330	4133
	Irrigated	600	17400	29	2025	19425	32.38	52.6	59.67	31560	35802
Water Melon	Without Irrigation	7000	27,800	3.97	42,000	69800	9.97	4	34.03	28000	238210
	With Irrigation	20000	33360	1.668	50400	83760	4.18	4.8	35.22	96000	704400
Tomatoes	Without Irrigation	50crates	41,800	836	54,000	95800	1916	1,735.5	1,835.56	86775	91778
	With Irrigation	300	50160	167.2	81000	131,160	437.2	1,828.4	1,928.44	548520	578532

CONSTRUCTION OF IRRIGATION SCHEME

- **<u>Preparation of technical documentation for design</u>**
- A design of the irrigation scheme and its bill of quantities were made to determine the cost each farmer would incur for this project.
- The system consisted of a pump powered by a photovoltaic mini grid.
- The cost each farmer had to pay was directly proportional to the percentage by area mass of the total area under irrigation.
- A series of formal agreements for loan repayment were made between members of the community and JV Alma CIS. An agreement with the chief for the use of the communal stream to install the irrigation scheme was also made.
- An approval from the county government of Baringo was also necessary.
- Most of the work required for the installation of the system was sourced from the local community.







Agreement for Repayment of Irrigation System

This agreement is entered between

Mr/Mrs/Ms SYMON TOMNO

Phone 0757332891 on this 1st day of September 2022

and

JV ALMACIS SCARL

The undersign...ed resident of Kapluk area and beneficiary of plot No. 495 of the Kapluk irrigation scheme do solemnly hereby agree to participate in the proposed irrigation model estimated at a budget of **Kshs 4,507,402.00**

On the estimated summary, JV ALMACIS will facilitate **Kshs. 2,348,704** an equivalent approximate of 50% of the total cost.

Hence over above considering the size of my land of **1.01** hectares equivalent to **7.41** percent of irrigation area. In conformity I agree to repay the sum as calculated of **Kshs 157,827.00**

NOTE: The agreement will take place after system installation and commissioning. The first installment will be paid after the first harvest and be spread up in subsequent harvest seasons for no more than **4** harvests seasons simultaneously.

Signed by Beneficiary

Symon TOMNO Sign

Signed by Witness

Geoffrey OSEO Sign

Signed for and on behalf of JV ALMACIS

Piergiorgio Di Carmine Sign

TRAINING OF THE FARMERS AND CREATION OF SELF HELP GROUP

- Before the implementation of the irrigation scheme, it was deemed necessary to train the farmers on the proper use of the irrigation scheme.
- JV Alma CIS also involved agricultural officers whose main purpose was the training of the farmers in better agricultural practices. This was done in a bid to improve the farmers yields. The head agricultural officer was Everlyne Chelimo.
- Since the farmers now have an activity in common, they decided, with the help of JV Alma CIS to form a self help group which would negotiate on their behalf for a higher bargaining power in the market place.

Certificate No. 0107727

Republic of Kenya

MINISTRY OF LABOUR AND SOCIAL PROTECTION
STATE DEPARTMENT FOR SOCIAL PROTECTION
DEPARTMENT OF SOCIAL DEVELOPMENT

SELF HELP GROUP(SHG)

This is to Certify that

KIPTOLELYO FARMERS SELF HELP GROUP
Group Name / Project

KAPLUK — Sub-Location / Ward
KABUTIEI — Location
BARWESSA — Division
BARINGO NORTH — Sub-County
BARINGO NORTH — Constituency
BARINGO — County
DGSD/HC/SHG/507 — Registration No.
9/2/2022 — Date of Registration

Is registered with the Department of Social Development by:

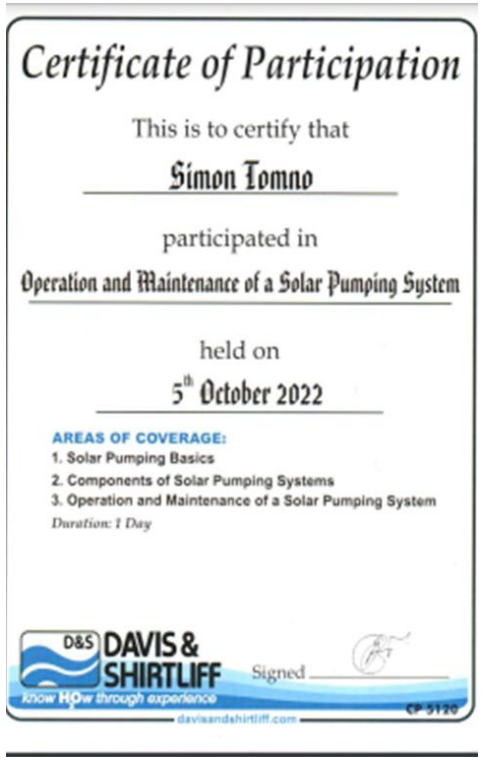
Name: GEOFFREY CHEMJOR
County / Sub County Social Development Officer

Signature

9/2/2022
Date of Issue

Kenya VISION 2030

Note: *The Contents of this Certificate should not be erased, altered or defaced in any way.*



Certificate of Participation

This is to certify that

Simon Tomno

participated in

Operation and Maintenance of a Solar Pumping System

held on

5th October 2022

AREAS OF COVERAGE:
1. Solar Pumping Basics
2. Components of Solar Pumping Systems
3. Operation and Maintenance of a Solar Pumping System

Duration: 1 Day

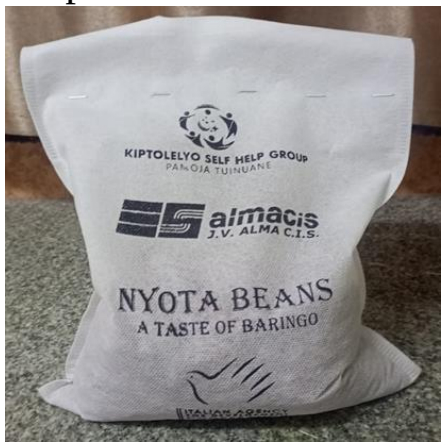
D&S DAVIS & SHIRTLIFF
know HOw through experience
davisandshirtliff.com

Signed

CP-5120

HARVESTING AND SELLING OF THE PRODUCE

- For the first cropping cycle, the farmers planted beans and after their maturity, they were harvested and stored.
- The farmers decided to do an auction.
- Through the Kiptolelyo Self Help Group, the auction was advertised and all the produce from the harvest was sold.



ADVERTISEMENT! ADVERTISEMENT!!

KIPTOLELYO FARMER'S SELF HELP GROUP.

There will sale of Harvested Beans (Nyota) on 1st and 2nd February 2023 at Kiptolelyo Stores A and B near the farm Project as from 10:A.M

The Price of 1kg is Ksh 140/= .

This is the first Patch of the sale and limited to first come First Served.

The Sample of the Beans.

DATA COLLECTION AND ANALYSIS

- After the implementation of the irrigation scheme, it is now possible to compare farmers production in terms of before and after basis. The analysis is aimed at providing information so that the project can be replicated either in small or large scale.
- The data collected was collected using forms. A brief summary indicating what each step (form) entails is as shown below:
  - Production before and after irrigation- This form analyzes what farmers were harvesting before the implementation of the irrigation scheme versus after its implementation.
  - Report to organize farmers to a single economic group- The members of the community did not have a single economic entity and were living as ‘just neighbors’ but JV Almacis moved them from this mentality into being a single economic group. The farmers proceeded to then form the Kiptolelyo Self Help Group.
  - Report on the challenges the farmers were facing before irrigation and how the challenges were reduced after installation of the irrigation system.
  - Description of the selection of the most profitable crop. In this section, farmers state that they opted for beans as it was cheaper to plant and took a shorter duration to mature.
  - Before planting, a germination test was done to determine the viability of the seeds. After seeing that the beans could be planted, ploughing of the farms began.

1. Report of the difference in productivity of harvest before and after use irrigation
   - Identify on the map the plots and describe previous crops planted production status

EFORE IRRIGATION			AFTER IRRIGATION	
IMION YATOR – Plot No. 203			YATOR – Plot No. 203	
rops	Production (Kgs)		Crops	Productio
egetables inger illet	Self - Consumption 20kgs (Finger Millet)	No Revenue	Beans	Revenue 25480

EFORE IRRIGATION			AFTER IRRIGATION	
oshua, Japheth, Mary and Nancy– Plot o. 492			Joshua, Japheth, Mary and Nancy– Plot No. 492	
rops	Production (Kgs)		Crops	Production
inger illet otton	Self - Consumption 30kg (Finger Millet)	Revenue 400kgs cotton @ 54 Ksh (21600)	Beans	Revenue 63960

DATA COLLECTION AND ANALYSIS CONT

- Once the plants had germinated and flowered, JV Alma CIS invited the agricultural office to help the farmers obtain a bountiful harvest and teach the farmers on good maintenance.
- After the harvest, the farmers (through the Kiptolelyo Self Help Group) decided to do an auction for the beans. JV Alma CIS decided to help the farmers in branding their products. Due to the branding and auction activities, journalists from the Kenya News Agency were interested in the activities and decided to do a coverage of these activities.
- After implementation of the irrigation scheme, farmers can now set aside a portion of land for subsistence farming. This effectively eliminates malnutrition in the community.
- The report on school tracking basically indicates how the lives of school going children has been impacted by the irrigation scheme. Access to food, better hygiene due to access of water and elimination of issues concerning school fee are some of the benefits the school going children now enjoy.

JV ALMACIS PILOT PLOT

- In the spirit of community cohesion and interaction, JV Almacis decided to be part of the irrigation scheme by actively participating in the farming activities.
- This offered a new opportunity in terms of closer monitoring of the farmers progress by JV Alma CIS. Since some of the farmers exhibited fear when it comes to fully embracing the irrigation scheme, JV Alma CIS would act to set an example for the members of the community.
- This opportunity also helps JV Alma CIS to observe challenges that the farmers go through in the production cycle to better manage them.
- The cost of production per acre for each plot can now be measured accurately factoring in all variations.
- For the next cropping cycle, the JV Alma CIS plot will contain watermelon.

Production Costs	**Amount**
Ploughing	2400
Furrows	2200
Planting	3700
Spraying and purchase of chemicals	3000
Weeding	4000
Irrigation	6500
Harvesting (Uprooting, Drying, Threshing, Cleaning)	10000
Seeds	4000
Total	**36000**

SECOND CROPPING CYCLE

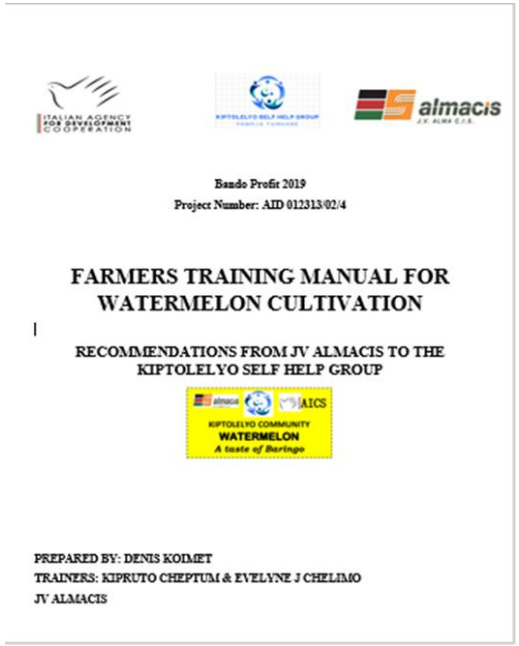
- Based on the soil analysis conducted at the beginning of the project, watermelon was suggested as the most suitable crop due to the soil pH.
- A training was done to ensure the farmers would get the maximum possible yield from the farms.
- The training document contained a general introduction indicating the different types of watermelon and green grams, optimal requirements for growing, manure application methods, sowing methods, water requirements, weeds and managing them, pests and diseases affecting both crops.

PLOUGHING ACTIVITIES

- After the training was complete, ploughing and readying of the land began. This was in preparation for the planting of watermelon and green grams.

PLANTING ACTIVITIES

- After the farms were ready, planting of the green grams and watermelon began.



Bando Profit 2019
Project Number: AID 012313/02/4

FARMERS TRAINING MANUAL FOR WATERMELON CULTIVATION

RECOMMENDATIONS FROM JV ALMACIS TO THE KIPTOLELYO SELF HELP GROUP

KIPTOLELYO COMMUNITY WATERMELON A taste of Baringo

PREPARED BY: DENIS KOIMET
TRAINERS: KIPRUTO CHEPTUM & EVELYNE J CHELIMO
JV ALMACIS

Cover your mouth when sneezing | Wash hands with water and soap/ sanitizer | Avoid contact with sick people | Don't touch eyes, nose or mouth with unwashed hands | Thoroughly cook meat, eggs. Don't eat raw food | Keep objects and surfaces clean

PREVENTION
MARCH 7, 2023
ADVERTS | 9
PRINTED BY : THE STAR

Barwessa farmers benefit from multi-million irrigation project

BY CAROLINE CHERONO AND MICHELLE YATICH (KNA)

A community in Barwessa, Baringo North Sub- County, has beaten all odds to produce beans by irrigation farming in an area currently experiencing a biting drought, helping them to mitigate the effects of the current drought and famine in the region.

In the past few months, the community has slightly changed the face of the area, by practicing irrigation that has led to an increase in food production for improved livelihoods.

Kiptolelyo Self-help Group farmers in Kapluk Sub-location are celebrating a bumper harvest after a successful planting season that started during the dry spell in September 2022 to February 2023 with over 1,000 kilograms of 'Nyota' beans.

Job Kibet, a farmer, who owns a kiosk said that 'Nyota' beans took a shorter period to reach maturity and once they harvested, the community bought them since they were sold at a cheaper price of Sh130 per kilogram compared to Sh150 the current market price.

"When we started the project, we did not expect to harvest much but with the support of J. Almacis, we have managed to harvest enough for consumption and for sale. So far, we have sold over 500 kilograms of beans and the remaining will be sold out by the end of the week," he said.

The efforts are supported by an Italian private company J. Almacis under the Italian Agency for Development and Cooperation, who gave 20 farmers a Sh. 2.5 million loan as capital with an agreement to repay only 25 per cent of it since it was a pilot project.

In addition to capacity building, J. Almacis has also installed a complete irrigation system using solar energy, to enable farmers to pump water to their farms using a nearby stream as their source of water, which has enabled irrigation of 20 acres of land.

Mary Chesang, another farmer lauded the project, saying they had signed an agreement with the Almacis group, which stated that some of the produce would be taken to the nearby primary school, to assist children by providing meals, adding that availability of water in their homesteads has enabled them save time they used going to the stream to fetch water and that the cases of water borne diseases have reduced due to high levels of hygiene.

Residents have expressed joy saying the beans sold by the group are cheap in addition to the fact that they are easily available in their locality unlike before when they could travel long distances to buy them in town.

"I am very grateful to the J. Almacis group for starting this project since this area is arid and semi-arid and so dry, I cannot imagine that now in February, we are purchasing beans at Sh130 per kilogram unlike in other areas," said Monica Chebol.

Packed Nyota beans ready for sale presented to the investors at Kapluk Sub- location, Baringo North Sub-county.

A section of the solar panels installed to pump irrigation water to irrigate farms in Kapluk Sub-location in Barwessa Ward in Baringo.

Farmers listen keenly to delegation from the Italian Agency for development, during the field visit at Kapluk Sub-location, Baringo North

Pier Giorgio Carmine, the J. Almacis team leader, addresses farmers in Kapluk Sub-location, Baringo North Sub-county, during the field day visit. Photos by Caroline Cherono