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MINISTRY OF WATER AND ENVIRONMENT

FARM INCOME ENHANCEMENT AND FORESTRY CONSERVATION PROGRAMME

Promoting Irrigation for Enhanced Income & Agricultural Productivity

NDF lauds FIEFOC-2 on ENABLE youth program

The programme coordinator of the Nordic Development Fund (NDF) for Africa, Mr. Charles Wetherill has lauded the Farm Income Enhancement and Forestry Conservation Programme – Project 2 (FIEFOC 2) on the implementation of ENABLE youth program, describing it “remarkable”.

ENABLE, which stands for “Empowering Novel Agribusiness Led Employment,” is a pilot project conceptualized by the African Development Bank (AfDB) and supported by the NDF to create employment opportunities for innovative youth agripreneurs between 18 and 35 years of age through acquisition of technical skills in agribusiness and access to investment capital for their businesses.

“What you have done is really remarkable,” said Mr. Wetherill, after listening to the success stories and impact of the ENABLE Youth Program. “It is amazing. You need to identify the case studies and package them well to tell the story.”

Mr. Wetherill was in the region to



Mr. Charles Wetherill

attend a conference, but felt it prudent that he visited FIEFOC 2 in Uganda.

“I have a fairly good understanding of the ENABLE youth program,” he said, while paying a courtesy call on the national project coordinator of FIEFOC 2, Mr. John Magezi Ndamira and the project teams on February 24 at the project secretariat, Bugolobi in Kampala.

Mr. Wetherill appreciated the team’s quick response to the courtesy call, saying it provided him with a good opportunity to hear from them.

He noted that while some entities had difficulties working with the government structures, the

implementation of ENABLE youth program through the district local governments had quite a different story.

“Share the model with the government,” he advised. “It looks, you are on track.”

Meanwhile, Mr. Magezi welcomed Mr. Wetherill, saying it was good for him to check on the progress of NDF supported components under FIEFOC 2, which include agribusiness development and integrated natural resources management components.

“Since the project is coming to a closure, there is need for fast-tracking the activities,” Mr. Magezi said. “I hope by December 2020 all activities will be concluded.”

Mr. Emmanuel Muhoozi, the agribusiness development component coordinator noted that the training of over 100 youth agripreneurs across the five irrigation schemes has had impact and was opening windows of opportunities for the youths.

“There are more opportunities for the youth agripreneurs,” Mr. Muhoozi said. “One of the agripreneurs

Turn to page 3

Inside

- 02 Lessons from South Africa.
- 03 Status of Doho II irrigation scheme.
- 04 Gender concerns in agroforestry.
- 05 Factors limiting agroforestry adoption.
- 06 Tapping into apiculture potential.
- 08 Exposure visits enhance agripreneurs learning.

SECRETARIAT

Lessons from South Africa on benchmarking trip

A team from Agriculture Infrastructure Development (AID) component of the Farm Income Enhancement and Forestry Conservation Programme – Project 2 (FIEFOC 2) visited South Africa between 13 and 17 January 2020 to benchmark on sustainable development and management of irrigation schemes.

The team that comprised technical staff from the Ministry of Water and Environment, Ministry of Agriculture, Animal Industry and Fisheries and FIEFOC 2 met experts in water, agriculture and irrigation sector in Pretoria, South Africa.

While there, they interacted with various irrigation experts and visited irrigation facilities, where they learned about the development and management of irrigation schemes in South Africa.

Mr. John Magezi Ndamira, the national project coordinator of FIEFOC 2, who led the delegation, was quoted by *The Farmers Weekly Magazine* of South Africa, saying that the tour was important because it would assist the two ministries of water and agriculture to effectively implement the project.

"The Government of Uganda is looking at sustainable water solution

"The Government of Uganda is looking at sustainable water solution to accommodate the growing population's food security needs"

Mr. Magezi



A Ugandan team and South African counterparts during a photo session ■

to accommodate the growing population's food security needs and cope with the changing climate," he said.

The team noted that there were a great deal of differences between the two countries in terms of technology application in the irrigation systems.

"There are proxy indicators to show whether or not an irrigation scheme will succeed," Eng. Ronald Kasozi, coordinator AID component and one of the team members, who visited South Africa said. "These include failure to focus on the farmer, anticipate changes along the way and regulate market players."

Eng. Diana Nasasira, who was also on the benchmarking trip observed that the irrigation schemes in South Africa were bigger than those in Uganda.

"They are way ahead in terms of technology," she said. "Their schemes are ten times larger than ours."

As part of the technical team that visited South Africa, Eng. Nasasira and others were accorded an opportunity to share

their experiences during a quarterly review meeting of AID component held on January 27 at FIEFOC 2 boardroom at Bugologbi in Kampala.

Eng. Nasasira, however noted that South Africa had similar challenges in the management of irrigation schemes, especially in terms of water distribution.

Nonetheless, they learned that agronomy was crucial to the irrigation schemes and many players were required to support farmers.

"Government support is limited, especially for small holder farmers in South Africa," Eng. Dominic Mucunguzi, the co-coordinator of AID component from the agriculture ministry, said. "Many players need to support the farmers. They should have the will and desire to succeed so as to transit from subsistence farming to commercial farming."

The team further learned that South African farmers are fully empowered – they hire their own agronomists and belong to water user associations, before they access water ■

AGRICULTURAL INFRASTRUCTURE DEVELOPMENT

Status of progress at Doho II irrigation scheme

Doho II irrigation scheme is one of five irrigation schemes jointly developed by the Ministry of Water and Environment (MWE) and the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) through FIEFOC 2.

Located in Butaleja district, Doho II irrigation scheme covers an irrigable area of 1178 hectares. It is fed by River Manafwa with an average annual discharge of between five and 13 cubic meters per second.

The construction of the scheme is funded by the African Development Bank, the Nordic Development Fund and the Government of Uganda at a tune of Shs 29.9 billion.

The scheme construction started on

Once completed, the scheme is expected to directly benefit 2.7 million farmers.



Completed concrete lining of main canal at Doho II irrigation scheme, Butaleja district

November 10, 2017 and is expected to be completed by October 7, 2020.

Dott Services Limited is the main contractor for the scheme with Yerer Engineering PLC in association with BEC Engineers as supervising consultant.

Once completed, the scheme is expected to directly or indirectly benefit over 2.7 million farmers in the Manafwa catchment area.

Each farmer will be allocated an acre of land, where they will not only grow rice, but also horticulture, including

crops such as watermelon, tomatoes and vegetables, among others. Farmers will be organized into water user associations to effectively manage water resources for irrigation purposes, and cooperative societies for ease of access to markets for their produce.

The physical progress of the scheme construction was at 76.3 per cent as of December 2019. Specifically, the construction of main canal was at 74 per cent; secondary canals, one and two were at 75 per cent and 88.4 per cent respectively. The tertiary canal was at 38 per cent, while the secondary and tertiary drains were at 95 per cent respectively.

The construction of access road was at 68 per cent and construction of scheme buildings were at 89 per cent respectively. The physical progress for flood protection was at zero percent, including steel work or hydro mechanical gates. However, the works were greatly affected by recurrent flooding resulting from heavy rain within the scheme.

FROM PAGE 1: NDF LAUDS FIEFOC 2

is attending a training in aquaculture in Cairo, Egypt. Four others will be attending training in Tanzania in March 2020."

Dr. David Kamukama, the coordinator of Impact Booster Consortium, a consulting firm that manages implementation of ENABLE youth program –Uganda said some of the youths had benefited from additional financing, while others had opportunities for capacity building through trainings and participation in local and international conferences.

"We have realized training is more important than money," Dr. Kamukama

noted.

Mr. Bob Kazungu, the senior forestry officer under the Forestry Sector Support Department, who represented the integrated natural resources management component said the procurement of seedlings under NDF component would be for stabilization of river banks, and the service providers would also supply seedlings for each catchment.

"A million seedling is expected in Wadelai catchment," Mr. Kazungu explained, when asked about the number of seedlings required in each lot. "We are confident

as a component to deliver on time."

The meeting focused on status of progress on NDF financed procurements for FIEFOC 2, including procurements that were duly delivered, those with signed contracts and those undergoing procurements. Out of nine procurement packages, one was duly delivered, five had contracts in place and three were ongoing. In attendance were also FIEFOC's Mr. Daniel Kitone, monitoring and evaluation officer, Ms. Mariam Magezi, project accountant and Mr. Robert Anguzu, programme officer.

INTEGRATED NATURAL RESOURCES MANAGEMENT

Gender concerns in agroforestry and conservation farming

Only 44 per cent of respondents in five irrigation catchments under the Farm Income Enhancement and Conservation Programme – Project 2 have demonstrated knowledge about gender roles and responsibilities, according to Patricos Enterprise Limited's report.

The report was an outcome of a training needs assessment on agroforestry and conservation farming, conducted in five catchment areas of Mubuku, Tochi, Wadelai, Kween and Manafwa.

The report was released on February 11, during an awareness raising workshop on agroforestry and conservation farming under integrated national resources management component of FIEFOC 2.

Patricos Enterprise Limited is a consulting firm that the Ministry of Water and Environment through FIEFOC 2 has contracted to undertake training of key stakeholders at national, district and community levels in agroforestry and conservation farming.

"The concept of gender guides an understanding of human interaction with the environment"

Nabasumba



Division of labour ■

Before conducting the training, the firm undertook a training needs assessment on gender considerations for agroforestry and conservation farming, among other issues.

Gender roles

According to Ms. Dina Nabasumba, a gender specialist with the Patricos Enterprise Limited, only 44 per cent of the respondents had expressed knowledge on gender roles and responsibilities in agroforestry and conservation farming, meaning the majority of farmers were uninformed about gender issues.

Gender roles deal with perceptions acquired or behaviours learned by a person and determined by the prevailing cultural norms.

"Traditionally, gender roles expect differences between men and women in initiating planting or management of trees, digging planting basins or applying mulch for conservation farming, harvesting poles for construction and taking care of animals," Nabasumba explained.

Division of labour

Gender roles also manifest in division of labour, which describes allocation of different jobs or types of work to women and men.

"Traditionally, activities that require extra strength like tree pruning and tree felling were regarded as men's role," she said. "While women were required to undertake light domestic activities such as food preparations and firewood collections. But collection of big logs for sale were men's role."

Gender deals with culturally and historically specific concepts of femininity and masculinity, as well as power relations between men and women.

"However, there is a difference between gender and sex," she said. "Gender is culturally constructed, while sex is biological; gender is learned through socialization, while sex is given at birth; and gender can be changed, while sex cannot be changed."

Gender and sexuality are therefore

Turn to page 5

INTEGRATED NATURAL RESOURCES MANAGEMENT

FROM PAGE 4: GENDER CONCERNS

important forces that shape every aspect of our lives.

"The concept of gender guides an understanding of human interaction with the environment," she added. "And it expresses the division of labour in terms of natural resources management."

Access and control of resources

Gender roles can also be described in terms of access and control of resources. Access reveals right and opportunities, while control expresses right and power over the productive resources.

There is a traditional belief that men control planting of trees and women are not supposed to own or inherit land. Although they plant trees together, ownership changes as the value of tree accumulates.

"Imbalances in control of productive resources, create barrier to investment in high value agroforestry, such as fruit orchards, woodlots and tree plantations," noted Ms. Nabasumba.

There is need for gender analysis to understand the relationships between men and women, their access to resources, their activities and the constraints they face relative to each other.

"Gender analysis helps to highlight the different roles and learned behaviours of men and women, which may vary across culture, class, ethnicity, income, education and over time," she said. "It is also important in determining policy framework, budget preparations and competences among different gender programming and project design for interventions■"

Factors limiting adoption of agroforestry identified



Agroforestry, where trees and crops are used on the same land management system■

Patricos Enterprise Limited has identified factors limiting adoption of agroforestry and conservation farming in five irrigation catchments of Mubuku, Tochi, Manafwa, Wadelai and Kween under the Farm Income Enhancement and Forestry Conservation Programme – Project 2 (FIEFOC 2).

According to Mr. Gaster Kiyingi, the team leader of Patricos Enterprise Limited, some of the factors that

limit adoption of agroforestry and conservation farming include among others – limited demonstration farms, research on tree combinations and extension services.

"Factors limiting adoption of agroforestry and conservation farming include limited demonstration farms, limited research on tree combinations and limited extension services," Mr. Kiyingi said. "Others include farmer attitude towards managing trees and limited agroforestry plots."

Mr. Kiyingi revealed this, during an awareness raising workshop held on February 11 at City Royal Hotel, Bugolobi in Kampala.

The workshop aimed at sharing findings on training needs assessment on agroforestry and conservation farming in the five catchment areas of the irrigation schemes under FIEFOC 2.

The specific objectives of the training needs assessment were to identify gaps between current and required levels of knowledge.

"Training needs assessment are critical in designing training modules"

Mr. Kazungu

Turn to page 6

AGRIBUSINESS DEVELOPMENT

FROM PAGE 5: FACTORS LIMITING AGROFORESTRY ADOPTION

skills and attitude of targeted trainees in the catchments.

Patricos Enterprise Limited is one of the consulting firms contracted under FIEFOC's Integrated Natural Resources Management Component to conduct capacity building training on agroforestry and conservation farming to various stakeholders at national, district and community levels.

Mr. Bob Kazungu, senior forestry officer at the Forestry Sector Support Department is the contract manager for the consulting firm.

"The findings of the consultant on training needs assessment are critical in designing training modules for agroforestry and conservation farmers based on actual training needs and gender considerations," Mr. Kazungu said.

Agroforestry is a land management system, where trees or shrubs are deliberately used on the same land management unit with crops or animals, while conservation farming is where there is minimal soil disturbance or no tillage and there is permanent soil cover or mulch combined with rotation

The workshop was attended by officials from the Ministry of Water and Environment, Local Governments, FIEFOC2 and Makerere University.■

Tapping into apiculture potential in watersheds



Mr. Denis Okot, one of the beekeepers in Minakulu, sub county, Oyam district standing near his beehive.■

Over 1000 potential beekeepers and processors have been identified for likely support under the Farm Income Enhancement and Forestry Conservation Programme—Project 2 (FIEFOC 2) in Tochi catchment area, Mr. Alfred Cosmos Butele has revealed in a field report.

Beekeeping, also known as apiculture is one of the key activities FIEFOC 2 promotes to increase household incomes and conserve biodiversity. According to Mr. Butele, an entomologist with the Ministry of Agriculture, Animal Industry and Fisheries, also attached to FIEFOC 2, there is a huge potential for apiculture in

Tochi catchment that comprises Oyam, Lira, Apac, Gulu, Nwoya and Adjumani districts, among others. "To tap into the potential of apiculture in the districts, an exercise was conducted to establish the status of beekeeping and honey processing related activities so as to devise strategies for interventions," Butele said.

The scoping exercise focused on identification of beekeepers to be supported ; number of beekeepers and honey processors in each district; types, quality and quantity and prices of products; accessibility and nature of extension services; and challenges faced by the beekeepers. The exercise was guided by the needs assessment survey—conducted by FIEFOC 2 through Kilimo Trust in 2018 to establish agribusiness potential in the watersheds of Wadelai, Tochi, Mubuku II, Doho II and Ngenge irrigation schemes. The findings indicate that 50 per cent of the beekeepers keep records for apiary and sales, an indication of apiculture potential in the catchment areas.■

"There is a huge potential for apiculture in Tochi catchment"

Mr. Butele

AGRIBUSINESS DEVELOPMENT

9 Agripreneurs train in fish farming

A total of nine agripreneurs from five catchment areas of Wadelai, Tochi, Manafwa, Kween and Mubuku II under Enable Youth Programme of the Farm Income Enhancement and Forestry Conservation Programme—Project 2 have concluded training in fish aspects at Kajjansi Aquaculture Research and Development Centre.

The training, which was conducted between January 13 and 23, aimed at equipping participants with practical skills and knowledge on fish farming—best management practices, exposing participants to successful fish farmers and feed producers for benchmarking and enabling participants understand post-harvest technologies like value addition and marketing strategies for fish products.

According to the training coordinator, Dr. Cassius Aruho, the Investment Technical Committee of the Enable Youth Program noted that although the trainees had undergone boot camp training—tailored at developing agripreneurs skills and value addition



Trainees in a training session to identify sex of a mirror carp ■

techniques, they lacked technical skills in fish farming aspects.

“The main goal of the training is to equip the trainees with practical skills and knowledge to run their different enterprises and businesses,” said Dr. Aruho during the official opening of the training. “Enable” is an acronym, which stands for “empowering novel agribusiness led employment.” It is a program that aims at addressing youth unemployment in Uganda through acquisition of skills in agribusiness enterprise management and access to investment capital. The program is funded by the Nordic Development Fund with counter-part funding from the Government of Uganda.

The agribusiness component coordinator, Mr. Emmanuel Muhoozi, who represented the national project coordinator FIEFOC 2 at the training noted that the training was as a result of recognizing that the participants had inadequate skills and knowledge to

undertake various fish farming related enterprises they had chosen.

“Take the training with uttermost importance since the training is meant to concretize your previous training,” Mr. Muhoozi advised. “The training will equip you with skills and knowledge to effectively utilize the funds for the purpose it is meant for.”

He further advised the trainees to form synergies among themselves so as to market and purchase inputs as a group.

“Identify the best value chain component in fish farming—which can either be seed, feed, fish production or value addition for investment to maximize profit,” he added

The trainees expressed gratitude for the training and promised to put what they had learnt into practice ■

“Identify the best value chain component in fish farming for investment to maximize profit”

Mr. Muhoozi

AGRIBUSINESS DEVELOPMENT

Exposure visits enhance agripreneurs learning

According to Dr. Cassius Aruho, the training coordinator for agripreneurs, who trained in fish farming aspects between January 13 and 23 at Kajjansi Aquaculture Research and Development Center, participants were trained in various practical and theoretical topics.

The trainings were conducted in a participatory manner—with 25 per cent being theoretical and 75 percent practical.

“The trainees visited Pearl Aquatics, Kati Farms and local feed processors in Wakiso and Kampala to learn about business perspectives from practicing aquaculture business entrepreneurs,” says Dr. Aruho.

The exposure visits helped the trainees to learn about value addition of farmed fish, packaging, branding, promotion and marketing strategies, as well as appropriate equipment and machinery for fish feeds.

Some of the topics covered, during the training include:

- Overview of the world and Uganda aquaculture production
- Site suitability for different production system—that is ponds, cages and tanks
- Designs and layout of the different

The trainings were both theoretical and practical ■



A trainee feeding feeds to tilapia fingerlings in cages at Pearl Aquatics ■

production systems

- Aquatic health management—disease categories, identification of common diseases of Nile tilapia and African catfish and control strategies
- Breeding of mirror carp, Nile tilapia and artificial propagation of African catfish, harvesting, sex identification, pituitary extraction, induction, stripping, egg fertilization, incubation of eggs, larval feeding and water quality management
- Production of sex reversed all male tilapia using male hormone, use of out of -door concrete tanks for tilapia reproduction, Zoug jars for egg incubation and hatching tilapia fry
- Live feed (Moina and Artemia) production for African catfish fry
- Packaging and transportation of Nile tilapia and African catfish seed
- Set up of fish cages and their management, including feeding, Monitoring and predator control
- Formulation of fish budget enterprises for Nile tilapia and African catfish grow-outs and hatchery production, breakeven price, payback period and importance of record keeping
- Overview of fish nutrition, nutritional requirements of different fish species and development stage, purpose of feeding, feeding biology and how it relates to the development of formulated feeds
- Different types of formulated fish feeds and their application, incomplete feed versus complete feed
- Assessment of fish growth and feed utilization efficiency to determine daily feed ration ■

MWE-FIEFOC PICTORIAL



National Project Coordinator, FIEFOC 2, Mr. John Magezi Ndamira (C) inspecting products of agripreneurs from Northern Uganda



One of the agripreneurs from Kasese district displaying her products during the recently concluded Harvest Money Expo in Kampala



Agripreneurs attending training in aquaculture at Kajjansi Aquaculture Research Development Centre



Mr. Emmanuel Muboozi, coordinator agribusiness component addressing trainees during training in fish farming at Kajjansi Aquaculture Research Development Centre



One of the scheme buildings at Tochii irrigation scheme, Oyam district



Ugandan team studying irrigation systems in South Africa

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IMPLEMENTING PARTNERS

- Ministry of Water and Environment.
- Ministry of Agriculture, Animal Industry and Fisheries.
- 40 District Local Governments that manage integrated natural resources in catchment areas of five irrigation schemes.
- 5 District Local Governments that implement irrigation schemes

DEVELOPMENT PARTNERS



AFRICAN DEVELOPMENT
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ABOUT FIEFOC 2

Farm Income Enhancement and Forestry Conservation Programme-Project 2 (FIEFOC 2) is a five year project (2016-2021), designed within the context of the Government of Uganda's National Development Plan (NDP) and the long term development strategy, the Vision 2040 both of which promote agricultural infrastructure and income enhancement. The project is further designed to assist the Government increase land area under irrigated agriculture from the current 14,418 hectares to about 420,000 hectares by 2035. And it further seeks to consolidate and expand notable achievements registered under FIEFOC 1, which ended in December 2012.

The overall objective of the project is to contribute to poverty reduction and economic growth in Uganda through enhanced productivity and commercialization of agriculture. Specifically, the project aims at improving household incomes, food security and climate resilience through sustainable natural resources management and agricultural enterprise development.

The project has four components, including Agricultural Infrastructure Development, Agribusiness Development, Integrated Natural Resources Management and Project Coordination. The primary project beneficiaries, estimated at 1,816,756 are found in the districts of Pakwach, Oyam, Butaleja, Kween, and Kasese, where five irrigation schemes are being constructed. These include Mubuku II irrigation scheme in Kasese district, Doho II irrigation scheme in Butaleja district, Tochi irrigation scheme in Oyam district, Ngenge irrigation scheme in Kween district and Wadelai irrigation scheme in Pakwach district.

The Ministry of Water and Environment and the Ministry of Agriculture, Animal Industry and Fisheries jointly implement the project. Water ministry is the executing agency, responsible for implementation of irrigation infrastructure and related activities under project component one and the natural resources management activities under component three. While the agriculture ministry is a key implementing partner, responsible for implementation of agronomy and extension related activities and the agri-business development.

FACTS & FIGURES

Project Objective: To improve household incomes, rural livelihoods, food security and climate resilience through sustainable natural resources management and agricultural enterprise development.

Key Financiers: African Development Bank (AfDB), Nordic Development Fund (NDF) and Government of Uganda.

**91.43
million**

Total Project Cost in millions of dollars. (UgX 327.6 billion)

40

Number of Project Locations (districts).

5

Number of Catchments.
Number of Irrigation Schemes.
Number of Districts Implementing Irrigation Schemes.

1,816,756

Total Population of Districts Implementing Schemes.

100

Number of Youths Targeted under ENABLE Youth Program for financial support

158

Number of Youths so far trained under ENABLE Youth Program.

15,000

Number of Farmers Targeted for Capacity Building under Climate Smart Agriculture.

4,300,000

Number of Assorted Tree Seedlings distributed to farmers.

120

Length of River Banks Restored in kilometers.

7,000

Acreage of forest cover restored in hectares

1,000

Potential bee keepers and processors identified in Tochi watershed

9

Agripreneurs trained in fish farming