



# MINISTRY OF WATER AND ENVIRONMENT

## FARM INCOME ENHANCEMENT AND FORESTRY CONSERVATION PROGRAMME

*Promoting Irrigation for Enhanced Income & Agricultural Productivity*

# FIEFOC-2 creates over 400 jobs for youth

## FIEFOC-2 FARM INCOME NEWSLETTER

**F**arm Income Enhancement and Forestry Conservation Programme – Project 2 (FIEFOC 2) has created 442 jobs for the youth under its “ENABLE Youth Uganda program” at various irrigation catchment areas, including Mubuku II in Kasese district, Doho II in Butaleja district, Tochi in Oyam district, Ngenge in Kween district and Wadelai in Pakwach district.

A mid – term report 2021 on the performance of the ENABLE youth program indicated that 296 jobs were created for men and 146 for women respectively.

ENABLE, which stands for “Empowering novel agribusiness led employment” is a pilot project of the African Development Bank (AfDB) with support from the Nordic Development Fund (NDF).

The youth program focuses on young entrepreneurs in the agricultural sector. It also aims at creating opportunities for youth agri –preneurs to upgrade their technical skills, adopt innovative agricultural management practices and access expansion capital with a flexible program design.



*Youth agripreneurs in a photo session at the end of their training and mentoring program*

The youth are faced with numerous challenges, including limited job opportunities, inadequate employable skills and skills mismatch, limited access to productive assets, and early marriages, which force them into informal agricultural practices.

According to the National Development Plan II, youth unemployment remains at 78%.

Nonetheless, FIEFOC 2 has supported 103 youth agripreneurs – with funding totaling to UGX 2.3 billion in support of their enterprises. These youth are engaged in various enterprises, including grains and pulses,

horticulture, apiculture, aquaculture and Information Communication Technology (ICT) for agriculture.

The funds are advanced to the youth in form of loans, payable at an interest rate of 5% per annum for a period of 24 months.

It is expected that all repayments, including interests will be collected to create a revolving fund by the Government of Uganda through the Ministry of Water and Environment

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## AGRICULTURAL INFRASTRUCTURE DEVELOPMENT

# FIEFOC 2 recognised for contribution towards vision 2040

**T**he Visionaries of Uganda has specially recognized Farm Income Enhancement and Forestry Conservation Programme – Project 2 (FIEFOC 2) as the best government water project in 2020.

The award was bestowed upon FIEFOC 2 during the 8th Visionaries of Uganda award ceremony held late 2020 at Serena Hotel in Kampala. According to the Visionaries of Uganda, FIEFOC 2 was recognized for its outstanding contribution towards the aspiration of Uganda to become a middle income country and realize Vision 2040.

Over the last eight years, the Visionaries of Uganda has conducted surveys and generated reports on the contribution of various organizations, agencies, personalities and projects toward the realization of Uganda Vision 2040.

The Visionaries of Uganda is a private development consultancy firm that

*The survey focused on rural livelihood improvement, where FIEFOC 2 scored 94%; project visibility, 80%; contribution towards Vision 2040, 92%; sustainable natural resources management, 82%; food security and climate resilience, 95% and agriculture infrastructure development, 90%■*



*Water Engineers, Irrigation Experts, and African Development Bank Team mapping out strategy for construction of Wadelai irrigation scheme■*

promotes Uganda Vision 2040 and other initiatives in partnership with the Government of Uganda, private sector and development partners through public private partnership. According to its team leader, Mr. Job Mwesigwa, the selection process involves conducting research, assessing and evaluating the nominated organizations by a team of researchers, which then present them to the Advisory Board for the final selection and award in different sectors. During the research, various respondents, including farmers, institutions, communities and stakeholders are interviewed about the role and contribution of the nominated organization towards Uganda Vision 2040.

In respect of FIEFOC 2, respondents were surveyed between September 10, 2019 and August 15, 2020 in the districts of Nebbi, Kasese, Oyam, Butaleja and Kween. According to Mr. Mwesigwa, the survey focused on areas such as rural livelihood improvement, where FIEFOC 2 scored 94%; project visibility and performance, 80%; contribution

towards Uganda Vision 2040, 92%; sustainable natural resources management, 82%; food security and climate resilience, 95% and agriculture infrastructure development, 90%.

The project team received the news of the award with great excitement as evidenced by the conversations on the project social media platform, the WhatsApp Group.

"Thank you colleagues for your contribution towards this recognition," says Mr. John Magezi Ndamira, the National Project Coordinator, FIEFOC 2, while posting a congratulatory message on WhatsApp alongside the certificate of recognition.

Eng. Ronald Kasozi, FIEFOC 2's coordinator of agriculture infrastructure development component congratulated project team with the words "cheers team", while Eng. Dominic Mucunguzi, Co-coordinator AID expressed gratitude with the words "well done team■"

## AGRICULTURAL INFRASTRUCTURE DEVELOPMENT

# Construction of irrigation scheme near completion

**O**ver the last five years, 2016-2021; the Ministry of Water and Environment in collaboration with the Ministry of Agriculture, Animal Industry and Fisheries through the Farm Income Enhancement and Forestry Conservation Programme – Project II (FIEFOC -2) embarked on developing five medium size, gravity-fed irrigation schemes across the country.

The schemes include Mubuku II irrigation scheme, which measures 480 hectares in Kasese district; Doho II irrigation scheme, which is approximately 1,080 hectares in Butaleja district; and Tochi irrigation scheme, which is 500 hectares in Oyam district.

Others are Ngenge irrigation scheme, which measures 880 hectares in Kween district; and Wadelai irrigation scheme, estimated at 1,000 hectares in Pakwach district

With financial support worth \$ 91.43 million (shs 327.6 billion) from the African Development Bank, Nordic Development Fund and counterpart funding from the Government of Uganda, the project development objective is to improve household incomes, food security and climate

*The project aims at contributing towards increasing irrigable land area from the current 15,000 ha to 420,000 ha by 2035* ■



*Concrete lining of the main canal at Wadelai irrigation scheme, Pakwach district* ■

resilience through sustainable natural resources management and agricultural enterprise development.

The project also aims at contributing towards government's effort to increase irrigable land area from the current 15,000 hectares to 420,000 hectares by 2035.

It is envisaged that in the long run these efforts will contribute towards poverty reduction through enhanced agricultural productivity and commercialization.

Apart from Mubuku II and Doho II irrigation schemes that had a history of water irrigation and farmer cooperative societies in the early 1970s, the rest had none, especially Wadelai, Tochi and Ngenge irrigation schemes.

Undoubtedly, these schemes provide huge opportunities for the farmers, especially the youth and women - in terms of employment creation, access to market and credit facilities, and promotion of social networks.

The schemes are used for promotion of high value crops such as rice and horticulture.

This means farmers in these schemes have to be trained in agronomic

practices, soil and water conservation, as well as agroforestry and conservation farming.

Since 2016, when the construction of the various irrigation facilities were handed over to the contractors, significant physical progress has been registered.

According to Eng. Ronald Kasozi, Coordinator for Agricultural Infrastructure Development component the schemes are almost near completion – with physical progress at Ngenge irrigation scheme standing at 100%, Tochi at 100% Doho II at 95%, Mubuku II at 99%, and Wadelai at 78%.

"This could be attributed to the intensified contracts management and supervision, coupled with appropriate re-scheduling of site activities and materials," Eng. Kasozi said. "These measures have resulted in increased site works' productivity and efficiency, and have curtailed the effects of both unfavourable weather conditions and the COVID-19 outbreak."

Once completed, the schemes will be used for promotion of high value crops such as rice and horticulture, as well as apiculture and aquaculture ■

## AGRICULTURAL INFRASTRUCTURE DEVELOPMENT

# About the five gravity – feed irrigation schemes

**T**he five–gravity fed irrigation schemes; Mubuku II in Kasese district, Doho II in Butaleja district, Ngenge is Kween district, Tochi in Oyam district and Wadelai in Pakwach district are constructed under the Agricultural Infrastructure Development component of the Farm Income Enhancement and Forestry Conservation Programme – Project 2 (FIEFOC 2).

The project has four major components. These include agricultural infrastructure development component, agribusiness development component, integrated natural resources management development, and project management and coordination component.

However, the objective of agricultural infrastructure development component is to increase irrigation capacity, increase and sustain farm productivity, and improve incomes and food security.

The component also supports establishment of community or farmer based institutional capacity to sustain,

*AID component also supports establishment of community or farmer–based institutional capacity to sustain, maintain and manage the schemes ■*



*Concrete lining of water canal at Wadelai irrigation scheme ■*

maintain and manage constructed schemes.

**Tochi Irrigation Scheme** is located in Oyam district, and covers a total area of about 500 hectares. The main source of water for the scheme is River Tochi, which averages an annual discharge of between six and 38 cubic meters per second that is sufficient to support the irrigation intervention. Construction work for the scheme has attained substantial physical progress of 100%. Currently, the work is under Defects Liability Period. Flooding of the “command area” has impeded farmers’ utilization of the scheme, resulting into back flow of water from the river reach downstream the command area, which was not opened up. The Project has undertaken opening up of this reach, augmented with river training and bank protection for the river section traversing the command area.

**Mubuku II Irrigation Scheme** is located in Kasese district, and covers a total area of about 480 hectares. The main source of water for the scheme is River Nyamwamba, which has an average

annual discharge of between two and 11 cubic meters per second – sufficient to support the irrigation intervention. The physical progress of the scheme stands at 99%. It is currently under the Defects Liability Period. Farmers’ utilization of the scheme awaits completion of the repair work for the headworks (Tyrolean Weir) occasioned by the recent flood damages. This will be followed by diversion of the river back to its natural course, and onward abstraction of irrigation water for the scheme.

**Doho II Irrigation Scheme** covers a total area of about 1,178 hectares. The scheme is located in the eastern district of Butaleja. The main source of water for the scheme is River Manafwa, which has an average annual discharge of between five and 13 cubic meters per second – sufficient to support the irrigation intervention. Construction work for the scheme infrastructure and facilities attained substantial completion – physical progress of 95% on November 10, 2020. The scheme

## AGRIBUSINESS DEVELOPMENT

# FIEFOC 2 trains over 900 farmers in agroforestry

**F**arm Income Enhancement and Forestry Conservation Program – Project 2 (FIEFOC 2) has trained a total of 956 farmers in agroforestry and conservation farming in the five irrigation catchment areas of Mubuku II, Doho II, Wadelai, Tochi and Ngenge.

Out of the 956 farmers trained, 169 were trainer of trainers, comprising 128 male and 41 female. While 790 were farmers, comprising 527 male and 263 female.

The trainer of trainers – which was conducted between September 23 and October 21, 2020, targeted technical and extension staff at the district local government level. While farmer level training, which was conducted from 12 – 23 December 2020, targeted farmers and organized groups at the district levels located within the five catchments.

The training was conducted under the third component of FIEFOC's integrated natural resources management – with technical supervision from the team of Patricos Enterprise Limited, a private consultancy firm.

The overall training objective was



*Training organized at model farmers' home in Lira district ■*

to build capacity of relevant local government staff and selected members of the community within the five catchment in agroforestry and conservation farming.

It also aimed at establishing demonstration villages, especially around the proposed irrigation schemes so that agroforestry and conservation farming technologies are appreciated and adopted.

### Training gaps

Prior to the training, the following gaps were identified – limited knowledge and information about agroforestry and conservation farming in the selected catchments; limited skills in rolling out agroforestry and conservation farming

by farmers living close to the irrigation schemes; and limited demonstration opportunities at the community level so as to compel them to adopt the technologies,

Other gaps include limited linkages between agroforestry and conservation farming in irrigation agriculture; limited understanding of agribusiness approaches for livelihoods improvement, yields, income generation and well-managed eco-systems; and limited understanding of gender roles, responsibilities, tenure rights and equity in decision making that enhances agroforestry and conservation farming.

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### *From page 4: About the five gravity-feed irrigation schemes*

is currently under the Defects Liability Period. Farmers' utilization of the scheme has commenced. .

**Wadelai Irrigation Scheme** covers a total area of about 1,000 hectares. The scheme is located in Pakwach district. The main source of water for the scheme is River Ora, which has an average annual discharge of between 14 and 41 cubic meters per second

- sufficient to support the irrigation intervention. Construction work for the scheme infrastructure and facilities commenced late November 23, 2018 and the physical progress is at 78%.

**Ngenge irrigation scheme** is situated in Eastern Uganda, Kween district; covering a total area of about 880 hectares. The main sources of water for the scheme are River Kibajiria and River

Ngenge, which average a combined annual discharge of between one and six cubic meters per second – sufficient to support the irrigation intervention. Construction works for the scheme infrastructure and facilities attained substantial completion of 100% physical progress on July 15, 2020. The works are currently under the Defects Liability Period. Farmers' utilization of the scheme has commenced. ■

## INTEGRATED NATURAL RESOURCES MANAGEMENT

### *From page 6: 900 farmers trained in agroforestry*

According to the consultant, Patricos Enterprise Limited the training met the expectation of the participants, and it created demand for similar training in districts that were not part of the catchments

"There was a shift in percentages of participants that knew nothing before the training towards those knowing little and much after the training," says the consultant's report. "Because gender challenges are social and are premised on households, participants easily comprehended what needs to be done in consideration of agroforestry and conservation farming."

The consultant added that the training only awakened the consciousness of the participants, and introduce them to new approaches for adoption and implementation of agroforestry and conservation farming.

However, there was a challenge that faced the consultant – the need for the establishment of demonstration plots at each village.

### **Recommendations**

The consultant, therefore, recommends that within the host districts, demonstration of technologies should be undertaken to anchor the knowledge and skills attained;

It further recommends that the trained officers should integrate agroforestry and conservation farming in their district and sub-county planning processes for budget support; the local governments should devise mechanisms for enhancing adoption and implementation of agroforestry and conservation farming; and institutional collaboration should be enhanced among different institutions, including both public and private entities to deliver on agroforestry and farming conservation fronts■

# Mitigating adverse effects of climate change through irrigation



*Landslide in Eastern Uganda ■*

**G**lobal warming has resulted into adverse climate changes that are negatively affecting the agriculture sector and the entire economy as a whole. According to International Fund for Agricultural Development (IFAD), irrigated land produces 40% of global food and as global warming intensifies, more investment will be required to expand irrigation development.

Since 2015, Uganda's irrigation has increased at a rate of 0.5% compared to 4.1% in Kenya; 2.7% in Burundi; 3.6% in Tanzania and 11.4% in Rwanda. This implies Uganda's level of irrigation is still low compared to other East African countries and its existing potential. Although Uganda's irrigation potential is estimated at 3.03 million hectares, only 15,000 hectares (0.5%) is under irrigation.

### **Effects**

According to experts Uganda's

agricultural performance has been constrained by frequent occurrences of severe drought and flooding particularly over the last 20 years. For instance, in 2010 drought accounted for 38% loss in beans harvest and 36% loss in maize harvests, thereby contributing to food insecurity and poverty. A study by the Office of Prime Minister estimated a loss and damage of UGX 2.8 trillion (US\$ 1.2 billion) to the Ugandan economy, equivalent to 7.5% of the country's GDP in 2010 due to erratic rains. A Status of Environment Report 2014 further indicates that on average 800,000 hectares of crops are destroyed every year by climate-related events. This means for millions of smallholder farmers in Uganda, access to irrigation water is a dividing line between poverty and wellbeing. One key strategy that could contribute to the alleviation of poverty and improvement in food security is assisting the poor farmers to access irrigation water as and when required.

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## INTEGRATED NATURAL RESOURCES MANAGEMENT

*Continued from page 6: mitigating effects of climate change*



*FIEFOC 2 promotes planting of teak trees in Wadelai irrigation catchment as a mitigation measure to adverse effects of climate change ■*

The adoption of irrigation technologies will enable farmers to irrigate their small plots, boost crop harvests, and family incomes and nutritional health. Irrigation, therefore, is one of the responses to the adverse effects of climate change in the agricultural sector and if no action is taken the cost implications are high.

### Need for irrigation

The Ministry of Water and Environment projects that between 2010 and 2050, the cost of damages arising from failure to apply irrigation will be in the range of between US\$ 140 and US\$ 260 billion. The need for irrigation across the country is crucial. Securing availability of water for agriculture will guarantee food security and the livelihoods of the farmers, including the most vulnerable groups and addresses the need of the very poor in society. Well-developed irrigation infrastructure and good water management, can increase yields by two to five times for most crops.

### Interventions

It is in line with the above considerations that the Ministry of Water and

Environment through the Farm Income Enhancement and Forestry Conservation Programme- Project 2 (FIEFOC 2) embarked on construction of five –gravity fed irrigation schemes at Mubuku II in Kasese district; Doho II in Butaleja district; Tochi in Oyam district; Ngenge in Kween district; and Wadelai, Pakwach district. With financing from the African Development Bank, Nordic Development Fund and the Government of Uganda worth US\$ 91.43 million; the objective of the project is to improve farm incomes, rural livelihoods, food security and climate resilience through sustainable natural resources management and agricultural enterprise development.

Once completed, the five irrigation schemes - Mubuku II, Doho II, Tochi, Ngenge and Wadelai - will contribute a total of 4,080 hectares to the national acreage of irrigable area. It will also assist the Government in increasing land area under irrigated agriculture from the current 14,418 hectares to about 420,000 hectares by 2035.

### Project beneficiaries

Project beneficiaries, comprising

smallholder farmers and farmer groups, as well as youth and women have been equipped with agronomic and entrepreneurial skills to increase their farm productivity. For instance, under the project's agribusiness development component, a total of 103 youth, have been supported with funds worth UgX 2.3 billion for financing their businesses, including purchase of equipment and boosting of their operational capital. These are mainly youth between the age of 18 and 35, who reside within the five irrigation scheme catchment areas.

According to the Ministry of Water and Environment's National Water Resources Assessment Report (2013), the sum of the external and internal renewable surface water resources – that is the average annual river flow generated from precipitation in Uganda amount to 43.3 billion cubic meters per year.

### Utilization of water rate

However, the utilization rate of the entire renewable surface water resources is mere 0.01%.

The experts predict that if the full irrigation potential is exploited, the demand for water would increase by over 400% by 2030, translating into a utilization rate of renewable water resource of just 0.05%. This low level would lead to sustainable irrigated agricultural development in the country.

In recognition of this potential, the Government through the Ministry of Water and Environment has committed itself to scaling-up investments in irrigation infrastructure development in order to increase agricultural production and productivity, and mitigate the effects of climate change ■

# MWE-MAAIF-FIEFOC PICTORIAL



*Project Steering Committee members inspecting Kabajiria water headworks at Ngenge Irrigation Scheme, Kween district ■*



*Farmers undergoing training in agroforestry and conservation farming in Mbale ■*



*Completed head regulator at Doho irrigation scheme, Butaleja district ■*



*Farmers practicing rice harvesting at Wadelai irrigation scheme under agronomy ■*



*Secondary canal being cleaned to receive water at Mubuku II irrigation scheme ■*



*A farmer explaining to fellow farmers what they had learnt after field visit to Kibimba Rice Scheme ■*



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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  
BANK GROUP



Nordic  
Development  
Fund

## 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.

**91.43**

Total project cost in millions of dollars. (UgX 327.6 billion)

**40**

Number of project Locations in districts.

**5**

Number of catchments.  
Number of irrigation schemes.  
Number of districts implementing irrigation schemes.

**56**

Kilometers of scheme roads constructed

**1,816,756**

Total population of districts implementing schemes.

**175**

Number of Youths so far trained under ENABLE Youth Program.

**103**

Number of agripreneurs approved for funding.

**15,000**

Number of farmers targeted for capacity building under Climate Smart Agriculture.

**4,300,000**

Number of assorted tree seedlings distributed to farmers.

**324**

Length of river banks restored in kilometers.

**4,293**

Acreage of forest cover restored in hectares.

**8,575**

Number of farmers trained in post harvest handling.

**3,267**

Number of farmers trained in apiculture

**2,862**

Number of farmers trained in financial accessibility

**125**

Number of trainer of trainers trained in handling different horticultural groups ■