



THE OASIS NEWSLETTER

A Publication from the Office of the Vice-Chancellor



UPCOMING EVENTS

26/07/2023 - 30/07/2023:
KISUMU ASK SHOW

*“Promoting Climate Smart
Agriculture and Trade
Initiatives for Sustainable
Economic Growth”*

INSIDE

- » JOOUST VLIR-IUC Sub - Project III engages gear for field survey
- » Electricity from Human Waste
- » JOOUST participates in AfriFOODlinks consortium

JOOUST VLIR-IUC SUB - PROJECT III ENGAGES GEAR FOR FIELD SURVEY



Project members listening in on the consolidated representation of the baseline survey tools by one of the Ph.D. students Mr. Japheth Ogot

The JOOUST VLIR-IUC Sub-project III on Building Capacity for Research, Management and Control of Communicable and Non-communicable Diseases in the Lake Victoria Basin embarked on a two-day workshop on Data collection tools validation between 13th-14th July, 2023 held in Kisumu at the Kisumu Hotel.

The workshop was officially opened by the Ag. Deputy Vice Chancellor Academics, Student Affairs and Research, Prof. Denis Ochuodho who is also the Local coordinator of the Project. While giving his

remarks, Prof. Ochuodho thanked members for their immense commitment towards steering the project indicating the need to identify the key areas of the University interest at this initial stage such as academic programmes enriching the University's research base. He also commended the team for indulging key departments, urging on the importance of visibility as a requisite for maximum impact through progress and success stories. In closing, Prof. Ochuodho challenged the team to consider community practices such as mining and its health implications, adding that sub-projects I

and III can work together to find a solution for this.

The team comprised of the Project lead Dr. Jane Owenga, Dean, School of Health Sciences Prof. George Ayodo, Dean, School of Informatics and Innovative Systems, Prof. Solomon Ogara and key project members including three PhD students that have been sponsored by the Project to conduct research. The purpose of the baseline survey is to establish the starting point for monitoring and evaluating the impact of the Project. The students who later made a consolidated presentation

of their tools, were taken through the baseline survey and validation tools that built a base for the discussions. The tools to be used include Informed consent forms, Non-Communicable Diseases (NCD)-Knowledge, Attitude and Practices (KAP) Form, Focus Group Discussions (FGD) Guide, KAP Primary Health Care Provider, Caseload Data Abstraction Tools, Client exit Interview, and Health Facility (HF) background survey.

The sampling will be undertaken in the entire project transects including Kisumu, Siaya, Homabay and Uasin Gishu Counties starting from the County Referral Facilities (level 5), to the community facilities. Some of the Sub-Counties to be surveyed include Alego, Ugunja and Kisumu Central where sampling will be in thirty facilities. So far, consent from the relevant county and health authorities has been granted for the prevalent areas namely Kisumu and Siaya Counties. Various cadre of respondents shall be interviewed including nurses, doctors, clinicians, support staff and Focus Group Discussions (FDG) totaling to 315 health

workers with an additional selection of 379 clients. The piloting is to be done in Homabay Town and Karachuonyo Sub-counties of Homa bay County JOOUST VLIR-IUC Project has its objectives spread across ten to twelve years with the mid-term objectives spanning five years. Part of the long term objectives include coming up with policies for capacity building.

Sub-project III aims to build capacity for early stage researchers and mid-career professionals for Cervical Cancer, liver cancer, Type 2 Diabetes and HPT through short courses, post-graduate training and post-doctoral programmes; To estimate prevalence of Cervical Cancer, liver cancer, Diabetes II and Hypertension in Lake Victoria Basin; To establish state of the art research laboratory for Cervical Cancer, liver cancer, Diabetes II and Hypertension; To establish a registry for monitoring targeted Non-Communicable diseases (Cervical Cancer, Liver Cancer, Diabetes II and Hypertension) and To establish a Nursing and midwifery programme.

So far, the Sub project has received a donation of research laboratory equipment from Belgium giving the project a headstart on its long term goal of acquiring research equipment and infrastructure.



Prof. Dennis Ochucho (Centre), Ag. Deputy Vice-Chancellor Student Affairs and Research and project local coordinator sharing the project's overall objectives



Mr. Oscar Osika, JOOUST VLIR-IUC Project Manager addresses the team on desired outcomes from the long-term and short-term goals of the project.



Participants reviewing the documents shared during the baseline survey tool presentation.



CS Marion Nyapola, project member and project secretariat leading the evaluation and feedback session.

POWER AT LAST – ELECTRICITY FROM HUMAN WASTE



Locally assembled Power distribution point

It is disgusting, nobody relishes talking about it, and in case of poor disposal, no one is bold enough to claim its ownership. However, for Vincent Owino Odero, this is a different story. Human waste, specifically human stool, is such a precious raw material for his renewable energy project.

At the tender age of 20, Vincent Odero, a second year Bachelor of Science in Information and Communication Technology student at Jaramogi Oginga Odinga University of Science and Technology, decided to actualize his dream of illuminating his home by producing electricity using human waste. Vincent has

managed to install locally assembled transformer in their family compound by tapping and converting human waste energy from their pit latrine to electricity. His project is able to light their home together with other six neighbouring homesteads.

Vincent says that he used to hear stories about the potential human waste as a form of energy but the first time he confirmed this was when their sheep fell in an old pit latrine and got scalded. From there he was inspired to find out how he could convert that heat energy to electric energy. He came up with a device he calls a “thermocouple” that

helps him convert heat from human waste into electricity and another one that converts hydrogen in human urine into electric power. Both gadgets combine to produce electricity of 12-voltage Direct Current which is then converted to 240 Volts of Alternating Current and which is further boosted to high voltage to take care of the power loss during transmission.

Vincent is grateful for the knowledge he got while in form three in his physics classes which ignited the idea of making electricity. He says that his admission and academic experiences at Jaramogi Oginga Odinga University of Science and

Technology have now made it so easy for him to not only advance but also actualize his dream.

The last born in a family of four hopes to patent the project and subsequently upscale it to the point of requiring an oil-cooled transformer which can handle higher power voltages. Other challenges that he is looking forward to address include rain water seeping through the latrines and diluting the mixtures hence low power production, and using recommended materials that are approved by the government.

Vincent's Innovation is an eye opener to many students in the campus and beyond who have been challenged to be creative enough to use locally available materials in solving human problems and alleviating people's challenges in society.



Vincent Owino Odera -BSc. ICT Student



Locally assembled and installed Transformer



Pit Latrine



Power Converters installed in a Pit Latrine

JOOUST PARTICIPATES IN AFOODlinks CONSORTIUM



The AfriFOODlinks consortium of 26 partners and 20 cities gathered in Kisumu, Kenya from 19th-23rd June, 2023 for their first in-person meeting.

African cities lead the way into a new era of food system collaboration. Last month, Mayors, City officials and global experts gathered in Kisumu, Kenya, to chart a new path for food systems research in Africa. The meeting marked a significant milestone in the ambitious urban food systems project, AfriFOODlinks, and served to inspire collaborative and innovative action on food systems governance across the continent.

Africa's urban population is currently experiencing rapid growth. From an estimated 200 million (31% of Africa's total population) in 1990, it rose to 548 million (43%) in 2018 and is projected to reach 1,489 million (59%) by 2050. This urbanisation trend places

cities and their governments at the centre of efforts to address high levels of food insecurity, poverty, and malnutrition. Over the next four years, AfriFOODlinks aims to connect with and meaningfully impact at least 65 cities, in the process establishing a foundation for ongoing collaboration and knowledge sharing between cities in Africa and Europe.

In his opening address to the immersive four-day gathering in , the Governor of Kisumu County, His Excellency Professor Anyang' Nyong'o reiterated, "the future of Africa is urban, and we need to think critically about how to feed our growing populations. We must look at the whole food value chain and the links between urban and rural."

AfriFOODlinks is ground breaking in that it is one of the largest EU Horizon Grants to have been awarded to a consortium led by African Institutions. This African leadership of African research marks an important milestone in Africa's knowledge sovereignty.

Emphasizing on the importance of creating and strengthening linkages between actors in different regions, Kobie Brand, Regional Director of the International Council for Local Environmental Initiatives (ICLEI) Africa, stressed that "Local government has a key role to play in driving global sustainability. ICLEI Africa is delighted to be coordinating such an ambitious project, which seeks to empower local governments, their partners, and their citizens by changing the way we do research, make decisions, and resource businesses and infrastructure development."

Resourcing and capacity building of city officials and local governments is an essential aspect of transforming urban food systems. AfriFOODlinks will promote inclusive multi-

actor governance, equipping public officials with the necessary tools to effectively shape their food systems. As Paul Currie, Associate Director of ICLEI Africa, notes “Cities learn best from each other and by incorporating local knowledge into policy development, the project aims to empower both citizens and city officials to take more effective action in their cities.”

The project aims to facilitate collaboration and co-learning among cities, recognising that there is no one-size-fits-all solution to address challenges faced by urban food systems. By sharing knowledge and developing contextually relevant solutions, AfriFOODlinks seeks to enhance the resilience of food systems and improve access to nourishing foods.

As part of its efforts, AfriFOODlinks is curating a crowd-sourced centralized knowledge repository for key resources about urban food systems. The knowledge hub will showcase a variety of resource types, including photo essays, poetry, city strategies and policies, reports, infographics, and more. These diverse forms of knowledge and

creative storytelling, often overlooked in mainstream research, provide vital information about our experiences of food systems and the food systems themselves.

The Kisumu meeting also saw delegates commit to a bold plan of action which included support to small businesses and the youth. Under this plan of action, cities and their partners will accelerate the growth of innovative, women- and youth-led agri-food businesses; and launch a youth ambassadors’ programme which will equip youthful ambassadors

from project cities to take action and connect them with city decision-makers and channels for making positive change in their cities.

Urban food systems need bold transformation. AfriFOODlinks creatively unlocks this transition and will drive change in over 65 cities. Bringing together more than 26 partners from across Africa and Europe, this four-year project is funded by the European Union and coordinated by ICLEI Africa. For more information about AfriFOODlinks, please visit: www.afrifoodlinks.org



AfriFOODlink Project Collaborating Institutions

PICTORIALS



Dr. Solomon Omwoma Lugasi (Senior Lecturer, JOOUST) attends the Research to commercialization workshop held at Best Western Hotel, Westlands, Nairobi between 17th-21st July, 2023 sponsored by Kenya National Innovation Agency and Victoria Ventures. The aim of the workshop was to help the university commercialize its products.



Participants share light moment during the workshop

PICTORIALS



Staff exchange program between JOUST to Makerere University sponsored by Inter University Council of East Africa (IUCEA) in 2023.



The presentations were made at Kyambogo University in Uganda.



A visit to a coffee farmer in Bwindi western Uganda to gain insight on agronomic practices while establishing a working relationship between the laboratory and the field held on 11th June, 2023.

The Oasis

**A Newsletter of Jaramogi Oginga Odinga
University of Science and Technology**

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Institutional Commercialization workshop held at Lake Naivasha Resort on 10th and 11th July, 2023 attended by The Vice chancellor, Prof. Joseph Bosire, Dr. Elijah Museve, (Directorate of Enterprise Services (JOOUSTES)), Dr. Richard Magwanga, (Directorate of Research, Innovation and Partnership (DRIP)), and Dr. Solomon Omwoma (School of Biological, Physical, Mathematical and Actuarial Sciences). The workshop was a close out meeting on a commercialization pathway for JOOUST, where a master plan for commercializing the University products was rolled out.

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