



Message from the Director of WACWISA



Prof. Felix K. Abagale, Director of WACWISA

The West African Centre for Water, Irrigation and Sustainable Agriculture (WACWISA) at the University for Development Studies (UDS) established in 2019 as a Centre of Excellence is currently training its 2nd Cohort of students in the field of Irrigation and Drainage Engineering and, Environmental Management and Sustainability. In this first edition of WACWISA newsletter, we present to you a summary of events and activities that characterised the year 2020.

WACWISA took opportunities in E-learning thereby minimising the impact of Covid-19 on its activities for the year 2020. Regular and Non-Regular academic activities took place at the Centre. For instance, five (5) day Professional Short Course in Integrated Water Resources Management was organised in collaboration with TU Delft University in Netherlands. The Centre will be seeking to further explore best teaching and learning opportunities in the year 2021 as we strive to deepen our achievements aimed at becoming a leading world-class Academic and Research Centre specialized in Irrigation and Drainage, Water Resources Management, Sustainable Agriculture, Climate Change and Food and Nutrition Security in the Sub-Saharan Region.

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About WACWISA

The West African Centre for Water, Irrigation and Sustainable Agriculture (WACWISA), under the African Centre of Excellence Impact (ACE Impact) with sponsorship from the World Bank and Government of Ghana was established in 2019 by the University for Development Studies (UDS) as a semi-autonomous Centre of Excellence to undertake cutting-edge research and training in Irrigation and Drainage, Water Resources Management, Sustainable Agriculture, Climate Change and Food and Nutrition Security.

WACWISA's vision is to be a leading world class Academic and Research Centre specialized in Irrigation, Water Resources, Sustainable Agriculture and Climate Change, with the aim of developing skills and knowledge of young men and women to provide practical and sustainable solutions to challenges of Irrigation and Drainage Engineering, Water Resources, Climate Change, Sustainable Agriculture and Food and Nutrition Security in Africa.

WACWISA Partners TU Delft University in Professional Short Course on Integrated Water Resources Management In Africa



A section of Participants on a virtual platform during the training

A five (5) day virtual and participant field led Professional Short Course in Integrated Water Resources Management was organized by WACWISA, in partnership with TU Delft University. The training which took place from 30th November to 4th December, 2020 hosted over one hundred participants from Ghana and other parts of the world.

Prof. Felix K. Abagale, the Director of WACWISA in his opening remarks reiterated the Centre's commitment in harnessing electronic and non-electronic opportunities in providing academic and technical training for professionals and students in the field of Water, Irrigation and Drainage Engineering. Welcoming participants to the programme, Prof. Nick Van Giesen, Chair of Water Resources Engineering of Delft University of Technology expressed his delight with the team from Netherlands in partnering with WACWISA in developing the content for the course.

The virtual and participants field led training delivered by different resource persons from TU Delft University and University for Development Studies covered topics of Climate Change and the Hydrological Cycle, River & Dam Management, Water Retention/Harvesting, Water Recovery, Smart Irrigation and Urban Water Distribution Networks. Resource persons for the training included Prof. Gordana Kranjac-Berisavljevic, Prof. Abdul-Ganiyu Shaibu, Prof. Felix K. Abagale, Prof. Jules van Lier, Prof. Nick Van d Giesen and Dr.Ir. Doris van Halem.

Sod Cutting Ceremony For WACWISA Office Complex

The Vice-Chancellor of the University for Development Studies (UDS), Prof. Gabriel Ayum Teye, on 3rd November 2020, cut the sod for the construction of a three-storey office complex for the West African Centre for Water, Irrigation and Sustainable Agriculture (WACWISA), at the Nyankpala Campus of the University. The project is funded by the World Bank and the Government of Ghana (WB/GoG), under the African Centres of Excellence Impact (ACE Impact) initiative. The construction which is expected to be delivered in sixteen (16) months is being executed by a Ghanaian construction firm, Larata Company Ltd. When completed the facility will house offices, laboratories, lecture halls, library, meeting and conference rooms. The use of the building is expected to contribute to delivery of excellence in teaching, learning and research, especially in Irrigation and Drainage Engineering, Water Resources Management, Climate Change, Sustainable Agriculture and Food and Nutrition Security.

At a short ceremony to handover the site to the contractor at the Nyankpala campus of UDS, the Vice-Chancellor lauded the Government of Ghana for supporting UDS to benefit from such a project. He said hosting a Centre of Excellence is a huge approval of UDS as a unique university of choice for learning and research. He encouraged the contractor to ensure high quality standards in executing the project, befitting a Centre of Excellence.



Prof. Gabriel Ayum Teye, Vice Chancellor of UDS , cutting sod to pave the way for construction of WACWISA office Complex at UDS Nyankpala Campus



Artistic image of WACWISA office Complex



Prof. Gabriel Ayum Teye-Vice Chancellor of UDS ,Prof. Felix K. Abagale-Director of WACWISA, Ing. Samuel Abiko - Director, Works and Physical Development (WPD) of UDS and Mr. Kadiri Mohammed Suglo-Managing Director of Larata Company Ltd

Academic-In-Residence Programme

The Academic-In-Residence (Faculty Internship) Programme is an initiative of the West African Centre for Water, Irrigation and Sustainable Agriculture (WACWISA) at the University for Development Studies (UDS) aimed at providing opportunities for Academic-Industry Interactions with the view of creating effective and efficient linkages between research and practice. The Programme affords Faculty the opportunity to help industry solve problems that confront them and vice versa. By having a good appreciation of the problems that confront industry, Faculty are able to better reorient their teaching and research methodologies leading to graduates that meet the needs of industry.



*Prof. Gordana Kranjac-Berisavljevic
in a Validation Workshop with Project Stakeholders*

Dr. Mamudu Akudugu, Senior Research Fellow at the University for Development Studies and the Monitoring and Evaluation Officer at WACWISA shares a summary of his Academic -in- Residence Programme at Presbyterian Agricultural Station (PAS) in Garu, Upper East Region of Ghana. The Senior Research Fellow reveals that, “The motivation for participating in the Academic-In-Residence programme was my personal zeal and commitment to learning from industry in order to improve my research and teaching practices/techniques/methods”.

During his internship, He worked at various units of the hosting company, which included Stores, 2Scale Project, Station Development Unit and Franaya, a subsidiary of PAS. Dr. Akudugu indicated that, “I Supported the Station Development Unit to develop a proposal in response to a call for Covid-19 funds”.

Prof. Gordana Kranjac-Berisavljevic, Deputy Director of WACWISA on the other hand undertook her Academic-In-Residence in the Savelugu District under the Wagrinoa Project (EU Agri Leap) and in collaboration with Wageningen University. She was involved with women and men groups associated with the development of Phone Application on weather forecasting based on scientific and traditional knowledge. According to her “ it was interesting to observe that though more men have access to phones, the few women who had access to phones showed much interest than men in the utilisation of the phones for weather prediction activities.” She reveals that she will continue to provide support for this initiative in areas of seeking external funding for scaling up the project in other parts of the country.

WACWISA-UDS Holds Sectoral Advisory Board (SAB) Meeting

The Sectoral Board of the West African Centre for Water, Irrigation and Sustainable Agriculture (WACWISA) was held on 17th September, 2020 through a virtual platform. The board met to review year one (1) Implementation Plan and affirm the Centre's commitment to 2020/21 Implementation Plan. The Board Chaired by Dr. Emmanuel Chamba lauded the initiative of the Centre in ensuring such a meeting regardless of the challenging period of Covid-19.

The Board discussed issues on Covid -19 and its impact on the activities of the Centre, update on year one (1) Implementation Plan, Students and Faculty Intership and approval of year two (2) Implementation Plan. The following participated in the meeting: Dr. Emmanuel Chamba-Council for Scientific and Industrial Research-Savannah Agriculture Research Institute (CSIR-SARI), Dr. Mike Yaw Osei-Atweneboana-Water Research Institute; Mr. Andrew Nkansah-Ghana Meteorological Agency; Ing. Wilson Darkwah-Ghana Irrigation Development Authority; Professor Juventus Ziem- Fallu Farms;Ing. Busia Dawuni-Integrated Water Management and Agriculture Development; Mr. Ben Ampomah-Water Resources Commission, Dr. Samuel Jerry Cobbinah-WACWISA-UDS; Dr. Mamudu A. Akudugu-WACWISA-UDS and Bernard Alando-WACWISA-UDS.

Inventions and the fight against COVID-19 at UDS

Dr. Courage Kosi Setsoafia Saba, Senior Lecturer and a microbiologist at the University for Development Studies (UDS) identified series of activities to augment efforts in addressing technical and behavioral practices associated with the fight against Covid-19 in Ghana. In his recent research in April, 2020 he revealed that about 54% of sanitizers used in Ghana are ineffective. He has invented and commissioned technologies such as the single and multi-hand washing equipment to augment the fight against Covid-19. His recent invention that seeks to provide alternative, effective and affordable hand cleaning is the Foot Operated Dispenser (FOD). The Senior Lecturer reveals that the FOD has been timely and important in supporting the fight against Covid-19 as academic activities are on-going at UDS.



A sample of the Foot Operated Dispenser

The microbiologist reveals that though the pandemic has stalled socio-economic activities and has affected many aspects of human life, especially fatalities associated with Covid-19, it is important to make use of the opportunity in scientific research and interventions that address diseases associated with microorganisms. The West African Centre for Water, Irrigation and Sustainable Agriculture (WACWISA) recognizes the importance of the inventions and activities of Dr. C.K.S. Saba. With a number of foreign students who are unable to return to their home countries because of Covid-19 and also with ongoing academic activities at the centre, the inventions and complimentary activities will go a long way in ensuring adherence to the protocols and prevention of Covid-19 on campus. Dr Saba has donated some of the FOD to the Tamale Central Hospital and the University which would contribute to prevent Covid-19.

Earlier in April, 2020, a delegation of the University led by the Pro-Vice Chancellor, Prof. Felix K. Abagale had visited some eight (8) paramount traditional leaders to present items in support of the fight against Covid-19 in the Dagbon Traditional Area.

Membership Of Sustainable Water Management Network (RES-EAU/NET-WATER)

WACWISA is member of the Sustainable Water Management Network (RES-EAU/NET-WATER), a network of African Centres of Excellence Impact (ACE-IMPACT) partners with focus on sustainable water resources management in Africa. The network was formed with five (5) ACE-IMPACT partners including:

1. West African Centre for Water, Irrigation and Sustainable Agriculture (WACWISA) at University for Development Studies (UDS), Ghana
2. International Institute for Water and Environmental and Engineering (CEA-2iE) in Burkina Faso
3. African Center of Excellence for Water and Sanitation (C2EA) at University of Abomey-Calavi, Benin
4. Regional Water and Environmental Sanitation Center, Kumasi (RWESCK), at Kwame Nkrumah University of Science and Technology, Ghana
5. African Center of Excellence on Climate Change, Biodiversity and Agriculture (CEA-CCBAD) at Felix Houphouët-Boigny University, Côte d'Ivoire.

The aimed of the network is to promote academic and scientific collaboration among African Centres of Excellence working in the sustainable management of water resources in Africa through scientific research collaboration, students and faculty exchange, joint supervision and internship opportunities.

RES-EAU/NET-WATER is supported by the French National Research Institute – Sustainable Development (IRD), the French Development Agency (AFD), and the Association of African Universities (AAU) as part of four (4) thematic networks funded for a 4-year period (2020 – 2024).

Through this network, WACWISA is currently hosting a PhD candidate in Irrigation and Drainage Engineering, under the joint supervision of Professors from WACWISA, 2iE and RWESCK.

WACWISA Organises Second (2nd) International Conference on Irrigation and Agricultural Development (IRAD 2020)

The West African Centre for Water, Irrigation and Sustainable Agriculture (WACWISA), an African Centre of Excellence, at the University for Development Studies (UDS) held the second (2nd) International conference on Irrigation and Agricultural Development, dubbed 'IRAD 2020'. The 3-day conference, which was under the theme “Water Resources Development for Sustainable Agricultural Systems”, sought to create a platform for the exchange of ideas and knowledge among stakeholders for the development of the agriculture sector in Africa, particularly the irrigated agriculture sub-sector.



A section of participants of IRAD 2020

In his opening remarks, the Pro-Vice Chancellor of UDS and Director of WACWISA, Prof. Felix K. Abagale revealed that the theme of IRAD 2020 contributes well to answering critical questions and achieving the Sustainable Development Goals (SDGs) – SDG 1 – No Poverty; SDG 2 – Zero Hunger; SDG 3 – Good Health Well-Being; SDG 4 – Quality Education; SDG 6 – Clean Water and Sanitation; SDG 12 – Responsible Consumption and Production; SDG 13 – Climate Action and SDG 17 – Partnerships. The theme also takes inspiration from the Africa Unions (AU) Agenda 2063 for inclusive growth and sustainable development of Africa, especially Aspirations 1 (A prosperous Africa based on inclusive growth and sustainable development), 6 (an Africa whose development is people driven, relying on the potential of the African People, particularly its Women and Youth and caring for children) and 7 (Africa as a strong, united, resilient and influential global partner and player). Prof. Felix K. Abagale stated that IRAD 2020 conference received abstracts and participants from Benin, Cameroun, Ethiopia, Ghana, Japan, Nigeria, Togo, United States of America and United Kingdom.

Special Guest of the Conference, the Deputy Minister for Food and Agriculture, Dr. Sagre Bambangi indicated that the theme for the conference was in line with the Government's 'One Village One Dam' policy initiative. He acknowledged that where there is irrigation, there is the need for drainage to remove surplus applied water in order to create a healthy balance. He therefore called on WACWISA to collaborate with relevant stakeholders and build consensus towards irrigation water management for sustained food security in the sub-region. The Minister observed that if irrigation infrastructure were properly provided in many places in the savannah and arid ecological zones of the sub-region, the frequent prolonged drought and flooding would be mitigated. In view of this, he announced that the Government of Ghana had cut the sod for the construction of a multi-purpose dam, strategically positioned at Pwalugu in the Upper East Region to harness floodwaters from the Bagre Dam from Burkina Faso for all-year round food crop cultivation, domestic water supply, rural industrialization and generation of electricity. Dr. Bambangi therefore used the occasion to call on UDS and WACWISA to make their expertise available in support of the Pwalugu Dam project, which has the potential of transforming the irrigated agriculture sub-sector in Northern Ghana.

Partners of the IRAD 2020 Conference include University for Development Studies, Ecobank Ghana Ltd, Bank of Africa, PUMPTech Ghana Ltd, Yara Ghana Ltd, Consolidated Bank Ghana, Amaati Company Ltd, HydroFarm, GliCO LIFE Insurance and GCB Bank Ltd.

Postgraduate Internship Programme

Miss. Kah Kyria Ngiah-Sah and Mr. Tatek Wondimu Negash, from Cameroon and Ethiopia respectively are pursuing MPhil in Irrigation and Drainage Engineering at the University for Development Studies, under WACWISA funded Scholarship. Kah and Tatek are undertaking two (2) months industrial internship with Kukobila-Nasia farms in the Savelugu Municipality of Northern Region in Ghana.

Ms Ngiah-Sah revealed that “It was interesting for me to learn that other crops were identified for production due to unsuitability of the soil for mango farming”. Excited about the learning opportunities in industry, Mr. Negash mentioned that he and her colleague performed various duties under the three (3) systems of irrigations deployed at the farm that is spray tube, centre pivot, and drip systems. They also engaged in post-harvest activities at the farm.

Kukobila-Nasia Farms covers an area of 350 acres developed for commercial crop farming through rain-fed and irrigation agriculture. Currently, the farm operates a mixed system with cattle and crops and some of the crops cultivated are rice, sorghum, soybean and butter nut squash under the three irrigation systems.



Miss Kah Kyria Ngiah-Sah, performing a field activity at Kukobila Farms



Mr. Tatek Wondimu Negash and Miss Kah Kyria Ngiah-Sah and Chief Executive Officer of Kukobila Farms

Mr. Mukaya Muhammudu, WACWISA sponsored student pursuing PhD in Irrigation and Drainage Engineering at the University for Development Studies undertook his two (2) months internship programme with Trans African Supply Services (TASS) at Kampala, Uganda. He was assigned to the Technical Department, Solar and Irrigation Unit where he was responsible for conducting feasibility studies, irrigation system design, and production of bills of quantities and system layout drawings, irrigation system construction, and production of operational manuals.

According to Mr. Muhammudu, “It was a great learning opportunity from the team with diverse technical and administrative backgrounds and learning in operating advanced computer software in the department. My internship with TASS also exposed me to protocols and engagement activities with rural stakeholders in various of project activities”.

TASS incorporated as a private company in 2002 in Uganda is a leading supplier and installer of off grid solar systems in Africa.



Mr. Mukaya Muhammudu and colleague mapping out irrigation command area

WACWISA Students Win 2020 Plant Nutrition Scholar Award

Mrs. Njابه Rita Bonwi and Mr. Richard Kwame Dogbey pursuing MPhil in Irrigation and Drainage Engineering at the West African Centre for Water, Irrigation and Sustainable Agriculture (WACWISA) of the University for Development Studies (UDS) have each received an award prize of US\$ 2,000 from the 2020 African Plant Nutrition Scholar Award.

Mrs. Bonwi, a native of Bamenda in Cameroun is delighted with the opportunity and success in the highly competitive process that led to her selection by a joint committee comprising the African Nutrition Institute (APNI) Morocco, University Mohammed VI Polytechnic (UM6P), and the Office Cherifan des Phosphate (OCP) group. She believes the award will go a long way to facilitate her interest in Agriculture Irrigation and Drainage Engineering, with emphasis on greenhouse farming. She disclosed that, *"It will go a long way to improve the quality of my thesis and also provide a foundation for the adoption of precise application strategies of fertigation for improved agricultural production"*.



Mr. Richard Kwame Dogbey and Mrs Njابه Rita Bowni

From Ghana and a native of Agbozome, Mr. Richard Kwame Dogbey and a proud recipient of the 2020 African Plant Nutrition Scholar Award, he is optimistic and energized to complete his studies in his chosen field. According to him, *"I want to be an expert in this field serving as a lecturer and a consultant after my studies. This award has boost my confidence and desire to achieve more"*.

In a congratulatory message on behalf of the Management of WACWISA, the Director of WACWISA, Prof. Felix K. Abagale indicated that the Centre is proud of their achievement and wish to exalt them to keep working hard towards attaining greater heights and achieving excellence.

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