

ACE for Development Impact (ACE Impact)

2023 Annual Workplan Narrative

(to be submitted along with the attached detailed work plan and budget)

Name of Center	Africa Centre of Excellence for Neglected Tropical Diseases and Forensic Biotechnology
Institution	Ahmadu Bello University, Zaria
Country	Nigeria
Center Leader	Prof Yakubu K.E. Ibrahim
Annual Workplan (Month – Month Year)	January –December, 2023

Narrative

1. **Center highlights in 2022** (maximum of 3 Highlights, maximum 100 words each) In a concise, descriptive statement suitable for public understanding, provide up to three Highlights from the Center accomplishments in the past year. You may attach: weblinks; Press releases; Photographs.

i. Research Output

In spite of the industrial action embarked by academic staff of Nigerian Universities and the constraint caused by it, research activities in the Centre continued unabated resulting in completion of laboratory works by several M.Sc Students with 3 PhD students awaiting their external viva voce. In addition, 105 journal articles were published by students and staff of the Centre. Patency for three research outcomes are being processed (Low cost genotyping method for *Toxoplasma gondii*; Trypanocidal peptide from Snake Venoms and DNA vaccine candidates for Trypanosomiasis) for patenting. Full characterisation of a probable new species of Trypanosomes and *Glucoacenetobacter xylinus* are ongoing.

ii. Short-term Trainings

Two of the five regional trainings for 2022 were carried out (one each in Cote De'ivoire and Uganda). The training in Cote de'Ivoire which held in March 25-29, 2022 was on Molecular Identification of Zoonotic Diseases and Animal Food Security was in collaboration with the Université Jean Lorougnon Guede, Daloa. The Workshop in Uganda held in March 28 – April 2, 2022 at College of Natural Sciences, Makerere University, Uganda was on "Parasite Genetics of Neglected Tropical Diseases". in collaboration with two Workshop trainings were conducted at the Centre which involved virtual and hands-on physical interactions. The virtual trainings had 87 participants.

iii. DLI 7 Accomplishments (Institutional Impact)

The Regional Policy on Staff and Students (DLI7.1) was developed and approved. The Centre has since earned the associated DLR and fund disbursed.

Another major highlight is on DLI 7.4 (PASET Benchmarking). Activities under the Phase I of the DLI has been accomplished. The Centre was able to earn the associated DLR.

The development of the Academic Brief and Strategic Plan of the University for 2022-2026 (DLI 7.5, Milestone 3) was completed and approved by the Governing Council of the University in February, 2022. These documents together with other supporting documents (minutes of the committee meetings, evidence of senate and council approval and appointment letters of the committee members as well as the web-link of the uploaded documents) have been forwarded to AAU for verification and eventual fund disbursement.

2. **Key Center achievements in 2022** (Maximum 500 words) Describe the Key Accomplishments of the Center in the preceding Calendar Year. Focus on: Teaching, Research, Center-level Operations. In addition, comment on how the Accomplishments align with the ACE Impact project Disbursement Linked Indicators (DLIs) and the Center Implementation Plan.

a. Teaching

The development of the curricula for the MSc Forensic Science and Masters in Forensic Science was completed and approved by the School of Postgraduate Studies of the University and resource verified in April 2022 by the National Universities Commission of Nigeria. The School of Postgraduate Studies of the University is to open its admission portal for new intakes in January, 2022. This will lead to increased student enrolment (DLI 3.1).

b. Research Grants

- Three research proposals were submitted to the International Atomic Energy Agency (IAEA) through the Nigerian Atomic Energy Commission (NAEC).
- One proposal submitted to TETFund for National Research Fund grant scaled from concept note to full proposal.
- NIH K43 Grant to Dr Emmanuel Balogun of the Centre- - \$115,000/year and those of APTI (Africa Postdoctoral Training Initiative) of \$226,000 and Chan Zuckerberg Initiative grant of \$818,776 to Dr Idowu Aimola are on stream. Three PhD and one MSc students are recruited under the CZI project and are being fund. In relations to this, Dr. Benedict Anchang and Dr. Allison Motsigner-Reif of the National Institute of Environmental Health Sciences, North Carolina, USA, visited Nigeria and interacted with the Centre Management on further areas of collaborations in October 18-19, 2022.
- ERASMUS Plus Mobility Grant-
 - ✓ Under this grant, three students of the Centre and one other the Department of Zoology of the University spent three months to carry out some bench works at the laboratory of Prof Kelm Soerge at the Institute for Biomolecular Interactions, University of Bremen, Germany.
 - ✓ One ACE PhD student (Mr Adeiza Muktar) is currently in Romania (arrived on Tuesday December 13, 2022).
- Collaboration with University of Glasgow resulted in the training of two ACE students (accompanied by Dr. Grace Kia, a researcher of the Centre) on laboratory procedures and sequence analysis of 30 rabies samples in the Lab of Prof katie Hampson, University of Glasgow. It further led to the donation of MinIon Sequencer, some consumables, kits and reagents from University of Glassgow to ACENTDFB.

- Research collaboration with Harvard Medical School in the areas of sickle cell and Streptococcus induced cardio-vascular diseases is being explored.
- Two students of the Centre (1 PhD and 1 MSc) won prizes (1st position in Agriculture sub-theme and 3rd position in health sub-theme in the first edition of the Student Innovation and Research Award scheme of the AAU/WB for ACE students. ACENTDFB was the only Centre that had two students among the 12 award winners.

All these will not only improves quality of learning but also strengthens skill acquisition, networking and expansion of funding sources.

- Programme Re-Accreditation:** The MSc and PhD Biotechnology programmes of the Centre were successfully re-accredited. The MSc and Masters in Forensic Science programmes were resource verified and approved for admission of students.
 - Dr Emmanuel Balogun, a member of ACENTDFB, was selected to make a presentation at the Frontiers Symposium on Science, Engineering, and Medicine being organized by the U.S. National Academies of Sciences Engineering and Medicine (NASEM), and hosted by the African Academy of Sciences in Nairobi, Kenya, in October 12-14, 2022
- 3. Status/Progress on Implementation (Maximum 250 words) Describe in what ways, if any, the Center is ahead of schedule with respect to the Implementation Plan.**

There are three main areas the Centre is within its schedules in the achievement of its desired project objectives.

- Short term training-** ACENTDFB conducted five capacity building workshops and trainings within and outside the country which attracted 130 participants within the period of January to June, 2022. Specifically, The three trainings conducted within the country had a total of 69 participants while the two (2) regional trainings in Uganda and Cote d'Ivoire had 61 participants. This led the Centre to achieve 100% in Short-term trainings.

b. Publications:

The Centre is very much ahead regarding scientific publications having attained 100% already by the end of 2021. This achievement was largely made due to the teamwork of members and high quality and relevance of the research works published in reputable journals indexed in recognized databases. Members of ACENTDFB published about one hundred and five (105) articles in high impact factor journals from November 2021 to date. Several other articles are under review or awaiting final publications (in press). In view of the performance under this DLI, the Centre intends to re-allocate some of the funds allocated to other DLIs to this DLI.

c. Revenue Generation:

The Centre has been able to attract appreciable grants (external and internal) through its researchers amounting to about \$1,760,000.00, although these grants are being released in tranches while the release of some are delayed due to on-going due diligence process and transaction technicalities.

- 4. Plan for Acceleration (Maximum 500 words) Describe in what ways, if any, the Center is behind schedule with respect to the Implementation Plan. How will the Center adjust to achieve the anticipated project deliverables by the conclusion of ACE Impact?**

There were several challenges which militated against the Centre in achieving desired level of accomplishment, namely:

- The insecurity particularly in Kaduna State, impacted negatively on field work activities and student internship.
- The ongoing industrial actions by all the labour unions in the Nigerian federal Universities has tremendously slowed down the realization of the targets of the Centre.

Measures being out in place to improve achievement of DLI and its earnings are:

- **Program Accreditation (DLI 4.3):** Though the Postgraduate programmes (MSc and PhD Biotechnology) of ACENTDFB gained full accreditation status, the earned amount was very low (\$55,000 as against anticipated amount of \$200,000). The Centre intends to carry out accreditation of the MSc and PhD Biochemistry programmes hoping that it will result in further earnings under this DLI.

For the international accreditation of the Biochemistry Programme, the Centre will engage the services of Royal Society of Biology for accreditation of its MSc and PhD Biochemistry programmes. This is scheduled to be completed by the 4th quarter of 2023.

- **Internship:** ACENTDFB has recently signed MoU with two additional diagnostic laboratories (Sentinel Forensics and Precision Biomedical Lab) that will provide internship placement to its students. DNA Forensics has re-opened its Lab for internship for the Centre's Students. The Internship Coordinator has since started deployment of students to the laboratories of these two new industrial/private sector partners. Meanwhile, some of the allocated funds to this DLI is being re-allocated to Publication and Short trainings.
- **Fiduciary:** As part of its effort to ensure transparency as mandated by AAU/WB, the Centre's financial transactions are now online and financial reports are being made available on its website. The reconstituted Audit Committee has been pro-active in its assignment and keeping to schedule in its report submission. Several documents including Interim Financial reports, Internal Audit reports, Procurement reports, Annual work plans, etc. were uploaded.
- **Short Term Training Workshops:** Although the Centre has already maxed out in regard to this DLI component, additional 6 national and 1 Regional (The Gambia) workshops are planned for, in 2023. Arrangement for the workshop in the Gambia in collaboration with the Medical Research Council, Banjul, Gambia scheduled for third week of January, 2023 have been completed. The workshop for Moddibo Adama University (MAU, Yola) have been finalized.
- **Students' Enrolment:** To enhance regional student enrolment, two teams were constituted to embark on recruitment drive to four West African Countries (Cote d'Ivoire, Gambia, Sierra Leone and Niger). The recruitment visits to Cote d'Ivoire had resulted in increased number of applicants for the Centre's programmes from visited these Countries (28 from Cote d'Ivoire, 10 from Niger, 3 from The Gambia, while a number of others are being awaited from Sierra Leone, Liberia and Guinea). Visits to foreign embassies in Abuja are also planned in 2023.
- **Improved Learning Environment:** Construction of Administrative Building with Laboratories (Forensic Lab, Crime Scene Demonstration Lab and Moot Court) has

commenced. Major activities for the construction of the administrative block and Forensic Laboratories (Crime Scene Demonstration Lab and Moot Court) have been carried out which involved pre-qualification of tender, opening of financial tenders, analysis of financial bidding, development and approval of ESMP consultant's report and finally the award of the contract. The Contractor has already moved to site. The foundation work have been completed and work on surface structure commenced. The contract is expected to be completed, furnished and commissioned in April, 2023, so that the associated DLR can be earned by June 2023.

Bids for the supply and installation of laboratory equipment were advertised, opened and bids assessment carried out. Award of contract for supply of the equipment to the successful bidder will be done before the end of the year 2022.

Improved Website: The Centre's webpage is integrated into the University's institutional website – which has been experiencing incessant technical glitches, making it often difficult to track and monitor uploaded documents. To solve this problem, alternative hosting sites has been created and an additional ICT Officer dedicated to ensuring functioning of the web page, regular updates of uploading of documents on the web page, is being engaged. He will resume in January, 2023.

Procurement Audit: Conduct of the procurement audit exercise by National Universities Commission (coordinating body of ACEs in Nigeria) is scheduled for early part of 2023.

Engagement of Project Manager: The Centre intends to review the qualifications for the position and re-advertise it. Hopefully, there will be better response and considering the improving security situation in the sub-region.

DLI 7 Activities

The Vice Chancellor of the University has constituted and inaugurated various committees for realization of the various DLI 7 components.

- **DLI 7.3 (Gap Assessment and Institutional Accreditation):** The Vice Chancellor has constituted the Committee for the Institutional accreditation. Meanwhile, QAA (Quality Assurance Agency) of UK was selected as the accreditation agency. The process is being coordinated by the NUC.
- **DLI 7.4 PASET Benchmarking) Phase II:** The phase two of the PASET (DLI 7.4) which is the training of administrative staff and others involved in documentation, on best practices, are to be accomplished by April, 2023. The budget for the activities have been approved and fund release scheduled to be made by December 24, 2022.
- **DLI 7.5 (Institutional Impact Milestones):** Milestones 3 (Strategic Plan and Academic Brief) has been accomplished while much progress on activities on milestone 5 (Strengthening the Advancement Office and Establish a Tracer System) has been achieved. Milestones activities have also commenced for the remaining three outstanding milestones (increased IGR and Product Commercialization Strategy, Strengthening of research management capacity, Strengthening of teaching and learning capacity of staff and students). The University management has established a task force to ensure the accomplishment of these three milestones.

- **DLI 7.6 (ICT Services for Innovation in teaching and research):** The DLM devices and machines have been received, partly installed and operational.
- **DLIs Re-Allocation and Creation of Additional Milestone**
 - a. Creation of Additional Milestone on Learning Environment

The low performance on some DLIs such as internship and fiduciary matters necessitated a re-allocation among the DLIs. The Centre having reviewed its workplan plans to split the milestone on learning environment into two as follows:

Milestone 1: Construction of Administrative offices and Laboratories Building; with an estimated cost of \$971,897.00

Milestone 2: Procurement and Installation of Forensic Science Equipment-estimated cost of \$323,000.00
 - b. The Centre also seeks to re-allocate earning from its low performing DLIs (such as internship, fiduciary, student enrolment, etc.) to high performing ones such as publications, and short term trainings.
- **Grants Sourcing**

The Centre plans to expand its grant sources while leveraging on existing ones. Steps to improve its funding sources include the following:

 - ✓ Registration with Wellcome Trust Grant application platform
 - ✓ Completion of MoU with FIOCRUZ- Brazil on Joint Grant application on vector borne infectious diseases/NTDs
 - ✓ Pursue collaboration on grant application /research on black flies /Onchocerciasis between ACENTDFB/Nigeria and Prof. Alfons Renz Institute of Evolution and Ecology University of Tübingen, Germany
 - ✓ Sourcing grants for eDNA Xeno-monitoring schistosomiasis/snail vector from international donors.
 - ✓ D-43 Application: One of the outcome of the interaction with Drs Anchang and Allison of the NIEHS was to submit application for the D-43 grant (which provides for capacity building)

Meanwhile, the due diligence process has been carried out for the Chan Zuckerberg Initiative (CZI) Grant. First tranche release of the award grant is expected in January, 2023. This followed the visit of Dr Anchang and Allison of the NIEHS, Bethesda, USA in October, 2022.

The second tranche Fogarty Fellowship grant to Dr. Balogun and the NRF grant from TETFund is also been expected in March, 2023 after the monitoring and evaluation visit scheduled for February, 2023. These releases would significantly lead to a high percentage performance on this DLI.
- **Development of Project Monitoring Calendar:** To ensure adherence to timelines and achievement of planned activities, a calendar for monitoring of the project was developed, spanning from September 2022 to December, 2023.
- Other planned Activities
 - ✓ The Centre plans to strengthen its advocacy campaigns in several communities with targets in two North-western States of Nigeria in 2023. In addition, it will annual fair for the university community.

- ✓ Commissioning of the Centre's Administrative Block/Laboratories will be scheduled.