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**African Center of Excellence
for Emerging and Zoonotic Diseases
(ACEEZD)**

**Implementation Plan
2016 - 2022
(May 20, 2016)**

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Abbreviations

ACEEZD	African Center for Emerging and Zoonotic Diseases
CZC	Research Centre for Zoonosis Control
CBU	Copperbelt University
CVRI	Central Veterinary Research Institute
DRGS	Directorate of Research and Graduate Studies
HU	Hokkaido University
MOU	Memorandum of Understanding
MUHAS	Muhimbili University of Health and Allied Sciences
SACIDS	Southern Africa Centre for Infectious Disease Surveillance
SUA	Sokoine University of Agriculture
TDRRC	Tropical Diseases Research Centre
WHO	World Health Organisation
UNZA	The University of Zambia
NSC	National Steering Committee
NTDs	Neglected Tropical Diseases
OHAE	One Health Analytical Epidemiology
OIE	World Organisation for Animal Health
SSA	Sub-Saharan Africa

1. BRIEF NARRATIVE SUMMARY

The increased reports in sub-Saharan Africa (SSA) of emerging and zoonotic diseases, such as, influenza, Ebola virus infections, Rift Valley fever, pneumonic plague, leptospirosis, anthrax, tuberculosis, trypanosomiasis, and neglected tropical diseases (NTDs) is of major public health concern.. This is an indication that new measures are needed to urgently contain the risk posed by these diseases. Some of these diseases, such as influenza, tuberculosis and plague have occurred in the sub-region. Most recent examples include discovery of highly pathogenic Old World arenavirus (Lujovirus) following air transport of a fatally ill patient from Zambia to South Africa. There has also been geographic expansion of *Zaire ebolavirus* associated with severe and widespread outbreaks of ebola virus diseases in West Africa in 2014. Furthermore, numerous outbreaks of arthropod-borne viral infections including large outbreaks of Rift Valley fever in humans and livestock in South and East Africa, dengue outbreaks in Angola, Kenya, Tanzania and Mozambique have been reported. The occurrence of these diseases has high health and socio-economic impacts, and pose serious bio-safety and bio-security challenges.

UNZA and its collaborating institutions have well established laboratories in molecular biology, genomics and a BSL-3 laboratory. The institution also has state of the art equipment to support training and research on infectious diseases. The centre will acquire additional laboratory equipment namely real-time PCR/RT-PCR and LAMP machines, gel documentation facilities, high speed centrifuges, ultra-low deep freezers, autoclaves, genetic analysers and freeze-drying machine that can support high quality training and research on NTDs. UNZA has an existing Centre for Information and Communication Technology (CICT) that oversees ICT issues in the University. The proposed ACE seeks to strengthen the ICT infrastructure by acquiring additional infrastructure such as LCD projectors, computers, large servers, video conference facilities and expansion of computer laboratories to accommodate larger student numbers.

The educational goals of ACEEZD will focus on the following:-

1. Develop critical mass of skilled human resources that will contribute to the development of innovative interventions for control and elimination of infectious diseases through training to MSc and PhD levels.
2. To provide expertise in the prevention and control of infectious diseases to both the private and public sectors in the sub-Saharan region who will benefit from employing graduates from the ACEEZD
3. To strengthen capacity for high quality innovative research focusing on protection and safeguarding human and animal health from the emergence of dangerous pathogens with high health and socio-economic impacts.
4. Develop advocacy programs for community and policy makers on infectious diseases
5. Strengthen network/linkages with local, regional and international institutions to foster high quality training, research and technological transfer for long term sustainability of ACEEZD.
6. To produce qualified manpower as future teaching and research faculty
7. Strengthen infrastructure for training, research and development of ACEEZD.

ACEEZD will endeavour to achieve the regional goal of understanding the natural history of some infectious diseases, through new evidence-based, cost effective, multi-disciplinary, multi-sectoral, and collaborative strategies to be implemented by well-trained and skilled scientists. It will also increase the sub-region's human resource capacity to deal with these problems by training a pool of scientists that will be ready to tackle these challenges. This will be achieved by creating an enabling environment at various regional training institutions to carry out the required training.

For the training MSc and Ph.D. regional and national students ACEEZD will acquire state-of-the-art equipment and renovate related existing infrastructure. ACEEZD will establish applied research programs for regional scientists to pursue high-impact educational training in emerging and zoonotic viral and bacterial infections as well as NTDs.

2.0. IMPLEMENTATION ARRANGEMENTS

2.1. Guiding rules and regulations

The goal of the African Centre of Excellence for emerging and zoonotic Diseases (ACEEZD) is to boost dramatically the level of education and research in zoonotic and NTDs science through high quality university training and research at the post graduate level that is relevant to sub-Saharan Africa. In this section we provide a framework for undertaking the improvement of training and research at postgraduate level in the sub-Saharan Africa. The goal of ACEEZD will align perfectly with the strategic plan of the University of Zambia (UNZA) to enhance research and training that encourages knowledge mobilization for improved quality of life. The UNZA management will play an active role in signing financing agreements, memorandum of understandings (MOU), contracts, and supervision of funds through its financial management team including finance, audit, and procurement units that will provide accounting and financial reporting for the ACEEZD funds. Policies of UNZA concerning admission and enrolment for MSc and PhD through the Directorate of Research and Graduate Studies (DRGS) will be adhered to strictly by ACEEZD. UNZA has a gender policy in place that encourages women participation in scholarships, administration and appointments in the academia. Therefore, gender mainstreaming will be adhered to in the process of admissions and the encouragement of female students /faculty in human resource development in zoonosis training and research. ACEEZD will also comply with UNZA's intellectual property regulations.

UNZA's structures for financial accountability (finance, audit, procurement) will be strictly adhered to as well as the World Bank financial regulations. A Financial Officer and a Procurement Officer will be employed at the ACEEZD. The staff shall be working closely with the UNZA management through ACEEZD's Centre Leader. UNZA's finance, audit and procurement departments will check all the books of the ACEEZD, grant approval for all procurements, and monitor the accounts and financial dealings of the Centre. The ACEEZD will seek guidance and collaborate closely with Dr. Rosemary Sunkutu of the World Bank Zambia Office on matters regarding finances, auditing and procurement.

DRGS has an institutional research policy. Thus, research that will be conducted by students and faculty of ACEEZD will be made known to the DRGS for adherence to the guiding policies on research. The DRGS has a competent workforce headed by a competent Director in-charge of postgraduate training and research.

The University of Zambia Biomedical Research Ethics Committee (UNZABREC) that will receive applications from ACEEZD for any research that will be conducted by the ACE and ensure compliance with the UNZA approval process as well as the National Research Ethics guidelines, which have been adapted for university use. The review process will be governed by internationally recognized principles including the Nuremberg Code of Human Rights (1947), The World Medical Association's Declaration of Helsinki (1964-2000), the CIOMS International Guidelines for Biomedical Research involving Human Subjects (2001), the WHO and the ICH Guidelines for Good Clinical Practice (1995), the Belmont Report (1979), and the National Health Research Committee guidelines. These guidelines are a standard for the ethics review of any research involving human participants. Further the day- to-day review process will also be governed by the Regulations and Guidelines on Clinical Investigator & IRB Responsibilities (2003) code of federal regulations. The Biomedical Research Ethics Committee shall be multidisciplinary and multisectoral in composition. Independence and competence are the two hallmarks of the Research Ethics Committee. The membership of UNZABREC includes individuals with varying backgrounds, possessing appropriate professional competencies to review the diverse types of protocols that are received. The Committee consists of fifteen (15) members comprising:

- School of Medicine representative
- UTH representative
- Basic medical scientists
- Clinicians (Medical and Veterinary)
- Social scientist/Biostatistician/Epidemiologist
- Ministry of Health Representative
- Legal expert
- Philosopher/Theologian/Bioethicist
- Theologian from the community

UNZA has a Research Ethics Committee that will receive applications from ACEEZD for any research that will be conducted by the ACE and ensure compliance with the UNZA approval process as well as the National Research Ethics guidelines, which have been adapted for university use.

To allow for the ACEEZD independence, autonomy and flexibility in its timing and decision-making, the Vice Chancellor will appoint a project management team to run the ACE. This is to make the ACEEZD an entity that is compliant with the university institutions but not lost in the day-to-day operations of UNZA. As an integral part of a university system, the ACEEZD administrative structure envisions a strategic approach to evolve innovative thinking to bring about excellence in human capacity development in emerging and zoonotic diseases as well as NTDs for the development of Africa, thus contributing to human well- being, worldwide.

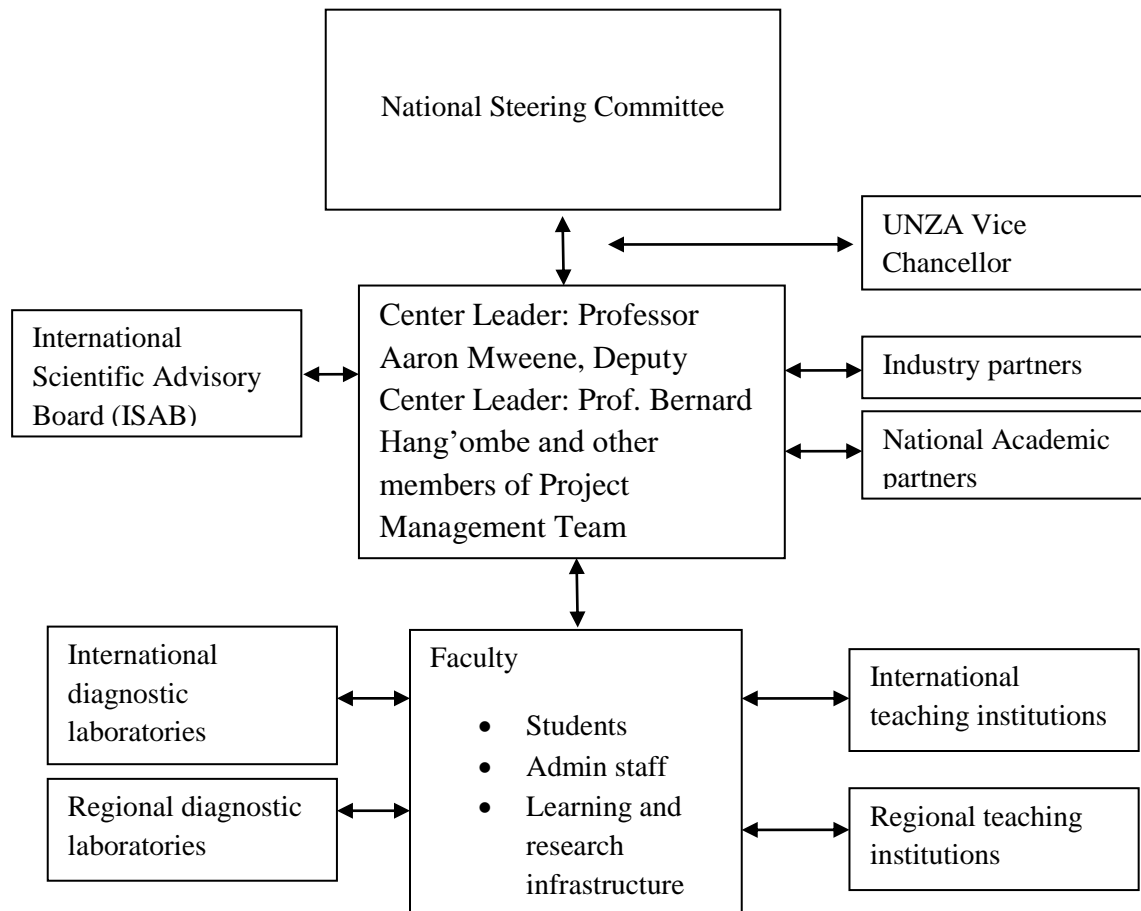
2.2. Governance structures

The University of Zambia, where the ACEEZD is located, has a governance structure which provides leadership and guidance for all educational and research activities. The administration of the project will be the responsibility of the ACEEZD Technical Committee that will meet on weekly basis. The ACEEZD Technical Committee will offer solutions to project challenges and ensure proper implementation of project objectives and goals. The day-to-day operations of the ACEEZD will be overseen by the Center Leader, Professor Aaron S. Mweene, who shall be assisted by the Deputy Center Leader, Professor Bernard M. Hang'ombe, and other principal research members. The Centre

Leader will provide leadership, advocacy, coordination, management and administration of all aspects of implementation, training and research, including support and policy framework. He will also be vested with the responsibility of reporting to the World Bank, the UNZA Vice Chancellor and the National Steering Committee. In addition ACEEZD will employ a Project Manager, Procurement Officer, Driver and an Accountant to assist in running of the Secretariat. The ACEEZD staff responsible for procurement and finance shall work with their counterparts already working for the University. The University of Zambia has existing robust management systems which ACEEZD is going to utilise. It has human resource, procurement and financial units which are headed by qualified personnel with at least an equivalent of first degree and are registered with relevant professional bodies. Leaders of ACEEZD (Principal research members) will come from the academic members of staff within the school. However, they will be on secondment to ACEEZD.

The ACEEZD Technical Committee shall be advised by a National Steering Committee (NSC). The NSC will have representation from the Ministry of Higher Education, the Ministry of Finance, related line ministries in the priority areas of the selected two ACEs in Zambia, the National Higher Educational Authority, National Science and Technology Council (NSTC), the host universities and the private sector. The NSC is expected to have approximately 9 members. The Chair of the NSC shall be the Permanent Secretary or his/ her representative of the Ministry of Higher Education. The NSC shall meet at least twice in a year.

Figure 1. Governance structure of ACEEZD



2.2.1 Quality Assurance

2.2.1.1 National Accreditation

The school is involved in high quality research that results in high quality publications of international standard. It boasts of high PhD ratio per student within the entire University. ACEEZD will also adhere to the National Health Research Act No. 2 of 2013, which has led to the establishment of the National Health Research Authority (NHRA) and the National Higher Education Authority (NHEA). The NHRA oversees all health research matters in the country. Furthermore, the activities of ACEEZD will be in compliance of the guidelines of the T\the Zambia Qualifications Authority ACT, 2011 whose mandate is, *inter alia*, to: facilitate access to, and mobility and progression within, education, training and career paths; and enhance the quality of education and training.

2.2.1.2 International Accreditation

ACEEZD is in the process of identifying scientifically highly recognised International accreditation institutions. Currently, the School of Veterinary Medicine of the University of Zambia which is the host institution for the ACEEZD has been accredited by the Namibian veterinary council for the period 2015 to 2019. The ACEEZD, therefore, will tap into this opportunity to extend an invitation to the Namibian Veterinary Council with the view of seeking external accreditation from them. There will be an ACEEZD Self-evaluation and Gap analysis to be verified/certified by an international accreditation body.

The PhD trainings and experiences are diverse and covering many pertinent areas of study and were achieved at top universities in Europe, Americas, and Asia. This is achieved and maintained through consistent collaboration with international centres of excellence such as the Hokkaido University Research Centre for Zoonosis Control (HUCZC). The Collaboration with the HUCZC has recently resulted in the establishment of the Hokudai Centre for Zoonosis Control in Zambia (HUCZCZ) with an established office at the school of Veterinary Medicine of the University of Zambia. The objectives of this collaborative venture are:

- (i) Identification of natural host animals and transmission routes of zoonotic pathogens in Africa
- (ii) Comprehensive screening of unknown pathogens in Africa
- (iii) Prevention and control of zoonosis

2.2.1.3 International Scientific Advisory Board

The ACEEZD, in conjunction with the regional counter-parts at Sokoine University of Agriculture (SUA), will appoint a joint international scientific advisory board (ISAB) that will be responsible for standardization and quality assurance of the education and research programmes of ACEEZD. The ISAB will have a membership appointed on a 50-50 representation basis between the two ACEs. In this regard ACEEZD will appoint the following to the membership of the ISAB:

- 1) Professor Jiro ARIKAWA
Laboratory of Infectious Diseases, Department of Microbiology
Hokkaido University Graduate School of Medicine
Name of the field: Virology
- 2) Professor Gabriel Olaniran ADEGOKE
Department of Food Technology, University of Ibadan, Ibadan, Nigeria.
Name of field: Food Microbiology
- 3) Professor Morten TRYLAND
Department of arctic and Marine Biology
University of Tromso, UiT
The arctic University of Norway
Name of field: Microbiology, Infectious Diseases, Infection Biology
- 4) Professor Andrew Tait
Honorary Senior Research Fellow
University of Glasgow, R 243 Level 2
Garscube Estate G61 1QH, Glasgow
Name of field: Veterinary Infection and Immunity ICM

The ISAB will be involved in providing guidance for the international accreditation of the education programmes of the ACEEZD. The ISAB will also be responsible for the supervision of compliance to the Mission and Vision of ACEEZD.

2.3. ACEEZD partners

ACEEZD has local, regional and international partners that will complement excellence in training and research.

2.3.1. Intra-university partners

ACEEZD will work closely with the School of Medicine in the area of teaching and training at MSc and PhD levels. The School of Medicine has been a joint partner in teaching One Health Analytical Epidemiology (OHAE) in the School of Veterinary Medicine. Faculty members from the Department of Microbiology and Pathology (Dr. Trevor Kaile), Department of Biomedical Sciences (Dr. Gibson Sinjumbila) and Department of Public Health (Dr. Likwa Rose Ndonyo) will be involved in teaching One Health Medicine and Globalisation, Health Economics, Policy Monitoring and Evaluation, Health Promotion, Education and Communication. The Dean, School of Medicine, University of Zambia will be responsible for facilitation of enrolment of research students and identification of teaching staff from his/her school on behalf of the ACEEZD.

2.3.2. Local university partners

The Copperbelt University - School of Medicine (CBU-SOM)

ACEEZD will work with the CBU mainly in the area of training and research. As a local partner CBU will be involved in training and research in emerging and zoonoses as well as NTDs from the human health point of view. Dr. Alfred Sichilima, a specialist of Physiology at CBU, will anchor this partnership.

2.3.3. Regional university partners

Sokoine University of Agriculture (SUA) and Muhimbili University of Health and Allied Sciences (MUHAS)

SUA and MUHAS of Tanzania will be the regional university partners. SUA will complement UNZA on thematic areas where they have strong capacity while MUHAS will complement the local intra-university partners, i.e. CBU-SOM and UNZA-SOM from the human health point of view. The partnerships at SUA and MUHAS will be anchored by Professor Esron Karimuribo and Professor Mecky Matee, respectively. The ACE at SUA will complement ACEEZD in Integrative Eco-Health, Mobile Digital Solutions and research in selected Viral Diseases of Food Security Importance (such as Foot and Mouth Disease (FMD), Pestis des Pestis Ruminatis (PPR), African Swine fever (ASF). SUA will also lead the Master of Science course on One Health Molecular Biology (OHMB).

2.3.4. International university partners

Hokkaido University (HU)

Hokkaido University is a mainstay comprehensive university based in Japan that places importance on its graduate schools. The University of Zambia, School of Veterinary Medicine already partners with HU in areas of research and training. Thus, HU will provide added strength in research and training to

both students and faculty members. The training to postgraduate students will be in the following strands: Bioinformatics (Prof Kimihito Ito), Bacterial genomics (Prof Yasuhiko Suzuki and Prof Hideaki Higashi), Eco-health, epidemiology and viral genomics (Prof Hirofumi Sawa and Prof Ayato Takada) and Risk Assessment and Management (Norikazu Isoda). The partnership will be anchored by the Project Director Professor Hiroshi Kida and Professor Chihiro Sugimoto, the Director of the Research Centre for Zoonosis Control (CZC), Hokkaido University.

University College of Dublin

The University College of Dublin will be engaged as a proxy partner through Hokkaido University which is the main partner. The partnership will be anchored by Professor William W. Hall who is an expert in viral genomics.

2.3.5. National Research Institutions

Tropical Diseases Research Centre (TDRC)

The Tropical Diseases Research Centre (TDRC), located in Ndola, Zambia is a biomedical research Centre established by the World Health Assembly in 1977. It was initiated by the World Health Organisation (WHO) in collaboration with the Zambian Government. It conducts research in infectious tropical diseases. Activities of the institute include epidemiological and clinical research in malaria, schistosomiasis, African trypanosomiasis, HIV/AIDS, micronutrient deficiencies, health systems research, health impact and evaluation, training and service. As a national research institute, TDRC will complement the research conducted by ACEEZD and ACEEZD students will be allowed to conduct some laboratory works at TDRC. The partnership will be anchored by Dr. Modest Mulenga the Director.

Central Veterinary Research Institute (CVRI)

The CVRI is a government institute involved in research on various aspects of veterinary sciences including infectious diseases of animals and vaccine research. Activities of CVRI include control of animal diseases of national economic importance and transboundary animal diseases. It also undertakes epidemiological surveys and monitors livestock diseases. CVRI will complement some of the research to be conducted by ACEEZD and students will be allowed to conduct some laboratory work at CVRI thereby gaining opportunities for field experience.

2.3.6. Regional research institutions

Southern African Centre for Infectious Disease Surveillance (SACIDS)

SACIDS is a ONE HEALTH consortium of southern African medical and veterinary, academic and research institutions involved with training and research on infectious diseases of humans and animals in the DRC, Mozambique, South Africa, Zambia and Tanzania, in smart partnership with Centres of Science in industrialised countries. ACEEZD will collaborate with SACIDS in research on infectious diseases mostly of food security importance. The partnership will be anchored by Professor Mark Rweyemamu, who is the Executive Director of SACIDS and the Deputy Center Leader of the ACE at SUA.

2.3.7. International research institutions

Research Centre for Zoonosis Control (CZC), Japan

The Hokudai Center for Zoonosis Control in Zambia (HUCZCZ) was established in the School of Veterinary Medicine, University of Zambia in 2007 under collaboration with CZC. The HUCZCZ is a base for molecular epidemiological studies in sub-Saharan Africa. ACEEZD will draw from the expertise of HUCZCZ experts in training and research on emerging and zoonotic diseases. ACEEZD will tap into and go into over 10 year the partnership that has existed between UNZA, School of Veterinary Medicine and CZC will tapped into and will be anchored by Professor Chihiro Sugimoto and Professor Hiroshi Kida.

The International Livestock Research Institute (ILRI)

The ILRI has signed a Memorandum of Understanding with the University of Zambia, School of Veterinary Medicine to collaborate on research activities to improve food and nutritional security. The collaboration will be led by Professor Jim Smith, from ILRI headquarters in Nairobi, Kenya. ACEEZD will collaborate with ILRI in training MSc and PhD students on studies related to antimicrobial resistance.

3.0. INCENTIVE STRUCTURES

3.1. UNZA faculty administration and management

- i) The planned facility complete renovations and upgrades of ACEEZD related-facilities (laboratories, equipment, ICT, existing animal houses) will benefit not only the Centre, but the hosting School of Veterinary Medicine, the University and participating partners. Ultimately, this will lead to an improved learning atmosphere for faculty and undergraduate, masters and PhD students who will have access to these improved facilities.
- ii) ACEEZD will use the existing administrative structure of the University, which will be beefed-up by additional staff to execute the project deliverables when needed.
- iii) The staff of the ACEEZD shall be entitled to remunerations in line with the University staff conditions of service and other incentives as may be put in place by the National Steering Committee based on performance and consistent with guidelines in the project implementation manual. The School of Veterinary Medicine has the moderately up-to-date diagnostic and research laboratories in Zambia including a Biosafety Level 3 that compare favourably with similar facilities in other parts of the world. Its staff and equipment will complement ACEEZD in training of courses in bio-safety and laboratory practices.
- iv) More efficient and expert input for staff involved in complementing Government of the Republic of Zambia and industry professionals for capacity building.
- v) New courses and programmes will be introduced which will expand the repertoire of qualifications and choices for students admitted to UNZA.
- vi) There will be increased opportunities for Staff Development and Continuing Professional Development for UNZA, CBU and other partners.
- vii) As an equal opportunity employer and tertiary industry, UNZA will encourage active participation of women scientists and minority groups as much as possible to contribute in the development and success of the ACEEZD. Short specialised training courses will be tailored at capacity building among African scientists.
- viii) ACEEZD will compliment researchers' subscriptions to high impact journals. This will benefit the university and regional partners immensely by role modelling, motivating faculty development and increasing high impact publications and improvements in academic standards.

- ix) There will be improved learning experience and platform for students from local and foreign partner institutions, arising from visitation of foreign partner faculty, and exchange programmes. Furthermore, there will be additional value to the learning and research environment and excellent teaching and lecture opportunities through increased specialization.

3.2. For academic staff and researchers within the ACEEZD and partner institutions

Professional development and competence will be achieved through but not limited to the following:

- i) Access to improved training and research facilities.
- ii) Recipients of short specialised training courses that will lead to capacity building among African scientists.
- iii) Research outputs will be published in peer-reviewed scientific journals and workshop proceedings.
- iv) Awards will be accorded to support attendance at scientific conferences, symposia and seminars in terms of travel costs, per diem, registration and other related costs..
- v) Support for travel fellowships to participating laboratories and additional research funding and capacity-building (e.g. payment for air fare, joint publications, payment for publication tariff and per diem). The ACEEZD staff will also have the opportunity to visit other universities in developed countries and partners to strengthen networking with other experts. The cost of exchange and part-time academics and technical staff will be fully covered by the ACEEZD project funds.
- vi) Identified faculty staff will be trained in several critical areas e.g. research leadership, monitoring and evaluation, project management, zoonosis diagnosis, strategic planning and implementation.

3.3. For postgraduate Students

- i) Scholarships and awards of academic qualification (Masters and PhDs). The studentship grants (part or fully funded to study at ACEEZD) will be utilised to attract and support local and regional students.
- ii) ACEEZD will develop split M.Sc. and PhD programmes whereby Regional students will register at UNZA and complete their course-work and then return to their countries and institutions to conduct research on specific areas. This arrangement will provide opportunity for staff and students at the host and participating partner institution to participate in high quality research and publications.
- iii) Short specialised training and hands-on demonstrations will be provided to students at all stages of their study by both local and staff on exchange programmes.
- iv) Students will be involved in internship and outreach activities with partner private and public industries.
- v) Conferences and workshops will be supported similar to those for academic and research staff as mentorship programs.
- vi) Publications and other outputs from students' work will be co-authored by students themselves in conjunction with their supervisors. The process of publication will be supported by ACEEZD.
- vii) Development of curricula that addresses and responds to the needs of industry and labour market will be prioritised. As a result new courses and programmes will be established.
- viii) Student attachments at partner universities and institutions will be encouraged. Such needs will be assessed by supervisory teams from the collaborating partners. Facilitation will be carried out by ACEEZD.

3.4. Partners (CBU/TDRC/ HU/SACIDS)

- i) The partners will participate in and implement curriculum and module development. Costs towards meetings (all types: face-to-face, conference calls, Skype and telephone) will be met by the ACEEZD.
- ii) The partnerships/networking with local, regional and international institutions would ensure a good cohort of qualified staff with PhDs who will jointly supervise such candidates within and between the partner institutions. All benefits including opportunities for staff exchange for research and teaching, supervision and joint publications will be fully explored.
- iii) There will be increased internationalization of programs and expertise (with increased number of international staff and students) which is one major incentive for the Universities and institutions that will participate in the running of ACEEZD.
- iv) The capacity to collate and manage ACEEZD project data will be established through robust ICT mechanisms.
- v) Efforts for sourcing of leverage funding for improvement of program implementation of the project will be made through grant writing.

3.5. Incentives for External Stakeholders

- i) Will ensure that the Ministries of Health, Education, Tourism, Fisheries and Livestock are actively involved in the programmes designed to build human resource capacity (through in-service training).
- ii) ACEEZD will also provide opportunities for public officials to undergo undergraduate and post-graduate training and short term specialised courses to build their competencies.
- iii) Local, regional and international organisations working emerging and zoonotic diseases, including NTDs will have the added incentive of being able to receive ACEEZD's students and staff in short-term work-related learning exchanges that would boost their productivity.

4.0. ROLES AND RESPONSIBILITIES

4.1 Members of the ACEEZD Project Management Team: Roles and responsibilities

- **The Centre Leader:** Professor Aaron S. Mweene, a holder of PhD, MSc. and BVM, is a Virologist and Infectious Disease Specialist, with vast experience in teaching, research and community service both locally and internationally. He has done research in areas of mainly Veterinary Virology as well as Bacteriology, Protozoology and advanced diagnostic techniques in diseases of veterinary and public health importance which has yielded results and led to over 60 publications in reputable and highly rated peer reviewed journals, worldwide. Has coordinated several research projects in collaboration with reputable regional and international research and higher learning institutions. Has vast experience in supervision of students at MSc, PhD and Postdoctoral levels. Competent in Risk Management and Risk Communication as well as being qualified in Research Leadership. He has been the National Coordinator for the National Centre for Infectious Disease Surveillance (NatCIDS) of the Southern African Centre for Infectious Disease Surveillance (SACIDS) since 2008 - to date. He has administrative experiences in the university such as having been Head of Department of Disease Control, Assistant Dean for Undergraduate Studies and has served at different levels of national and international academic boards. He is the immediate past Dean of the School of Veterinary Medicine (2008 to 2013) with vast experience in the administrative processes

of the university. He is the Co-Principal Investigator on the project for Surveillance of Viral Zoonosis in Africa sponsored by the Japan Agency for Medical Research and Development (AMED)/Japanese International Cooperation Agency (JICA)-Science and Technology Research Partnership for Sustainable Development (SATREPS). The Centre Leader, Prof. Aaron S. Mweene will be designated to provide leadership, advocacy, coordination, management and administration of all aspects of implementation, training and research, including support and policy framework. He will also be vested with the responsibility of reporting to the World Bank, the UNZA Vice Chancellor and the National Steering Committee. He will be assisted by the Deputy Center Leader, Professor Bernard M. Hang'ombe and the ACEEZD Technical team, the ACEEZD Secretariat, to attain and maintain excellence in infectious disease training and research.

- **Deputy Centre Leader:** Professor Bernard Hang'ombe holds a BVM, MSc and PhD and is an Microbiologist and infectious disease Expert, who has collaborated with various units of Ministry of Health and Ministry of Fisheries and Livestock in controlling anthrax, epizootic ulcerative syndrome and plague. He has worked with the Food and Agricultural Organisation and World Organisation for Animal Health (OIE) in controlling infectious diseases such as anthrax and plague in Zambia. Professor Hang'ombe has co-authored over 50 publications in international journals. Currently, he is also the Assistant Dean for Postgraduate Studies, in the School of Veterinary Medicine. His position as Assistant Dean for Postgraduate Studies will facilitate admissions and timely completion of studies by students under the ACEEZD. In addition, there will be a direct link with the Directorate of Research and Graduate Studies. He has taught and supervised MSc and PhD students from the Veterinary and Medical schools in Zoonotic Bacterial Diseases. As a Deputy Centre Leader, he will assist the Center Leader in the day-to-day running of student learning and research activities. He will also perform other functions as assigned by the Centre Leader to ensure the smooth running of postgraduate activities.
- **Center Scientific Coordinator:** Dr. Andrew Phiri (PhD, MSc, BVM, Postgrad Diploma Research Methodology). He shall be responsible for the promotion, arrangement and coordination of scientific meetings, staff exchanges and training, workshops and conferences. Dr. Phiri has been actively involved in extension work with the farmers in areas related to emerging and zoonotic diseases. He has wide experience in hosting and organising local and international workshops and conferences. For example, as a volunteer organiser at the British Society for Parasitology Spring meeting, Nottingham, UK (January-April, 2011); Commonwealth Veterinary Association (CVA) and Veterinary Association of Zambia (VAZ) Joint Regional Conference for Eastern, Central and Southern Africa, UNZA (as secretary of VAZ and responsible for international delegates' welfare), Lusaka, Zambia. (January-August, 2004); As part of a team that hosted a Regional international workshop of ENRECA-Livestock Helminth Research Project (DANIDA sponsored) in Eastern and Southern Africa (6-8th June, 2002). As a holder of a Biomedical Sciences Unit Home Office Licensee Training Course, University of Nottingham (2011), and Research Methodology postgraduate Diploma (Denmark, 2005), he brings expertise in research grounded in ethical values that promote good animal and human welfare. These qualities complement his various roles as lecturer, researcher, scientific Judge for postgraduate Seminars (Schools of Agriculture, Medicine and Veterinary Medicine, University of Zambia), and internal examiner and supervisor for undergraduate and postgraduate students. In addition, his involvement as invigilator of examinations for undergraduate programmes, student demonstrator (UNZA, 2004-to date; University of Nottingham, UK, 2012-2013) and his role in successful outreach programmes will enhance the visibility and impact of the CEEDZ. Noteworthy is his active participation in the

Science Outreach Project at local secondary schools in Nottingham, UK (11 Jan-14th April) to promote and communicate science to A-level school students and as resource person in the training of trainers' promoting improvement of animal health and production delivery through extension (2007-2008).

- **One Health Coordinator:** Dr. Musso Munyeme, (PhD, MSc, and BVM), is a Veterinary Public Health specialist as well as Wildlife Specialist. He is currently the Assistant Dean for Research in the School of Veterinary Medicine. His role as Assistant Dean Research, in close collaboration with the Assistant Dean Postgraduate Studies, who is also the ACEEZD's Deputy Center Leader, will ensure that ACEEZD research proposals expeditiously approved. He will be involved in the coordination of all One Health related activities, from Teaching, Research and Field activities. He will be acting as an interface among all One Health Players (Veterinary, Medical, and Environmental sectors). Dr. Munyeme will also be involved in coordinating studies and research activities at the wildlife/livestock/human interface areas.
- **NTDs Coordinator:** Dr. Chummy S. Sikasunge (BVM, MSc, PhD) is a Veterinary Parasitologist employed as a Senior Lecturer and Researcher at the University of Zambia, School of Veterinary Medicine. He is currently the Head of the Department of Paraclinical Studies. He is a consultant for Ministry of Health (MoH) on NTDs where he has been instrumental in the completion of mapping the country for Schistosomiasis (SCH) and Soil Transmitted Helminthiasis (STH) and conducting Lymphatic Filariasis (LF) baseline and coverage surveys. As the ACEEZD NTD Coordinator, Dr. Sikasunge will be responsible for planning, organizing and executing all research activities on NTD.
- **Training and Research Coordinator:** Dr. Martin C. Simuunza (PhD, MSc, BVM, Postgraduate Diploma Research Methodology) has been working as a university educator, training undergraduate and postgraduate students in Epidemiology, Parasitology (Protozoology and Entomology) and Biostatistics for the last 14 years. He has experience in recruiting and supporting foreign students under SACIDS and the Intra ACP Mobility Scheme. He has supervised several PhD students in epidemiology and population genetics; has been conducting research in the epidemiology of a number of infectious diseases of humans and animals; has experience in successful application for grant aided research funds, designing and implementation of research studies and data analysis, has worked as a member of a number of research collaborative networks such as TrypanoGEN, SACIDS and Intra ACP mobility scheme, he has also actively participated in efforts aimed at improving animal disease surveillance systems for the Department of Veterinary Services in Zambia and has written the Foot and Mouth Disease Surveillance and Control Strategy. Dr. Simuunza has administrative experience as Head of Department for Disease Control; and also has coordinated the development of curricula for postgraduate training programmes including the OHAE for which he is the Coordinator. He will bring the experience he has acquired and will coordinate training and research in ACEEZD.
- **Monitoring and Evaluation Coordinator:** Dr. Humphrey Simukoko (PhD, MSc, BVM, DPPM) has a PhD specialised in trypanosomiasis. He also has qualifications in project planning and management. He has worked for the UNZA for the past 15 years in teaching and research. In addition, he has been involved in various projects of the university and the School of Veterinary Medicine and has significant management experience as Assistant Dean for Undergraduate Studies. He will coordinate all Monitoring and Evaluation (M&E) activities of ACEEZD including data

collection, analysis, and reporting of DLIs and DLRs relating to the project.

- **Project Manager:** (to be recruited) will be responsible to ensure the smooth day-to-day running of the project and facilitate liaison and communication between all project partners. The Project Manager will monitor progress reports from all sites and collaborating Institutions; review all planned activities and suggest adjustments, as necessary to the center leaders; monitor outputs and outcomes of ACEEZD, research and training projects, and report to center leadership, who in turn will assess the report, advise and make recommendations. He/she will also prepare the annual meeting of the External Advisory group and the yearly International conference that will be organized by ACEGID. In addition the manager will double up as a safety officer.
- **Administrative Assistant:** He/she will be a project staff hired to assist ACEEZD project manager and the center leaders in the daily running of activities in the centre. He/she will help the Project Manager in keeping records of ACEEZD.
- **Financial officer:** Mr. Jameson Libinga. He has been assigned to the project in order to manage the account of ACEEZD
- **Procurement Officer:** Mr. Azwell Bwalya. He has been assigned the responsibility to lead and assist in the project with procurement. He will be responsible for all transactions related to purchase of items and equipment in the project.
- **Webmaster/Specialist:** to be seconded from UNZA CICT. He/she will be responsible for daily maintenance and update of the ACEEZD website.
- **Driver:** The project driver (yet to be hired) will be responsible to drive and maintain the Project vehicles. This will be a project staff on contract with ACEEZD, in order not to increase the University overheads at the end of the project.

5.0. OVERVIEW OF PLANNED OUTPUTS, ACTIVITIES AND COST FOR FIRST YEAR

Table 1. Overview of planned activities

Action Plan	Activity priority	Activity/Task/Output	Budget Estimate (US\$)		
			ACEEZD leader	Partners	Total Cost of Planned Activity
1.1	1	Inception meeting with collaborating partners on how to establish management, administration and communication platforms on running the Centre of excellence.	13,750		13,750
1.2	2	Organise Project Management Team weekly meetings for each study thematic area.	0		0
1.3	4	Organise a 2 day meeting of members of the would be identified International Scientific Advisory Board in Zambia	0		0
1.4	3	Organise training in project management and financial management of critical staff from partner institutions	10,000		10,000
1.5	1	Procurement of a 4-wheel drive Toyota Fortuner for Governance, 1Toyota Land cruiser station wagon for Field activities.	150,000		150,000

1.6	1	Emoluments and administrative costs	160,050		160,050
1.7	1	Monitoring and evaluation	13,000	2,000	15,000
1.8	1	Local conference participation	1,500	500	2,000
		Subtotal			350,800
2		ACEEZD action plan to strengthen Teaching Excellence of Infectious diseases for humans and animals			
2.1	1	Curriculum review on infectious disease courses and development workshop involving partner institutions	12,500	5,000	17,500
2.2	1	Development of a new MSc degree in emerging and zoonotic diseases (zoonosis control experts)	10,000	7,500	17,500
2.3	2	Strengthen the content of the One Health Analytical Epidemiology course			
2.4	1	Development of short term courses on the handling of infectious materials for field staff from Ministry of Health and Ministry of Fisheries and Livestock and staff from collaborating institutions.	30,000		30,000
2.5	1	Procurement of e-learning materials, new learning strategies and platforms	55,000	5,000	60,000
2.6	1	Postgraduate student training (stipends and tuition)	156,153		156,153

		Subtotal			281,153
3		ACEEZD action plan to strengthen Research excellence on emerging and zoonotic diseases			
3.1	1	Organization and formation of a core team to lead a multidisciplinary research setting	0		0
3.2	2	Community of practice establishment according to project objectives of study themes	0		0
3.3	3	Organise proposal writing, research methodology and publication workshop for trainer of trainers in collaborating partner institutions	0		0
3.4	1	Procurement of research equipment and materials/reagents	100,000	18,590	118,590
3.5	1	Postgraduate research grants	40,000		40,000
		Subtotal			158,590
4		ACEEZD action plan to attract regional and international students			
4.1	2	Program advertisement in regional and international partners/collaborators	1,600		1,600
4.2	3	Faculty exchange programs between partner institutions	20,000		20,000
4.3	2	Language support	1,000		1,000

		Subtotal			22,600
5		ACEEZD action plan for centre infrastructure			
5.1	1	Redesigning and furnishing of the ACEEZD at the University of Zambia, School of Veterinary Medicine	300,000		300,000
5.2	2	Renovation of the infectious animal facility.	0		0
5.3	1	Equipment maintenance	10,000	5,000	15,000
		Subtotal			315,000
		Total			1,128,143
		Contingency 5%			56,407
		Grand Total			1,184,550

6.0 ACEEZD Project Timeline

Figure 2. Project Timeline

		2016				2017				2018				2019				2020			
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1.0	ACEEZD action plan to strengthen management among collaborating Partners																				
1.1	Inception meeting with collaborating Partners on establishment management, administration and communication platforms on running the Centre.																				
1.2	Organise bi-monthly meetings of the Project Management Team and bi-weekly meetings for each study thematic area.																				
1.3	Organise a 2-day meeting of members of the International Scientific Advisory Board in Zambia																				
1.4	Organise training in Project Management and Financial Management of key project staff from partner institutions																				
1.5	Procurement of a 4-wheel drive Toyota Fortuner for governance and 1 Toyota Land Cruiser station wagon for field activities																				
1.6	Recruitment of secretarial staff: 1 driver, administrative Assistant																				
2.0	ACEEZD action plan to strengthen Teaching Excellence of Emerging and Zoonotic Diseases																				
2.1	Curriculum review and development workshop of infectious disease courses involving partner institutions																				
2.2	Development of a new MSc. degree in infectious diseases for human and animals																				
2.3	Strengthen the content of the One Health Analytical Epidemiology course																				
2.4	Development of short term courses on bio-safety for field staff from Ministry of Health and Ministry of Fisheries and Livestock and staff from collaborating institutions.																				
2.5	Procurement of e-learning materials, new innovative learning strategies and platforms																				
3.0	ACEEZD action plan to strengthen Research Excellence on Emerging and Zoonotic Diseases																				
3.1	Organization and formation of a core team to lead a multidisciplinary research setting																				
3.2	Community of practice establishment according to project objectives of study themes																				
3.3	Organise proposal writing, research methodology and publication workshop for trainer of trainers in collaborating partner institutions																				
3.4	Procurement of research equipment and materials/reagents																				
4.0	ACEEZD action plan to attract regional and international students																				
4.1	Program advertisement in regional and international institutions of partners/collaborators																				
4.2	Faculty exchange programs between partner institutions																				
5.0	ACEEZD action plan for the Centre Infrastructure at UNZA																				
5.1	Redesigning and Renovation of the ACEEZD at UNZA, School of Veterinary Medicine																				
6.0	Capacity building																				
6.1	Enrollment of Students in MSc Programs																				
6.2	Enrollment of Students in PhD Programs																				
6.3	Short Specialised Courses Training																				
6.4	Laboratory Training & enhancement																				
6.5	Self-evaluation & GAP assessment of programs																				
7.0	Build Strong collaboration with all Partner Institutions																				
7.1	Joint Seminars (MSc/PhD Post Docs) & Senior Researchers																				
7.2	Academic & Industry Research activities & Research incentives																				
8.0	Build strong collaboration with Industry Partnerships																				
8.1	MSc, PhD and Senior Researchers Internships, Attachments and outreach programs																				
8.2	Joint applied research with industry, and responsive research to societal needs																				
9.0	Improve Governance and Administration of ACEEZD																				
9.1	Financial auditing, monitoring & evaluation																				
9.2	Sign partnerships & MOUs with all partners																				
10.0	Visibility & Sustainable Financing of the ACEEZD																				
10.1	Design, host & manage a custom website for the ACEEZD																				
10.2	Joint research project development meetings for resource mobilization																				
10.3	Publications, Policy briefs & Dissemination of research findings																				

7.0. ENVIRONMENTAL SAFEGUARDS

The Zambia Environmental Management Agency (ZEMA) which operates through an Act (Act No. 12 of 2011) of Parliament oversees all matters related to the environment in Zambia. The implementation of ACEEZD will abide and comply with the national regulations as required by ZEMA. The school has an incinerator for destruction and decontamination of bio-hazardous materials. Identification of the environmental issues pertaining to this project is important in order to bring the project into compliance with applicable national and international environmental legal requirements and policies. The project envisages a teaching and learning environment that harmonizes infrastructure, equipment, animal and human safety and provides the necessary health mechanisms while adhering to the policies and regulations set forth by the ZEMA.

This ACEEZD project is a low-risk with minimal civil works involving renovation of an existing infectious unit complex and upgrade and rehabilitation of animal housing quarters and laboratories. The Environmental Assessment category is B (Partial Assessment). In this quest, there will be no new land acquisition for the Centre; the project will select existing University landed assets at the main campus. The environmental management plan (EMP) (see attached) for ACEEZD consists of set of mitigation, monitoring, and institutional measures to be taken during implementation and operation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. There will be no displacement of population or destruction of vegetation throughout the project period. Workers involved in the renovation will be provided with equipment and facilities that will protect them from direct contact with hazardous chemicals, sewage, or dust (according to already existing Laws and regulations). During general renovation of laboratories, interior works will be controlled to minimize dust and noise and avoid accidents. These measures will not involve relocation of facilities by staff or students in such areas being renovated.

The school has a Security and Biosafety Committee which ensures that all regulations and guidelines pertaining to security and safety of workers, students, environment and infrastructure are adhered to. The committee is regulated by the school Board of Studies which is the highest decision body and has a strict sense of duty to protect the environment.

Regular training of staff on security and biosafety is conducted. Therefore, should there be any changes to procedures and processes arising from this project retraining will be done. Since the school's inception in 1983, there have never been any negative environmental, safety and biosafety breaches.

For Health and safety for personnel to access the ACEEZD facilities, authorization will need to be obtained from Deputy Centre Leader. First aid boxes, fire extinguishers, eyewash dispenser stations and showers are provided in all the laboratories as control and mitigation measures in case of any laboratory accident and will be included in any new facilities.

Safe Laboratory practices are currently in place. Standard laboratory practice according to WHO (World Health Organisation) (MOPs; Manual of Operation of Equipment according to manufacturer's specifications, MSDS; Material Safety Data Sheets) will be adhered to. All biological and chemical laboratory waste generated by the centre shall be disposed in accordance with national and international

disposal guidelines. The school has a Biosafety Lab 3 and other specific labs, incinerators (need upgrade) and other projects with existing protocols and procedures for handling materials and waste. There are well-developed sewage and disposal processes of all chemical and consumable wastes.

The ethical committees under the National Health Research Authority regulate the National Health Research agenda. The Ethical Committees are independent and meet regularly to review the use of animal models for experiments and humans in research in tandem with International Best Practices. Laboratory animals shall be procured from relevant animal houses and maintained according to experimental animal use guidelines. Animal facilities exist though some aspects will need refurbishments.

8.0. PERFORMANCE MONITORING

Table 2. Disbursement linked indicators (DLIs)

Disbursement Linked Indicators (Can trigger maximum 6 million USD equivalent)	Action to be Completed	Amount of financing Allocated (expressed in USD equivalent)	Disbursement Calculation Formula (expressed in USD equivalent)
DLI #1: Institutional readiness Total amount 1,100,000 (expressed in USD equivalent)	DLR#1.1 Institutional Readiness in FY 2016 <ul style="list-style-type: none"> • Creation of ACEEZD designated account at a Commercial Bank • Approved financial management and procurement procedures and capacity • Establishing ACEEZD operational office • Project staff recruitment • Inauguration meeting with all project partners • Project awareness campaign and advertisement of the project academic programs • Up-to-date financial audit Report • National Steering Committee has been established 	1,100,000	DLR#1.1 600,000 (Disbursed when all conditions for effectiveness outlined in the legal agreements signed between the ACE hosting government and the World Bank)

	<p>DLR#1.2 Effectiveness</p> <ul style="list-style-type: none"> Approved MSc courses: One Health Analytical Epidemiology and One Health Food Safety 		<p>DLR#1.2</p> <p>500,000 (Disbursed when detailed implementation plan of ACE is approved by the ministry in charge of higher education as part of the performance Agreement)</p>
<p>DLI #2 Total Education (Learning and research excellence/development impact.</p>	<p>DLR #2.1: Timely annual implementation plans (75% complete) (Ref: Table 3. Results Framework for details)</p> <p>DLR #2.2 Newly enrolled Students in ACE courses of which at least 20% must be regional (African) students.</p> <p>Amounts (US\$):</p> <p>Master's: 1,500 per national student, 1,875 per female student, 3,000 per regional student and 3,750 per regional female student</p> <p>PhD: 7,500 per national student, 9,375 per female student,</p>	<p>4,300,000</p>	<p>DLR#2.1: 500,000</p> <p>DLR#2.2: 1,200,000</p>

	<p>15,000 per regional student, and 18,750 per female regional student</p> <p>DLR #2.3 Accreditation of quality of education Programmes Amounts (US\$):</p> <ul style="list-style-type: none"> • 300,000 per program internationally accredited; • 75,000 per program nationally or regionally accredited; • 75,000 per program per gap-assessment certified or undertaken by an international quality assurance agency; • 75,000 per program for self-evaluation with a satisfactory international standard; • 75,000 per program description meeting international standard <p>DLR 2.4: Collaboration and partnership applied research and training Amounts (US\$):</p> <p>10,000 per MoU with public institutions, 30,000 per MoU with private sector/industry (minimum of 1), 20,000 per working/conference paper</p> <p>DLR#2.5: Peer-reviewed journal papers or peer-reviewed conference papers prepared collaboratively with regional or international partners</p>		<p>DLR# 2.3: 600,000</p> <p>DLR2.4: 200,000</p> <p>DLR2.5: 300,000</p>
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	<p>DLR#2.6: Faculty and PhD student exchanges to promote regional research and teaching</p> <p>DLR#2.7: External revenue generation Amounts: US\$ 1 per externally generated revenue (national), and US\$ 2 per externally generated revenue from the region.</p> <p>DLR#2.8: Institution participating in Benchmarking exercise</p>		<p>DLR2.6: 500,000</p> <p>DLR2.7: 900,000</p> <p>DLR2.8: 100,000</p>
<p>DLI#3: Timely, transparent and institutionally reviewed Financial Management</p>	<p>DLR#3.1: Timely Withdrawal Application supported by financial reporting on the ACE account for the period in FY 2016; FY 2017; FY 2018; FY 2019; FY 2020</p> <p>DLR#3.2: Functioning Audit Committee under the university Council in FY 2016; FY 2017; FY 2018; FY 2019; FY 2020</p> <p>DLR#3.3: Functioning internal audit unit for the university in FY 2016; FY 2017; FY 2018; FY 2019; FY 2020</p> <p>DLR#3.4: Transparency of financial management (audit reports, interim financial reports, budgets and annual</p>	<p>300,000</p>	<p>DLR#3.1: 15,000/yr</p> <p>DLR#3.2: 15,000/yr</p> <p>DLR#3.3 15,000/yr</p> <p>DLR#3.4:</p>

	work plan are all web accessible) in FY 2016; FY 2017; FY 2018; FY 2019; FY 2020		15,000/yr
DLI#4: Timely and audited Procurement	<p>DLR# 4.1 Timely procurement audit report in FY 2016; FY 2017; FY 2018; FY 2019; FY 2020</p> <p>DLR#4.2: Timely and satisfactory procurement progress report in FY 2016; FY 2017; FY 2018; FY 2019; FY 2020</p>	300,000	<p>DLR#4.1: 30,000/yr</p> <p>DLR#4.2: 30,000/yr</p>

9.0 RESULTS FRAMEWORK

Table 3. Results framework

Project Development Objective (PDO): The Project Development Objectives (PDO) for the proposed ACE II is to support the Recipient to strengthen selected Participating Universities in the Participating countries' territory in Eastern and Southern Africa to deliver quality post-graduate education and build collaborative research capacity in the regional priority areas.												
PDO Level Results Indicators*	Core	Unit of Measure	Baseline ¹	Cumulative Target Values**					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Definition
				YR 1 ²	YR 2	YR 3	YR 4	YR 5				
1. No. of regional students enrolled in ACEs: (i) Masters [<i>no. Of which are female</i>] and (ii) PhD programs [<i>no. Of which are females</i> ³]	X <input type="checkbox"/>	No	i. 7 (3) ii. 3 (1)	i. 17 (7) ii. 6 (2)	i. 32 (13) ii. 9 (3)	i. 47 (19) ii. 15 (5)	i. 62 (25) ii. 15 (5)	i. 77 (31) ii. 18 (6)	Annual	ACE Progress Reports	ACE and RFU	This indicator measures the number of African students (excluding those from the ACE hosting country) who are enrolled in (i) Masters who have successfully completed at least on semester and (ii) PhDs at the ACEs.
2. Total no. of students (national and regional) enrolled in ACEs: (i) Master's [<i>no. of which are female</i>] and (ii) PhD programs [<i>no. of which are females</i>]	X <input type="checkbox"/>	No	i. 15 (6) ii. 6 (2)	i. 35 (14) ii. 12 (4)	i. 65 (26) ii. 18 (6)	i. 95 (38) ii. 24 (8)	i. 125 (50) ii. 30 (10)	i. 155 (62) ii. 36 (12)	Annual	ACE Progress Reports	ACE and RFU	This indicator measures the total number of students (national and regional) enrolled in (i) Masters, who have successfully completed at least one semester and (ii) PhD programs at ACEs.
3. No. of MOUs on collaboration and partnerships for applied research and training entered into by	X	No	04	05	06	08	08	08	Annual	ACE Progress Reports	ACE and RFU	This indicator measures the number of collaborations and partnerships for applied research and

¹ Baseline should reflect the status of the stated indicator in 2015

² Some of the indicators may require a target of zero or N/A for year one. If so, the rationale will be explained in the comments column, and milestones clearly set and defined.

³ Target numbers with respect to females might vary depending on the engaged sectors (e.g., extractive industries vis-a-vis health).

the ACEs.	<input type="checkbox"/>												training as measured MoUs and signed proposals that outline at least two year collaboration and partnership work program
4. No. of accredited education programs	X <input type="checkbox"/>	No	07	08	10	10	10	10	Annual	ACE Progress Reports	ACE and RFU	This indicator measures the quality of Masters and PhD programs and counts the number of programs accredited nationally, regionally and internationally by a body satisfactory to IUCEA and the World Bank.	

INTERMEDIATE RESULTS

Intermediate Result (Component One):

1. No. of faculty and PhD students exchanges to promote research and teaching <i>[no. of which are females]</i>	X <input type="checkbox"/>	No	0 (0)	6 (2)	14 (4)	24 (7)	36 (11)	36 (11)	Annual	ACE Progress Reports	ACE and RFU	This indicator measures number of faculty and PhDs who are hosted by ACEs from other institutions or when ACEs sends their faculty/PhD students to other institutions; locally, in the region or internationally for a “period” of minimum two weeks (for teaching or research collaboration).
2. Amount of externally generated revenue by the ACEs ⁴		US\$	0	10,000	20,000	40,000	80,000	200,000	Annual	ACE Progress Reports	ACE and RFU	This amount includes externally generated revenue deposited into the ACE’s account from

⁴ The externally generated revenue would need to be certified as part of the financial audit.

institutions, academia and diaspora ⁵												events organised by IUCEA. Where ACEs can share experience and research output.
2. Reporting by ACEs on Beneficiary Satisfaction		No							Annual	ACE Progress Report	ACE and IUCEA	ACE reports on beneficiary satisfaction on teaching
3. ACE project implementation team meetings held at IUCEA with circulated minutes		No							Every other month	IUCEA	IUCEA	In total 6 meetings. Disclose the meeting minutes to WB supervision team.
4. Biannual reporting on M&E of the ACEs		No							Every 6 month	IUCEA	ACEs	The report will aggregate individual results from the results framework for each ACE

⁵ During these events, there will be a discussion of program process, lessons learned, and recommendations for addressing bottlenecks, all to be compiled in a report.

10.0 DETAILED BUDGET

Table 4. Budget

Total Budget requested for implementing the ACEEZD project: US\$ 6,000,000=00

DETAILED BUDGET

Budget line	Activity/task	2016	2017	2018	2019	2020	Total budget
Action plan 1	Enhance capacity to deliver regional high-quality training						
	Review curricula for three MSc Programs at UNZA	17,500	17,500	0	0	0	35,000
	New curricula for MSc Programs at CBU	7,500	7,500	0	0	0	15,000
	Develop new curricula at UNZA	10,000	20,000	20,000	0	0	50,000
	Training 80 MSc students and 22 PhD students at UNZA	212,560	212,560	212,560	120,000	120,000	877,680
	Training 20 MSc students at CBU	0	87,500	87,500	87,500	87,500	350,000
	Develop new Short courses curricula and training 180 students and 16 staff	30,000	50,000	50,000	50,000	50,000	230,000
	Redesigning and furnishing of ACEEZD secretariat	300,000	500,000	0	0	0	800,000
	Procurement of Laboratory equipment	250,000	150,000	0	0	0	400,000

	Procurement of consumables	50,000	70,000	70,000	30,000	20,000	240,000
	Purchase of 2 motor vehicles	150,000	0	0	0	0	150,000
	Maintenance of equipment and vehicle insurance	15,000	15,000	15,000	15,000	15,000	75,000
	Procurement of ICT facilities	60,000	60,000	10000	10000	10000	150,000
	Subtotal	855,000	845,000	145,000	105,000	95,000	3,372,680
Action plan 2	Research Excellence						
	Collaborative research grants	0	40,000	40,000	20,000	15,000	115,000
	Joint publications in high impact journal	0	5,000	10,000	5,000	5,000	25,000
	Local conference participation	2,000	5,000	7,500	5,500	3,000	23,000
	International conference participation	0	15,000	25,000	25,000	10,000	75,000
	Student research funds	40,000	150,000	100,000	100,000	80,000	470,000
	Subtotal	42,000	215,000	182,500	155,500	113,000	708,000
Action plan 3	Quality Assurance						
	Development of quality assurance assessment tools	10,000	0	0	0	0	10,000
	International Scientific Advisory Board (ISAB)	0	18,000	18,000	10,000	9,000	55,000
	Subtotal	10,000	18,000	18,000	10,000	9,000	65,000
Action plan 4	Equity Dimensions						
	Sensitization of female students	4,000	4,000	4,000	4,000	4,000	20,000
	Conduct gender specific						

	workshops	13000	13,000	13,000	13,000	13000	65,000
	Subtotals	17,000	17,000	17,000	17,000	17,000	85,000
Action plan 5	Attracting academic staff and students from the region						
	Language support	3,000	3,000	3,000	3,000	3,000	15,000
	Subtotal	3,000	3,000	3,000	3,000	3,000	15,000
Action plan 6	Collaboration with international academic partners						
	Academic staff exchange	20000	20,000	20,000	20,000	20000	100,000
	Joint research projects development meetings for resource mobilization	0	20,000	20,000	10,000	0	50,000
	Subtotal	20000	40000	40000	30000	20000	150,000
Action plan 7	Management and governance						
	Steering committee meetings	15,000	15,000	15,000	15,000	15,000	75,000
	Financial audit	8,750	8,750	8,750	8,750		35,000
	Administrative costs	173,800	173,800	173,964	174,000	174,000	869,564
	Subtotal	197,550	197,550	197,714	197,750	189,000	979,564
Action plan 8	Monitoring and Evaluation						
	Monitoring and evaluation	40,000	40,000	40,000	40,000	40,000	200,000
	Subtotal	40,000	40,000	40,000	40,000	40,000	200,000
	Subtotal	1,184,550	1,375,550	643,214	558,250	486,000	5,575,244
	Contingency	118455	137555	64321.4	55825	48600	424,756
	GRAND TOTAL						6,000,000

Table 5 : Overview distribution among partners

Budget line	Activity/task	2016	2017	2018	2019	2020	Total budget
Action plan	Enhance capacity to deliver Regional and international high-quality training						
	New curricula for MSc Programs at CBU	20,500	20,500	0	0	0	41,000
	Training of MSc and PhD students by SACIDS	10,500	10,500	10,500	10,500	0	42,000
	Training 20 MSc students at CBU	0	87,500	87,500	87,500	87,500	350,000
	Procurement of Laboratory Equipment at CBU	15,000	15,000	0	0	0	30,000
	Procurement of equipment at Hokkaido University	18,000	18,000	0	0	0	36,000
	Training of MSc and PhD students by Hokkaido University	80,000	80,000	80,000	80,000	80,000	400,000
	Procurement of ICT facilities at CBU	2,000	2,000	2,000	2,000	2,000	10,000
	Subtotal	146,000	233,500	233,000	233,000	213,000	901, 000
	GRAND TOTAL						6,000,000

11.0. DETAILED ACTIVITY SHEETS

Action Plan 1: ACEEZD action plan to strengthen management among collaborating Partners

Time frame: 2016 to 2020

Activity 1: Develop management capacity among collaborating Partners

RESULT	Increased high level of management for efficient management of the project	
SUB ACTIVITY or TASK	<ul style="list-style-type: none"> • Hold inception meetings • Organise bimonthly management meetings • Organise two day meetings of members of ISAB • Critical staff training in project and financial management. • Procurement of motor vehicles. • Recruitment and hire of all key personnel 	
OUTPUT	<ul style="list-style-type: none"> • Awareness of mode of operation of the project among partner • organisation • Criteria for ensuring quality output of research and operations • Faculty staff trained and exposed in relevant skills in financial and • project management • Local dissemination of research findings for information and visibility of project Improved mobility 	
OUTPUT INDICATOR		Source of verification
<ul style="list-style-type: none"> • Number of meetings held • Number of participants trained • Number of vehicles procured • Number of conferences attended • Number of payments made 		<ul style="list-style-type: none"> • Record of minutes of meetings • Financial records • Vehicles purchased • Reports
IMPLEMENTATION MILESTONES	<ul style="list-style-type: none"> • inception meeting to be held by 31/10/2016 • 24 meetings to be held by 31/12/2020 • One project and financial management meeting to held by 31/06/2017 • 2 vehicles to be procured by 31/01/2017 	
Procurement: Venue for meetings, quotations for purchase of motor vehicles		
RESPONSIBILITY FOR IMPLEMENTATION	Centre Leader and Team	
DURATION: 4 years	Commencement: 01/10/2016	Completion: 28/12/2020

PRIMARY CONSTITUENCIES		Participants					
ASSUMPTIONS		<ul style="list-style-type: none"> • Successful establishment of collaborations with partner institutions. • Another assumption made is that funds will be made available on time for activities to be undertaken 					
FINANCIAL IMPLICATIONS		Budget from project					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	Procurement of vehicles	150,000	0	0	0	0	150,000
1.2	Maintenance of equipment and vehicles insurance	15,000	15,000	15,000	15,000	15,000	75,000
Total							225,000

Action Plan 2: ACEEZD action plan to strengthen Teaching Excellence of emerging and zoonotic diseases

Time frame: 12 Months

Activity 2.1: Curriculum review development workshop involving partner institutions

RESULT		Reviewed MSc Curricula in Infectious Diseases					
SUB ACTIVITY or TASK		<ul style="list-style-type: none"> • Hold Stake holders meetings • Conduct GAP analysis with partner institutions • Review the curriculum 					
OUTPUT		<ul style="list-style-type: none"> • Curricula documents • Training needs assessments reports 					
OUTPUT INDICATOR		Source of verification					
Number of meetings held		Record of minutes of meetings					
Number of curricula documents		Curricula documents					
IMPLEMENTATION MILESTONES		<ul style="list-style-type: none"> • Stakeholders meetings held by 31/01/2017 • UNZA curricula ready by 31/04/2017 • CBU curricula ready by 31/04/2017 					
Procurement : Stationary, Printing materials and supplies, Funds to facilitate accreditation process							
RESPONSIBILITY FOR IMPLEMENTATION		Centre Leader and Project Management Team					
DURATION: 12 months		Commencement: 01/10/2016				Completion:	

							13/12/2017
PRIMARY CONSTITUENCIES: Staff at CBU and UNZA School of Medicine		Participants: Collaborative partners					
ASSUMPTIONS		<ul style="list-style-type: none"> • Collaborative partners will be available throughout the curriculum development phases • Needs and demand of courses will bring novelty and creativity within the region and beyond • Funds will be made available on time for activities to be undertaken. 					
FINANCIAL IMPLICATIONS		Budget from project					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	Curriculum review on infectious disease courses and development workshop involving partner institutions	17,500	17,500	0	0	0	35,000
Total							35,000

Action Plan 2: ACEEZD action plan to strengthen Teaching Excellence of emerging and zoonotic diseases
Time frame: 24 Months

Activity 2.2: Development of new MSc. degrees

RESULT		New MSc courses developed					
SUB ACTIVITY or TASK		<ul style="list-style-type: none"> • Hold Stake holders meetings • Conduct GAP analysis with partner institutions • Needs assessment 					
OUTPUT		<ul style="list-style-type: none"> • New MSc programmes at UNZA • New MSC Programmes at CBU 					
OUTPUT INDICATOR			SOURCE OF VERIFICATION				
<ul style="list-style-type: none"> • No. of modules produced • Number of meetings held • Number of curricula documents 			<ul style="list-style-type: none"> • Available modules • Course outlines • Minutes of meetings and workshops 				
IMPLEMENTATION MILESTONES		<ul style="list-style-type: none"> • Start running of new MSc programmes at UNZA and CBU • Securement of external donor funding 					
Procurement : Payments for stationery and workshop costs							
RESPONSIBILITY FOR IMPLEMENTATION			Centre Leader, Project Management Team and Collaborating partners				
DURATION: 24 months		Commencement: 01/03/ 2016			Completion: 30/03/2019		
PRIMARY CONSTITUENCIES:			Participants: National and regional partners				
National and Regional Institutions of higher learning							
ASSUMPTIONS			<ul style="list-style-type: none"> • Availability of resource persons 				
FINANCIAL IMPLICATIONS			Costs of facilitation and coordination of the exchange				
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	New MSc programmes at UNZA	10,000	20,000	20,000	0	0	50,000

1.2	New MSC programmes at CBU	7,500	7,500	0	0	0	15,000
Total							65,000

Action Plan 2: ACEEZD action plan to strengthen Teaching Excellence of emerging and zoonotic diseases

Time frame: 9 Months

Activity 2.3: Development and implementation of new short specialised courses

RESULT	New short courses developed	
SUB ACTIVITY or TASK	<ul style="list-style-type: none"> • Hold Stake holders meetings • Conduct GAP analysis with partner institutions • Needs assessment 	
OUTPUT	<ul style="list-style-type: none"> • New short course programmes 	
OUTPUT INDICATOR	SOURCE OF VERIFICATION	
<ul style="list-style-type: none"> • No. of modules produced • Number of meetings held • Number of curricula documents 	<ul style="list-style-type: none"> • Available modules • Course outlines • Minutes of meetings and workshops 	
IMPLEMENTATION MILESTONES	<ul style="list-style-type: none"> • Start running of short courses by 31/06/2017 	
Procurement : Payments for stationery and workshop costs		
RESPONSIBILITY FOR IMPLEMENTATION	Centre Leader, ACEEZD Team and Collaborating partners	
DURATION: 9 months	Commencement: 01/01/20117	Completion: 30/04/2017
PRIMARY CONSTITUENCIES: National and Regional Institutions of	Participants: National and regional partners	

higher learning							
ASSUMPTIONS		<ul style="list-style-type: none"> • Availability of resource persons 					
FINANCIAL IMPLICATIONS		Costs of facilitation and coordination of the exchange					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	New short course programmes	30,000	50,000	50,000	50,000	50,000	230,000
Total							230,000

Action Plan 2: ACEEZD action plan to strengthen Teaching Excellence of emerging and zoonotic diseases
Time frame: 24 Months

Activity 2.4: Procurement of e-learning materials, new learning strategies and platforms

RESULT		New e-learning materials and platforms purchased	
SUB ACTIVITY or TASK		<ul style="list-style-type: none"> • Purchase e-learning materials • Development of e-learning platforms 	
OUTPUT		<ul style="list-style-type: none"> • New e-learning materials purchased and e-learning platforms developed 	
OUTPUT INDICATOR		Source of verification	
<ul style="list-style-type: none"> • No. of e-learning materials purchased • Number of e-learning platforms developed 		<ul style="list-style-type: none"> • Available ICT materials • GRN (Procurement) books 	
IMPLEMENTATION MILESTONES		<ul style="list-style-type: none"> • Functional e-learning platforms and computer laboratory by 31/12/2017 	
Procurement: Payments for ICT materials			
RESPONSIBILITY FOR IMPLEMENTATION		Centre Leader, ACE Team and Collaborating partners	
DURATION: 24 months		Commencement: 30/10/ 2017	
		Completion: 30/01/ 2017	

PRIMARY CONSTITUENCIES: National and Regional Institutions of higher learning		Participants: National and regional partners					
ASSUMPTIONS		<ul style="list-style-type: none"> • Availability of e-learning materials • Timely release of funds 					
FINANCIAL IMPLICATIONS		Costs of facilitation and coordination of the exchange					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	Cost of ICT learning materials	60,000	60,000	10,000	10,000	10,000	150,000
Total							150,000

ACTION PLAN 3: STRENGTHENING RESEARCH EXCELLENCE

Time frame: 2016 - 2019

Activity 3.1: Organization and formation of a core team to manage research on emerging and zoonotic diseases

RESULT	Formation of a multidisciplinary team to enhance research addressing infectious diseases of humans and animals	
SUB ACTIVITY or TASK	<ul style="list-style-type: none"> • Identify critical areas of research • Conduct joint reviews of all thematic areas of research • Enhance collaboration of the one health theme among project partners 	
OUTPUT	<ul style="list-style-type: none"> • Clear identification of research themes involving infectious diseases from humans and animals • Strong joint collaboration among partners 	
OUTPUT INDICATOR	SOURCE OF VERIFICATION	
<ul style="list-style-type: none"> • Meetings organised by partner institutions • Attendance or level of participation by partners 	<ul style="list-style-type: none"> • Meeting reports • Existence of multidisciplinary core team 	
IMPLEMENTATION MILESTONES	<ul style="list-style-type: none"> • First meeting organised by 31/04/2016 • Identified leaders from project partners by 31/10/2016 • Increased interaction of partner institutions by 31/12/2016 • Policy for multidisciplinary research embedded in the project activities by 31/03/2017 	

Procurement: Transparent hiring of the highly skilled persons by advertising								
RESPONSIBILITY FOR IMPLEMENTATION			Centre Leader and Team					
DURATION: 48 hours			Commencement: 01/12/2016			Completion: 31/12/2019		
PRIMARY CONSTITUENCIES:			Participants:					
ASSUMPTIONS			<ul style="list-style-type: none"> That there will be interest from experts of infectious diseases in both humans and animals to actively participate in the activities of the project 					
FINANCIAL IMPLICATIONS			Budget from project					
Budget Line			2016	2017	2018	2019	2020	Total (US\$)
1.1	Collaborative research grants		0	40,000	40,000	20,000	15,000	115,000
1.2	Organise proposal writing, research methodology and publication workshop for trainer of trainers in collaborating/partner Institutions		0	20,000	20,000	10,000	0	50,000
Total								165,000

ACTION PLAN 3: STRENGTHENING RESEARCH EXCELLENCE

Time frame: 2016 to 2019

Activity 3.2: Improvement of the research environment for quality teaching and learning

RESULT	Improved laboratory and accessory research facilities for quality learning and research
SUB ACTIVITY or TASK	<ul style="list-style-type: none"> Procurement of research equipment Procurement of research reagents Provision of funds for research activities in the field
OUTPUT	<ul style="list-style-type: none"> ACEEZD will be equipped and stocked to carry out research and experimentation

		<ul style="list-style-type: none"> • Availability of materials for research and teaching 					
OUTPUT INDICATOR		SOURCE OF VERIFICATION					
<ul style="list-style-type: none"> • Research equipment and tools procured and installed at the centre • Student research activities 		<ul style="list-style-type: none"> • Reports • Site verification • Procurement records 					
IMPLEMENTATION MILESTONES		<ul style="list-style-type: none"> • Procurement of research equipment and tools to be completed by 31/12/2018 • Procurement of reagents and research materials by 31/12/2019 • Successful implementation of Student research activities by 31/12/2019 					
Procurement: According to UNZA procurement policy and guidelines							
RESPONSIBILITY FOR IMPLEMENTATION		Centre Leader and Team					
DURATION: 48 months		Commencement: 01/12/2016			Completion: 31/06/2019		
PRIMARY CONSTITUENCIES:		Participants:					
ASSUMPTIONS		<ul style="list-style-type: none"> • The bidding and award of contracts to supply the necessary equipment will not face unnecessary delays. Funds from the Grant will have to be made available accordingly. 					
FINANCIAL IMPLICATIONS		Budget from project					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	Procurement of laboratory equipment	250,000	150,000	0	0	0	400,000
1.2	Procurement of laboratory reagents/consumables	250,000	150,000	0	0	0	240,000
1.3	Disbursement of student research grants	40,000	150,000	100,000	100,000	80,000	470,000
Total							1,110,000

Action Plan: 4. ACEEZD action plan ACEEZD action plan to attract regional and international students
Timeframe: 2017-2019

Activity: 4.2. Faculty exchange programs between partner institutions

RESULT	Faculty exchange program operationalized	
SUB ACTIVITY or TASK	<ul style="list-style-type: none"> Participate in faculty exchange involving students, Postdoctoral fellows and academics between partner institutions 	
Output	<ul style="list-style-type: none"> Trips to and from prospective partner institutions 	
OUTPUT INDICATOR		Source of verification
<ul style="list-style-type: none"> No. of faculty exchanges completed Increase in students and faculties visiting ACEEZD for various programs Increased funding from diverse sources 		<ul style="list-style-type: none"> Number of Memorandum of Memorandum (MoUs) entered Number of visiting scholars/faculties External revenue and support generated Accounts summary
IMPLEMENTATION MILESTONES	<ul style="list-style-type: none"> Start running of MSc, PhD, Postdoctoral training and short courses programs Sourcing of external donor funding initiated 	
Procurement: Payments for return airfares, visa fees, land transport, adverts, logistics at meetings, communications, and courier services		
RESPONSIBILITY FOR IMPLEMENTATION	Centre Leader, ACEEZD Team and collaborating partners	
DURATION: 24 months	Commencement: 01/06/2017	Completion: 01/06/2019
PRIMARY CONSTITUENCIES: National and Regional Institutions of higher learning	Participants: National and regional students, postdoctoral fellows and staff	
ASSUMPTIONS	<ul style="list-style-type: none"> Affiliated Institutions with aligned policy mandate will be supportive and would remain committed to the project MoUs are in place and identification of research themes and collaborative partners' inputs There is demand for the courses and programs which will be introduced and students within the region and beyond will be interested and enrol. 	

		<ul style="list-style-type: none"> Funds will be made available on time for activities to be undertaken 					
FINANCIAL IMPLICATIONS		Budget from project					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	Staff exchange (local/international travel, accommodation etc)	20,000	20,000	20,000	20,000	20,000	100,000
Total							100,000

Action Plan: 4. ACEEZD action plan ACEEZD action plan to attract regional and international students

Timeframe: 36 months (2016-2018)

Activity: 4.3. Language support

RESULT	<ul style="list-style-type: none"> Run an equivalent of Test of English as a foreign language (TOEFL) training English-language proficiency for students 		
SUB ACTIVITY or TASK	<ul style="list-style-type: none"> Provision of language support for students from the region 		
OUTPUT	<ul style="list-style-type: none"> Regional students who can speak and write English Increased patronage by non-Anglophone candidates 		
OUTPUT INDICATOR	<table border="1"> <tr> <td> <ul style="list-style-type: none"> No. of Students completing an English language class Language laboratory equipment and facilities available </td> <td> <p align="center">Source of verification</p> <ul style="list-style-type: none"> Student admission records Language class attendance registers Certificates of attendance </td> </tr> </table>	<ul style="list-style-type: none"> No. of Students completing an English language class Language laboratory equipment and facilities available 	<p align="center">Source of verification</p> <ul style="list-style-type: none"> Student admission records Language class attendance registers Certificates of attendance
<ul style="list-style-type: none"> No. of Students completing an English language class Language laboratory equipment and facilities available 	<p align="center">Source of verification</p> <ul style="list-style-type: none"> Student admission records Language class attendance registers Certificates of attendance 		
IMPLEMENTATION MILESTONES	<ul style="list-style-type: none"> Enrolled students start taking the language course 		
Procurement: Language interpreters, transmission device, installation, maintenance, personnel training cost			
RESPONSIBILITY FOR IMPLEMENTATION	Centre Leader, Centre Project Secretary and Collaborating Teaching Departments		
DURATION: 36 months	Commencement: Completion: 28/09/2020		

		01/06/2016					
PRIMARY CONSTITUENCIES: Regional Institutions of higher learning		Participants: Regional students and postdoctoral fellows					
ASSUMPTIONS		<ul style="list-style-type: none"> • Language laboratory shall continually be in good working condition throughout the project • Only candidates with limited English competencies will be admitted • Candidates will have basic understanding and knowledge of English • Language challenges from non- English speaking partners will be minimal • Students will speak and write English efficiently to avoid delays in completion of their programs • Funds will be made available on time for activities to be undertaken 					
FINANCIAL IMPLICATIONS		Cost of personnel and equipment					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	English Language support	3,000	3,000	3,000	3,000	3,000	15,000
Total							15,000

Action Plan 5: Improvement of centre infrastructure

Time frame: 2016-2017

Activity 5.1: Redesigning and furnishing of the ACE facility and Equipment maintenance

RESULT	Improved teaching and research facilities and other support facilities for quality teaching, learning and research	
SUB ACTIVITY or TASK	<ul style="list-style-type: none"> • Re-designing and furnishing of the centre of excellence, classrooms and supporting, teaching facilities • Equipment maintenance 	
Output	<ul style="list-style-type: none"> • Established ACEEZD with support equipment and structures for postgraduate teaching and research □ □ • Equipment maintained in good condition 	
OUTPUT INDICATOR	<ul style="list-style-type: none"> • Construction of ACEEZD commenced • Redesigned and furnished ACE facilities and support structure for postgraduate teaching and research put in place 	Source of verification Reports, Site verification, Documented images of refurbished ACEEZD
IMPLEMENTATION MILESTONES	<ul style="list-style-type: none"> • Redesign and furnish postgraduate resource centre, classrooms, staff office and other teaching facilities to be completed by 30/09/2018 	
Procurement: Consultants to facilitate ACEEZD re-designing, working with UNZA procurement Unit		
RESPONSIBILITY FOR IMPLEMENTATION	Centre Leader and Project Implementation Team	
DURATION: 19 months	Commencement: 01/01/2017	Completion: 31/12/2018
PRIMARY CONSTITUENCIES: Architectural Team of University of Zambia, Staff of the ACEEZD	Participants: University of Zambia, Contractors	
ASSUMPTIONS	<ul style="list-style-type: none"> • The bidding and award of contract for the redesigning of the building will not face any delays 	

		<ul style="list-style-type: none"> • Contractors and suppliers will stick to the schedule of the contract • Timely disbursement of funds to carry out the activities 					
FINANCIAL IMPLICATIONS		Budget from project					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	Redesigning and complete renovation of ACEEZD facilities for teaching and research	300,000	500,000	0	0	0	800,000
Total							800,000

Action Plan 6: ACEEZD action plan for capacity building

Timeframe: 2016-2020

Activity 6: Training of postgraduate students

RESULT	Graduates at MSc and PhD levels and cadre of professionally trained human resource
SUB ACTIVITY or TASK	<ul style="list-style-type: none"> • Training of MSc students • Training of PhD students • Short specialized course training • Laboratory training and enhancement • Self evaluation and GAP assessment of programmes
OUTPUT	<ul style="list-style-type: none"> • MSc students trained • PhD students trained • Professionals trained in relevant ACE short courses • Ministry of Health as well as Ministry of Fisheries and Livestock staff trained in laboratory techniques • GAP analysis done

OUTPUT INDICATOR		Source of verification					
<ul style="list-style-type: none"> No. of MSc and PhD students graduating Number of professionals graduating from short courses and laboratory training 		<ul style="list-style-type: none"> Student admission records Graduation records Certificates of attendance 					
IMPLEMENTATION MILESTONES		Enrolled students start taking the courses					
Procurement: Teaching and research staff and technicians							
RESPONSIBILITY FOR IMPLEMENTATION		Centre Leader and Project Management Team, Collaborating teaching departments					
DURATION: 48 months		Commencement: 01/12/2016			Completion: 31/12/2020		
PRIMARY CONSTITUENCIES: Regional institutions of higher learning		Participants: Regional and national students					
ASSUMPTIONS		<ul style="list-style-type: none"> Timely disbursement of funds to carry out the activities 					
FINANCIAL IMPLICATIONS		Budget from project					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	Training of MSC and PhD students at UNZA	212,560	212,560	212,560	120,000	120,000	877,680
1.2	Training of MSc students at CBU	0	87,500	87,500	87,500	87,500	350,000
1.3	Disbursement of student research funds	40,000	150,000	100,000	100,000	80,000	470,000
Total							1,697,680

Action Plan: 7. ACEEZD action plan to build strong collaboration with all partner institutions

Timeframe: 2017-2020

Activity: 7. Bring together all collaborating partners for scientific seminars

RESULT	Scientific meetings with collaborating partners and students will be conducted	
SUB ACTIVITY or TASK	<ul style="list-style-type: none"> • Joint seminars for MSc, PhD and senior researchers • Joint academic institutions and industry research discussions 	
OUTPUT	<ul style="list-style-type: none"> • Joint seminars for students and senior researchers held • Strengthened joint research relations with industry and academic institutions 	
OUTPUT INDICATOR	Source of verification	
<ul style="list-style-type: none"> • Number of Students and seminar reports • Number of private sector counterparts 	<ul style="list-style-type: none"> • Seminar records • Minutes of joint meetings between academia and industry 	
IMPLEMENTATION MILESTONES	Successful student seminars and joint meetings with industry and academic inst	
Procurement: Hire of hosting venue, stationary and transport as well as facilitation fees		
RESPONSIBILITY FOR IMPLEMENTATION	Centre Leader and Project Management Team, Collaborating teaching departments	
DURATION: 48 months	Commencement: 01/0122016	Completion: 31/12/2018
PRIMARY CONSTITUENCIES: Regional institutions of higher learning and industry	Participants: Regional and national students	
ASSUMPTIONS	<ul style="list-style-type: none"> • Timely disbursement of funds to carry out the activities 	

FINANCIAL IMPLICATIONS		Budget from project					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	Joint research projects development meetings for resource mobilization	0	20,000	20,000	10,000	0	50,000
	Academic staff exchange	20,000	20,000	20,000	20,000	20000	100,000
Total							150,000

Action Plan: 8. Improve governance and administration of ACEEZD
Timeframe: 2016-2020

Activity 8: Establishment of accountability governance systems

RESULT	Timely auditing, monitoring and evaluation	
SUB ACTIVITY or TASK	<ul style="list-style-type: none"> Financial auditing, monitoring and evaluation Signing of MoUs with partners 	
Output	<ul style="list-style-type: none"> Accountability Functional governance systems 	
OUTPUT INDICATOR		Source of verification
		<ul style="list-style-type: none"> Audit reports MOUs
IMPLEMENTATION MILESTONES	<ul style="list-style-type: none"> 4 monitoring and evaluations mission to be done by 29/02/2020 3 ISAB meetings held by 29/02/2020 	
Procurement: Payments for auditors and courier charges		
RESPONSIBILITY FOR IMPLEMENTATION	Centre Leader and Project Management Team	
DURATION: 60 months	Commencement: 01/06/2016	Completion:

						31/12/2020	
PRIMARY CONSTITUENCIES: Private sector/industry		Participants: Industry and Regional /national students					
ASSUMPTIONS		Timely disbursement of funds					
FINANCIAL IMPLICATIONS		Cost of personnel and equipment					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	National Steering Committee meetings	15,000	15,000	15,000	15,000	15,000	75,000
1.2	Financial audit	8,750	8,750	8,750	8,750		35,000
1.3	Administrative costs	173,800	173,800	173,960	174,000	174,000	869,560
1.4	Development of quality assurance assessment tools	10,000	0	0	0	0	10,000
1.5	ISAB	0	18,000	18,000	10,000	9,000	55,000
1.6	Monitoring and evaluation	40,000	40,000	40,000	40,000	40,000	200,000
Total							1,244,560

Action Plan 9: Visibility and sustainable financing of ACEEZD

Timeframe: 2016-2020

Activity 9: Development of website and identification of potential sources for leverage funding

RESULT	Active information update, ACEEZD and core financing partners identified.	
SUB ACTIVITY or TASK	<ul style="list-style-type: none"> • Develop ACEEZD Website • Joint research project development meetings • Publications, policy briefs and dissertations of research findings 	
OUTPUT	<ul style="list-style-type: none"> • Increased website page visits and interest in ACEEZD activities • Additional outreach and recruitment programmes in the sub-region • Trained staff to regularly maintain and update website 	
OUTPUT INDICATOR		Source of verification
<ul style="list-style-type: none"> • Increase in number of programmes and short courses • Increased enrolment of regional students and teaching faculty • Constructive feedback generated from prospective students and faculty through interactive website 		<ul style="list-style-type: none"> • University of Zambia Center for Information and Communication Technology Administrator • ACEEZD accountant records
IMPLEMENTATION MILESTONES	<ul style="list-style-type: none"> • User friendly website available and running • Continuous updating of the website • Recruiting of the IT expert to maintain website 	
Procurement: ICT software		
RESPONSIBILITY FOR IMPLEMENTATION	Centre Leader and Project Management Team	
DURATION: 60 months	Commencement: 01/10/2016	Completion: 31/12/2020
PRIMARY CONSTITUENCIES: Prospective students, Faculty and	Participants: Regional partners, students and Faculty	

existing students learning							
ASSUMPTIONS		<ul style="list-style-type: none"> • Availability of funds • Adequate and reliable internet connectivity 					
FINANCIAL IMPLICATIONS		Cost of personnel and equipment					
Budget Line		2016	2017	2018	2019	2020	Total (US\$)
1.1	Gender specific workshop	13,000	13,000	13,000	13,000	13,000	65,000
1.2	Sensitisation of female students	4,000	4,000	4,000	4,000	4,000	20,000
1.3	Joint research projects development meetings for resource mobilization	0	20,000	20,000	10,000	0	50,000
1.4	Joint publication in high impact journals	0	5,000	10,000	5,000	5,000	25,000
1.5	Local conference participation	2,000	5,000	7,500	5,500	3,000	23,000
1.6	International conference participation	0	15,000	25,000	25,000	10,000	75,000
Total							258,000

