



INTERNATIONAL CENTRE FOR ENERGY AND ENVIRONMENTAL SUSTAINABILITY RESEARCH

UNIVERSITY OF UYO, UYO, NIGERIA



PROGRESS REPORT

DECEMBER, 2017



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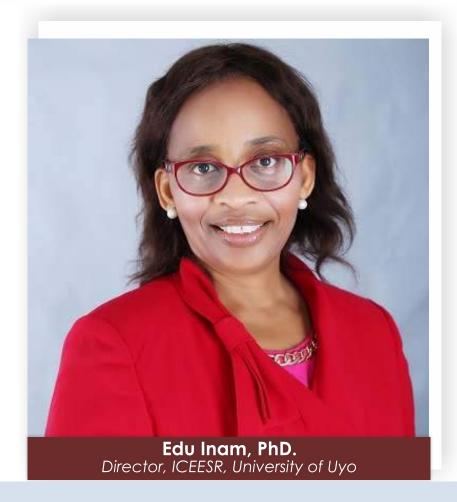
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n behalf of the Stakeholders and Management of the International Centre for Energy and Environmental Sustainability Research (ICEESR), I sincerely thank the Governing Council and Management of the University of Uyo for the support given to the Centre in these past years. I thank the Vice-Chancellor, Professor Enefiok E. Essien, SAN and the immediate past Vice-Chancellor, Professor (Mrs.) Comfort M. Ekpo for their immense contributions to enable the Centre take-off. We acknowledge the contributions and support from Gwangju Institute of Science and Technology (GIST), the American Chemical Society (ACS), Lancaster University, UK and those of our private partners who have remained very supportive even in the face of economic challenges: Mr. Udom Inoyo, Engr. Etido Inyang, Dr. (Mrs.) Uduak O. Luke, UNIUYO Support group, and many others.

This Progress Report captures the evolution of the International Centre for Energy and Environmental Sustainability Research (ICEESR) since her conceptualization in 2012. The report is intended to provide stakeholders with updated information on strides so far made by the Centre as well as to seek support in cash and kind to complete the Phase 1 building for the Centre to become fully operational.

We hope that by going through this publication, our stakeholders will be encouraged to increase the momentum of their support and other persons will develop interest in partnering and supporting this noble project.

We express appreciation to SPIDER Solutions Nigeria Ltd for support in developing the contents of this Report.

Edu J. Inam, PhD.

Director, International Centre for Energy and Environmental Sustainability Research

HOW IT STARTED

"While it may seem small, the ripple effects of small things is extraordinary"

Matt Bevin

he idea to set up a model research and training centre supported by the private sector and focused on research and training for sustainable developments in Nigeria started when three Nigerians met in Boston, Massachusetts, USA, in August 2010.

The three Nigerians were Dr. Edu Inam of the Department of Chemistry, University of Uyo, Dr. Francis Folusho then a Post Doctoral Scholar at New England Biolab, Boston, and Mr. Julius Akinyemi, Entrepreneur-in-Residence, Massachusetts Institute of Technology, USA. The meeting was facilitated by Mrs. Valerie Edozie of Schlumberger Nigeria Limited.

Dr. Edu Inam is a fellow of Schlumberger Faculty for the Future Programme and continues to enjoy close association with the Schlumberger Family.

After extensive deliberations by the trio, Dr. Inam had the mandate of getting approval from the University of Uyo to host as well as to key into this idea which had already turned into a vision. Dr. Ime Obot and Dr. Joseph Essien, (now a professor) very well-respected research scientists in the University of Uyo, came on board to strengthen the technical aspects while Dr. Utibe Aluyi, retail pharmacists, USA was coopted to expand linkages in USA.

On May 15, 2012, Dr. Edu Inam submitted a proposal for the establishment of a public-private sector driven research centre to be called "International Centre for Energy and Environmental Sustainability Research (ICEESR)" to the Director, Academic Planning through the Faculty of Science, University of Uyo. The proposal received a positive review and was presented to the 82nd meeting of the Senate by the Director, Academic Planning via a memo dated August 30, 2012. The proposal was approved by the senate, as a result advisory and management committees were constituted by the then Vice Chancellor, Professor (Mrs.)

Comfort M. Ekpo.

Members of the Advisory Committee were:

- 1) Prof. Okon Ansa (DVC Admin) Chairperson
- 2) Prof. Charles Uko Member
- 3) Prof. Anthony W. Akpan Member
- 4) Barr. Enobong Etuk (Legal Adviser) Secretary

Members of the Management Committee were:

- 1) Dr. Edu Inam, Dept. of Chemistry Chairperson
- 2) Dr. Valarie Solomon, Department of Agric. Economics & Extension Member
- 3) Prof. Joseph Essien, Department of Microbiology Member
- 4) Dr. Paul Udoh, Department of Mathematics Member
- 5) Prof. Emmanuel Akpabio, Department of Geography Member
- 6) Mrs. Gertrude Archibong, (then a staff in Students Affairs Division) Secretary

The Terms of Reference were:

The following terms of reference were given to the management committee:

- 1) To manage and implement the affairs of The International Centre for Energy and Environmental Sustainability Research (ICEESR) of the university.
- 2) To enter into sponsorship agreement on behalf of ICEESR with relevant interested parties.
- To collaborate with bodies both local and international to implement the objectives and projects of the ICEESR to the benefit of the university.
- 4) To perform other functions as may be assigned to it by the Vice Chancellor which is reasonable incidental to or necessary for the realization of the objectives of ICEESR.
- 5) To submit a quarterly report to the Vice Chancellor.

ABOUT US

BACKGROUND

igeria is lagging in internation all competitiveness and therefore needs to refine its educational system to turnaround this decline and encourage organizations and people to acquire, create, innovate, disseminate, and use knowledge more effectively for greater economic, environmental and social developments. Presently, there is no private sector driven research centre in any Nigerian University.

This project is to jointly build and organise a model research and innovation centre located in a Nigerian University (University of Uyo) that will specialize in providing scientific and technological solutions in the key sectors of energy and environment with specific focus in the oil and gas sector. As well as build indigenous capacities for these sectors.

The centre is called "International Centre for Energy and Environmental Sustainability Research" and has already secured partnerships with similar global centres including:

- Strategic Energy Institute, Georgia Institute of Technology, USA;
- Media Laboratory, Massachusetts Institute of Technology, USA;
- International Environmental Research Institute, Gwangju Institute of Science and Technology, South Korea; and
- Lancaster Environment Centre, Lancaster University, United Kingdom.

OBJECTIVE OF THE CENTRE

- To carry out industry-driven innovative research and training on science and technology for environmental sustainability;
- To share among the investing community resulting research outputs for commercialization.
- To undertake information dissemination, consultancy & advisory services; and
- To contribute to capacity building in the key areas of environmental management, geo-information, energy, technology and sustainable development.
- To increase the competitiveness and visibility of the University of Uyo locally and internationally.

SUSTAINABILITY OUTLOOK

ICEESR will be self sustaining from the following income streams;

- Training programmes and consultancy services at commercial rates;
- Sales of intellectual properties (IPs) and venture funds to facilitate spinoff companies; and
- Grants and endowments for open and bespoke researches.

MARKETS AND MARKETING OPPORTUNITIES

Akwa Ibom State with population of about three million people is home to four tertiary institutions (University of Uyo, Akwa Ibom State University, Ritman University, Obong University) and a major International Oil Company (EXXONMOBIL). There are over 200 packaged water producers across the state and oil spill incidents occur in the state.

Yet, there is no standard reference laboratory for water quality analysis and other environmental analysis. This project would deliver a state of the arts laboratory for water quality analysis in the first phase and would expand to develop additional research laboratories with specialty in soil quality and air quality analysis. The technology component of the project will deliver on cost effective technologies for water treatment and remediation of contaminated sites. The facility will serve neighbouring states of Imo, Abia and Cross River as well as neighbouring countries of Cameroun and Ghana. The Centre is envisaged to be a Regional Centre of Excellence for advanced research in environment and energy.

THE BUILDING PROJECT

The ICEESR building Project is designed to be completed in phases. The First phase will include completion of research building 1 comprising three laboratories (advance water quality and environmental chemistry laboratory; advance water microbiology and biotechnology laboratory and material science and nanotechnology laboratory). These three laboratories will specialize in analysing and developing technologies for raw water, wastewater and finished waters. The complementary facilities such as perimeter fence, utilities, and equipment are inclusive in the first phase. In future, the project will embark on expansion to include additional specialized laboratories, technology acquisition building, forty five rooms international accommodation and forty rooms office accommodation for colocation or spin in companies.

IMPORTANT TIMELINE



November 30, 2017

Laboratory building nearing roofing stage

June 13, 2016

Signing of MOU with Lancaster University, United Kingdom

November 5, 2015

Signing of MOU between Mr. Udom Inoyo (for Private Supporters) and UNIUYO

October 30,2015

Ground Breaking and Foundation laying ceremony

May 6, 2013 Signing of MOU with Gwangju Institute of Science and Technology, South Korea

April 15, 2013

Constitution of Interim Management and Advisory Committees

December 14, 2012

First Stakeholders Meeting

November 28, 2012

Approval by University of Uyo Senate

May 15, 2012

Submission of Proposal to Vice Chancellor, University of Uyo

OUR PARTNERS



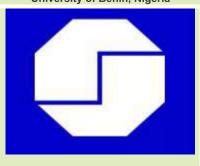
















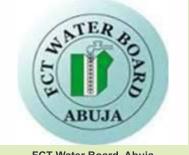




Envirofly Consulting, UK

Federal Ministry of Environment

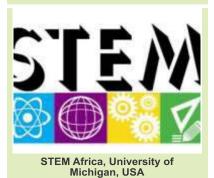






FCT Water Board, Abuja

Environment Unit United Nations Industrial Development Organization, Abuja Nigeria







Eversole Associates, USA



Since inception, ICEESR has successfully facilitated several activities that turned out to be very impactful. The Centre has also facilitated the capacity building of persons from the public sector within and outside Nigeria. In this segment, we highlight some of these activities.



TRAINING & WORKSHOPS

Activity: Science and Technical Training for Water Quality Monitoring and Management of Sustainable Water Resources

Source of funding: United Nations Office for South-South Cooperation and United Nations Development Programme (UN-OSSC, UNDP)

Description of Activity: ICEESR with her partner IERC, GIST received funding from United Nations Office for South-South Cooperation to train 25 middle level experts from African Institutions on advance water quality monitoring and sustainable management of water resources. The training was carried out at International Environmental Research Centre, Gwangju Institute of Science and technology, South Korea. Participants were selected after competitive screening process, and they were from Nigeria (9); Cameroon(3); Ghana(3); Malawi(1); Tanzania(3); Sudan(1); Kenya(1); Ethiopia(2) and Zimbabwe(1).



Participants from UNIUYO (Prof. Joseph Essien [4th from left on 2nd row] and Mrs. Esther Etim [Center in 1st row]) during the training





Participants from UniUyo after a Laboratory Session

TRAINING & WORKSHOPS

Activity: Science and Technical Training for Water Quality Monitoring and Management of Sustainable Water Resources - Contd





Participants (Mr. Itoro Udo and Mrs. Christiana Udosen) from UNIUYO and other Batch 2 and 3 trainees in 2014 and 2015 respectively

Activity: UNIUYO & GIST JOINT PROGRAM WORKSHOP

Source of Funding: Gwangju Institute of Science & Technology (GIST), South Korea

Duration: Two years (2014-2016)

Description: The joint workshop aimed to bring policy makers from government, researchers from academia and industry in open dialogue while learning from the experiences of South Korea (developed country) on topical issues affecting developing countries. The first edition on the theme "Water Security for Sustained Transformation" was held between June 15 and 18, 2015 at Denis Hotel, Abuja. The 2016 edition on the theme "Waste Management and Land Contamination" was held between June 13 and 16, 2016 at Le Meridien Ibom Hotel & Golf Resort, Uyo.



Abuja 2015: 1st UNIUYO & GIST Joint Programme Workshop on the theme: "Water Security for Sustained Transformation"



UYO 2016: 2nd UNIUYO & GIST Joint Programme Workshop on the theme: "Waste Management and Land Contamination"

Activity: Researcher Link Workshop

Source of Funding: British Council, United Kingdom

Duration: One year (2015)

Description: The workshop aimed to bring researchers from Universities in United Kingdom and their counterparts in Nigeria for information sharing and knowledge exchanges on a topic that concerns the two countries. The theme was "Future Proofing Agricultural Production against Environmental Change" was held in Abuja from January 28-30, 2015. Participants were drawn from University of Uyo, Aberystywth University, University of Calabar, University of Ibadan, University of Ilorin, Akwa Ibom State University, University of Port Harcourt, Lancaster University, Lincoln University and Environ-fly Consultancy, UK.



Activity: In-House workshop on Beyond Contaminant Concentration Measurements

Source of Funding: ICEESR UNIUYO

Duration: One day (2013)

Description: The workshop aimed at exposing researchers to advance data analysis of primary data in environmental monitoring of contaminants. The Invited Lecturer was Professor Hillary I. Inyang, Duke Energy Distinguished Professor of Environmental Engineering and Science and Professor of Earth Science, University of North Carolina, Charlotte, USA. The topic of the lecture was titled "Use of Data in Contaminant Migration Analyses and Environmental Risk Assessment." The workshop was held on January 7, 2013. Participants were from University of Uyo, Akwa Ibom State University and the Akwa Ibom State Polytechnic. Professor Hillary Inyang thereafter paid a courtesy call on the Vice-Chancellor, Prof. Comfort Ekpo to solicit support for ICEESR UNIUYO.



Activity: In-house Workshop on Advances in Water Quality Analytical Protocols

Source of Funding: ICEESR UNIUYO

Duration: One day (2014)

Description: The workshop aimed to give opportunity to participants from the training in South Korea to share their knowledge and experiences with staff and students in the Faculty of Science. The event took place on April 5, 2014 and the speakers were Professor Joseph Essien and Mr. Saviour Udo. It was attended by over fifty staff including the Dean of Science, Professor Godwin Esenowo while the Deputy Vice Chancellor (Academic) Professor Paul Ekwere represented the Vice Chancellor, Professor (Mrs.). Comfort M. Ekpo.



Participants at the Workshop

Activity: In-house workshop on Utilization of Waste Streams for the Development of Novel Products Applicable in Industrial and Agricultural Sectors

Source of Funding: ICEESR UNIUYO

Duration: One day (2016)

Description: The workshop aimed to share ideas among researchers from Faculties of Science Agriculture and Engineering on a future fundable multi-disciplinary project. The workshop was held on Tuesday, April 12, 2016 at the Multi-Purpose Hall, University of Uyo Main Campus. About 40 people were in attendance with lead speakers being Dr. Edu Inam and Professor Joseph Essien.



Participants at the Workshop

Activity: Global Innovation Imperative (GII) Forum

Source of Funding: American Chemical Society, United States of America

Duration: One year (2015)

Description: Global Innovation Imperative is a programme managed by the American Chemical Society (ACS) to foster creative solutions to imperatives of global significance (e.g clean water, food and health, etc). Nigeria, one of the fastest growing countries in the world both economically and demographically faces challenges with basic infrastructure. On the list of priorities is access to clean water as well as continuous monitoring of environmental hazards in waterways. Water contamination affects millions of residents in Nigeria leading to diseases and lower quality of life. GII 2015 sought to work with Nigerian scientists to address this challenge, therefore some Nigerian based scientists (Dr. Edu Inam lead; Prof. A. Y. Itah; Prof. Gloria Obuzor; Dr. Valerie Solomon) went to the United States for the purpose of gaining knowledge towards the establishment of the first water quality monitoring laboratory in Nigeria that will meet United States Environmental Protection Agency (USEPA) standards.



Delegates at Hampton University, Virginia USA



Delegates at U.S. Environmental Protection Agency, Washington DC

INTERNSHIPS

ostgraduate students conducting their research in ICEESR do have the opportunity to undertake internships in institutions collaborating with ICEESR. Three students from University of Uyo have benefitted from 6-months internship at Gwangju Institute of Science and Technology, South Korea, with funding from the Government of South Korea.





Mr. Nnanake-Abasi Offiong (3rd from right) with some colleagues during his internship at GIST, South Korea



Mr. Nsikak Abraham at GIST, South Korea



Mr. Nsikak Abraham (2nd row, Center) with some colleagues during his internship at GIST, South Korea



: Ms Inemesid Etuk at GIST, South Korea



Ms Inemesid Etuk (2nd from left) with some colleagues during his internship at GIST, South Korea



PARTNERSHIPS WITH WORLD CLASS INSTITUTIONS

he ICEESR continually aspires to become a world class institution for research and innovations, and a place where research-driven innovative solutions can be churned out on yearly basis. Given this aspiration, the Centre has since inception adopted strategies to partner with other world class institutions. To date, ICEESR has signed partnership agreements or Memoranda of Understandings with 3 world class institutions: Lancaster University, United Kingdom; Gwangju Institute of Science and Technology, South Korea; and the Strategic Energy Institute, Georgia Institute of Science and Technology, USA.



Professor Kirk T. Semple (L) of Lancaster University, United Kingdom with Professor Enefiok E. Essien, SAN, Vice Chancellor University of Uyo, Nigeria after the MOU signing ceremony June 13, 2016



Professor Paul D. Ekwere (DVC Academic) representing then VC Professor Comfort M. Ekpo exchanging MOU with Professor Kihong Park representing President of GIST, Korea, May 6, 2013



Professor Comfort M. Ekpo, Dr. Edu Inam, Professor Leo Daniel and Dr. Charles H. Huling at Strategic Energy Institute, Georgia Institute of Science and Technology, USA, August 9, 2014

PARTNERSHIP WITH PRIVATE SECTOR

he ICEESR recognizes the important role engagement with the private sector delivers on sustainibility and viability. Therefore, it was with great excitement and appreciation that ICEESR welcomed the endorsement by Mr. Udom Uko Inoyo, Executive Director, Exxon Mobil. Mr. Inoyo brings over 20 years of experience in the corporate world to add value to the programmes and activities of ICEESR.



Prof. Comfort Ekpo Vice Chancellor, exchanging MOU with Mr. Udom Inoyo on November 5, 2015



Front Row (L-R): Dr. Valerie A. Solomon; Dr. Engr. Okon Amasi; Dr. Edu Inam; Mr. Udom Inoyo; Professor Comfort M. Ekpo; Professor Trenchard Ibia; Professor Alfred Itah and Professor Essien D. Udosen Back Row (L-R): Professor Charles Uko; Barr. Enobong Etuk; Dr. Gertrude Archibong; Dr. Bassey Antia; Professor Isongesid Solomon; Colonel Nkanga Victor Efik; and Barr. Abasiumoh Ekong Bassey

PARTNERSHIP WITH UTILITY COMPANY

he ICEESR is open to partnership with government ministries and agencies to deliver sustainable solutions. ICEESR and her partner institution (IERC, GIST) is working on a joint project with FCT Water Board, Abuja to address sludge management from waste water and water treatment facilities.



ICEESR UNIUYO and IERC GIST Teams at Abuja Water Corporation after discussions on joint research projects, April 30, 2014



ICEESR UNIUYO Team and IERC GIST Team at Lower Usuma Dam Water Treatment Plant, Bwari, Abuja



ICEESR UNIUYO and IERC GIST Teams after meeting with stakeholders from Federal Ministry of Water Resources, Abuja Water Board and National Environmental Standards and Regulations Enforcement Agency (NESREA)



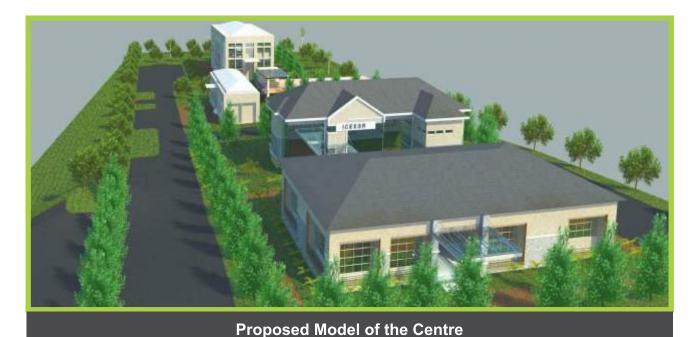
Activity: Research Centre Phase 1 Building Project

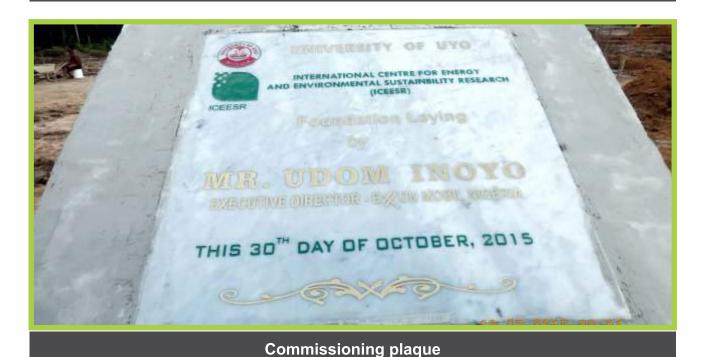
Source of Funding: UNIUYO/ Contributions from Investors

Estimated Budget: 50 million Naira

Duration: 2015 to date

Description: The Phase I Building will house 3 Advanced Laboratories, Advanced Data Processing Room, a Hi-Tech Lecture Room and Offices for both local and international scholars. The foundation laying ceremony of the building was performed by the Executive Director of ExxonMobil, Nigeria, Mr. Udom Inoyo represented by Dr. Chidi Eneogwe (Manager, Upstream Laboratories) as part of the activities during the 21st Convocation ceremony of the University of Uyo. The event was held on October 30, 2015 at the Permanent Campus, Nwaniba Road, Uyo, Akwa Ibom State.









Land clearing and pegging



Ground breaking and Foundation laying by Mr. Udom Inoyo's representative



The level of the building in December, 2016



Status of building as at November 2017

ICEESR TEAM

CONTRIBUTING TO NATIONAL DEVELOPMENT & IN INTERNATIONAL ARENA



ICEESR Director shines at Nigeria Content Development and Management Board Conference

he Director of ICEESR who is also the Acting Director, Centre for Research & Development, University of Uyo, Dr. Edu Inam, unveiled the maiden edition of the Nigerian Oil and Gas Industry Research and Development Journal (or simply NOGIC R&D Journal). This was done during the 1st Nigerian Oil and Gas Industry Research and Development Fair and Conference organized by the Nigerian Content Monitoring and Development Board (NCDBM). The event was one of the highlights of the conference held at Eko Convention Centre, in Victoria Island, Lagos between 25th and 27th September 2017. During the journal review and presentation, Dr Inam encouraged researchers at the meeting to develop local and sustainable technologies for utilization in the Nigerian Oil and Gas sector. She recommended the journal as a good resource for information for public office holders, researchers and university libraries. She emphasised that due to the linkages of the oil and gas industry with other sectors, contents of the journal are relevant for use in other fields such as economics, finance, management sciences, law, etc. In unveiling the journal, Dr. Inam was joined by the Executive Secretary, NCDMB, Engr. Simbi Wabote; Technical Senior Adviser to the Minister, Petroleum Resources, Mr. Gbite Adeniji; the Chairman, Senate Committee on Petroleum Resources (Upstream), Sen. Tayor Alasoadura; the Managing Director, Shell Petroleum Development Company (SPDC), Mr. Osagie Okunbor and MDs of other International Oil Companies (OICs) in Nigeria.



(L-R): Mr. Gbite Adeniji, Engr. Simbi Wabote, Dr Edu Inam, Sen. Tayo Alasoadura and Mr. Osagie Okunbor



Dr Inam presenting the NOGIC R&D Journal



Engr. Simbi Wabote (ES, NCDMB) and Dr Inam

ICEESR UNIUYO PARTICIPATES IN REVIEW AND UPDATE OF THE NATIONAL IMPLEMENTATION PLAN FOR THE STOCKHOLM CONVENTION ON PERSISTENT ORGANIC POLLUTANTS (POPs) PROJECT IMPLEMENTATION

ollowing the amendment of Annexes A, B, and C to the Stockholm Convention on Persistent Organic Pollutants in 2008 and 2011, it became obligatory for parties to review and update their original National Implementation Plans (NIPs) and transmit same to the convention secretariat in line with Article 7 of the convention. Consequently, Nigeria in collaboration with United Nations Industrial Organization (UNIDO), undertook the Global Environment Facility (GEF)- assisted "Enabling Activities for the review and update of the National Implementation Plan for Stockholm Convention on Persistent Organic Pollutants (POPs) Project". Dr. Edu Inam representing ICEESR UNIUYO was among the invited resource persons for the project carried out between 2014 and 2016.



A cross-section of participants at the event







A cross-section of participants at the event

ICEESR TEAM AT THE OFFICIAL LAUNCH OF CGE NIGERIA AND 2-DAY GCRF WORKSHOP

he University of Benin in collaboration with the Centre for Global Eco-Innovation (CGE), Lancaster Environment Centre, Lancaster University, UK officially launched Centre for Global Eco-innovation Nigeria and had a 2-day sensitization workshop on the Global Challenges Research Fund (GCRF) on the 15th and 16th of June, 2017 at the New Senate Chambers, University of Benin. The theme was "Eco-Innovation: Bridging the Valley of Death." ICEESR UNIUYO will be collaborating with CGE Nigeria to deliver eco-innovation products and services into the Nigerian market. Dr. Inam led ICEESR team to the official launch of the CGE Nigeria.



Dr. Edu Inam, Prof. Paul Nigel, Dr. Ruth Alcock



Other participants with Prof. Kirk T. Semple, Prof. Paul Nigel and Dr. Ruth Alcock

ICEESR TEAM IN INTERNATIONAL ARENA



The 13th UNU & GIST Joint Programme Symposium on Environmental Challenges for Urban Cities hosted at the University of the Philippines on November 15th to 19th 2015, Prof. Joseph Essien represented ICEESR UNIUYO.



Professor Joseph P. Essien with Dr. Suil Kang (Ministry of Science & Tech., South Korea)



L-R: Dr. Kenneth Widmer, Professor Joseph P. Essien and Professor Seunghee Han

ICEESR seeks strategic partnership with the Republic of Korea under the AUC/RoK Strategic Partnership Programme

CEESR is seeking strategic partnership with the Science and Technology Policy Institute of the Republic of Korea through the African Union Commission/Republic of Korea partnership programme. In 2016, the Science and Technology Policy Institute (STEPI)'s conducted a study on "Development of joint science and technology research cooperation system between the Republic of Korea and African Union." The purpose of the study was to identify the demands in science and technology and to develop ideas for project proposal of "Joint Research Program" between member states of the AU and Republic of Korea based on the Priorities of STISA by African Union. Hereafter, the Ministry of Science, ICT and Future Planning (MSIP) of ROK is willing to support and facilitate "Joint Research Program" reflected by the demands result as a priority. The ICEESR was selected as one of the potential institutional partners in Nigeria and was invited for a workshop in Addis Ababa, Ethiopia in April, 2017.





1st AU-ROK STI Workshop (African Union Commission, Department of Human Resources, Science and Technology, Republic of Korea, Science, Technology and Innovation Workshop) 2017 "Africa-Korea STI Cooperation, achieving Sustainable Development Goals (SDGs) for the Future" 25th-27th April 2017 - African Union Commissions Conference Complex, Addis Ababa, Ethiopia. Dr. Valerie Solomon (4th from left on the front row) represented ICEESR UNIUYO

ICEESR Director Selected as a Commonwealth Professional Fellow

r. Edu Inam, ICEESR Director was selected as one of the Commonwealth Professional Fellows for 2017. The Commonwealth Professional Fellowship is funded by the United Kingdom Department for International Development (DFID), and was hosted at Lancaster Environment Centre, Lancaster University between April 2, 2017 and May 29, 2017. The fellowship equiped participants with skills to develop business plans, activities and programmes to foster Government - Academia-Industry engagements and Eco-innovation products/ services.



The 2017 Commonwealth Fellows after receiving certificate of participation



L-R: Dr. Kwando Asante (Ghana), Dr. Edu Inam (Nigeria), Mr. Efosa Osamudiamen (Nigeria), and Mr. Hilary Ragen (Kenya)

ICEESR- PhD Student Appointed as a Young Observer in IUPAC

n 2019, the International Union of Pure & Applied Chemistry (IUPAC) will celebrate its centenary. In preparation for this centennial, IUPAC gathered chemists from across the world to coordinate yearlong activities that will lead to a grand finale in Paris. A PhD student in the International Centre for Energy and Environmental Sustainability Research, University of Uyo, Mr. Nnanake-Abasi Offiong was appointed into the Centenary Planning Committee after a careful selection procedure handled by the International Younger Chemists Network (IYCN) —an affiliate organization with IUPAC comprising a network of young chemists. In the committee, Mr. Offiong represents the IYCN and is the only African.

In order to quickly get integrated into the activities with the committee and in IUAPC generally, Mr. Offiong was sponsored as a Young Observer to attend the 46th World Chemistry Congress and 49th General Assembly of IUPAC held in Sao Paulo, Brazil in July 2017. During the meeting, Mr. Offiong was able to present his research, interact with other IUPAC delegates, attended scientific Divisional Meetings, and participated in the World Chemistry Leadership Meeting (WCLM).



Mr. Offiong (2nd row middle) with leaders and members of the Chemistry and Environment Division of IUPAC during the 49th General Assembly of the Union in Sao Paulo, Brazil



Mr. Offiong during his presentation at the IUPAC General Assembly 2017



Mr. Offiong (2nd row middle) with other delegates of the International Younger Chemists Network (IYCN) and some 2017 IUPAC Young Observers

UPCOMING INTERNATIONAL INVITATIONS FOR ICEESR UNIUYO STAFF



RECIRULATE Engagement and Knowledge Training workshop to be held at Lancaster University, Accra, Ghana on January 7-12, 2018

Funded by Global Challenges Research Fund United Kingdom .

DR. EDU INAMCentre Director / Principal Investigator:
Water Research and Technology



255th ACS National Meeting & Exposition which will be held on March 18-22, 2018 in New Orleans, LA

Funded by American Chemical Society, United States of America.

MR. NNANAKE-ABASI OFFIONG
Research Assistant/ PhD Candidate



5th Festival Training Institute to be held in Sharjah, United Arab Emirate on April 17-19, 2018

Funded by American Chemical Society, United States of America.

DR. ATIM JOHNSONPrincipal Investigator: Nano and Material Science Research



Published Science Citation Indexed (SCI) Articles of Our Principal Investigators and their Quartile Rating by Thomson Reuters

		and their Quartile Rating by Thomson Reuters	
	1	Inam, E. , Udo, O.O., Edet, J.B., Etim, U.J., Offiong, N.O. (2017). Adsorption of methylene blue from aqueous solution by humic acid extracted from humus freshwater river. Journal of Materials and Environmental Sciences, (in press)	Q3
	2	Fatunla, K., Inam, E. , Essien, J., Dan, E., Odon, A., Kang, S., & Semple, K. T. (2017). Influence of composting and thermal processing on the survival of microbial pathogens and nutritional status of Nigeria sewage sludge. International Journal of Recycling of Organic Waste in Agriculture, 6, 301-310.	Q2
2017	3	Benson, N. U., Udosen, E. D., Essien, J. P. , Anake, W. U., Adedapo, A. E., Akintokun, O. A., & Olajire, A. A. (2017). Geochemical fractionation and ecological risks assessment of benthic sediment-bound heavy metals from coastal ecosystems off the Equatorial Atlantic Ocean. International Journal of Sediment Research, 32(3), 410-420.	Q1
	4	Ebong, G. A., Etuk, H. S., & Dan, E. U. (2017). Distribution, pollution index and associated health risk of trace metals in waste-impacted soils within Akwa Ibom State, Nigeria. Geosystem Engineering, 1-14. DOI: https://doi.org/10.1080/12269328.2017.1376291	Q2
	5	Benson, N. U., Anake, W. U., Essien, J. P. , Enyoung, P. and Olajire, A. A. (2016). Distribution and risk assessment of trace metals in Leptodius exarata, surface water and sediment from Douglas Creek, Qua Iboe Estuary. Journal of Taibah University for Science, 11(3), 434 - 449	Q3
	6	Inam, E , Etim, U. J., Akpabio, E.G., & Umoren, S.A. (2016), Process optimization for Plantain peels carbon application in dye abstraction. Journal of Taibah University for Science, (Elsevier), http://dx.doi.org/10.1016/j.jtusci.2016.01.003	Q3
2016	7	Inam, E. , Offiong, N., Essien, J., Kang, S., Kang, S. Y & Antia, B. (2016). Polycyclic aromatic hydrocarbons loads and potential risks in freshwater ecosystem of the Ikpa River Basin, Niger Delta, Nigeria. Environmental Monitoring and Assessment (Springer), 188:1-16 DOI: doi.org/10.1007/s10661-015-5038-9	Q2
	8	Inam, E. , Ibanga, F., Essien, J. (2016). Bioaccumulation and cancer risk of polycyclic aromatic hydrocarbons in leafy vegetables grown in soils within automobile repair complex and environ in Uyo, Nigeria. Environmental Monitoring and Assessment (Springer), 188: 681. DOI: doi.org/10.1007/s10661-016-5695-3	Q2
10		Inam E Officing N. Kang S. Vang D. & Ession J. (2015). Assessment of the assistance	
2015	9	Inam, E. , Offiong, N., Kang, S., Yang, P., & Essien, J. (2015). Assessment of the occurrence and risks of emerging organic pollutants (EOPs) in Ikpa River Basin freshwater ecosystem, Niger Delta, Nigeria. Bulletin of Environmental Contamination and Toxicology, 95(5): 624-631.	Q2
14	10	Inam, E. , Etim, U., Akpabio, E., & Umoren, S (2014). Simultaneous adsorption of lead (II) and 3, 7-bis(Dimethylamino)-phenothiazin-5-ium chloride from aqueous solution by activated carbon prepared from plantain peels. Desalination and Water Treatment (Taylor & Francis, UK), 57(14), 6540-6553. DOI: doi.org/10.1080/19443994.2015.1010236.	Q2
2014	11	Benson, N. U., Essien, J. P. , Asuquo, F. E. and Eritobor, A. L. (2014). Occurrence and distribution of Polycyclic aromatic hydrocarbons in surface microlayer and subsurface seawater of Lagos Lagoon. Nigeria. Environmental Monitoring and Assessment.	Q2

(Netherlands), 186, 5519-5529.

Funded Research Projects

2017

Title: Chemical Speciation, Bioavailability and Health Risk of Some Trace Metals in Sediment,

Callinectes amnicola and Tympanotonus fuscatus from New Calabar River, Rivers State

Principal Investigator: Professor Essien D. Udosen

Funding: TETFund Status: Ongoing

Title: Production of nutrient rich and bacterized biofertilizer for the remediation of crude oil polluted soil

Principal Investigator: Professor Joseph P. Essien

Funding: TETFund Status: Ongoing

Title: Biosynthesis of metal-nanoparticles using leaf extracts of *Uyaria chamae* and *Musa paradisiaca* peels and their potential antimicrobial, antioxidant and mosquito larvacidas activities

Principal Investigator: Dr. Atim S. Johnson

Funding: TETFund Status: Ongoing

Title: Quantification and risk assessment of trace metals in vegetables cultivated in waste dump soils

within Akwa Ibom State, Nigeria

Principal Investigator: Dr. Godwin A. Ebong

Funding: TETFund Status: Ongoing

Title: Quantification and Risk Assessment of Residual Pesticides in Soils from Commercial Farms in

Akwa Ibom State

Principal Investigator: Dr. Edu Inam

Funding: TETFund Status: Ongoing

2015:

Title: Drinking Water Quality and Health Risk Assessment of Drinking Water Sources in Okoroette

Community, Eastern Coast of Nigeria Principal Investigator: Dr. Edu Inam

Funding: American Chemical Society (ACS) through the Global Innovation Imperatives Project (Gii)

Status: Completed

2014

Title: Utilization of waste streams for the development of novel products for agricultural and industrial applications

Principal Investigator: Dr. Edu Inam

Funding: Ministry of Science, ICT and Future Planning in South Korea through the International Environmental Research Center and the UNU & GIST Joint Programme on Science and Technology

for Sustainability. Status: Completed

2013

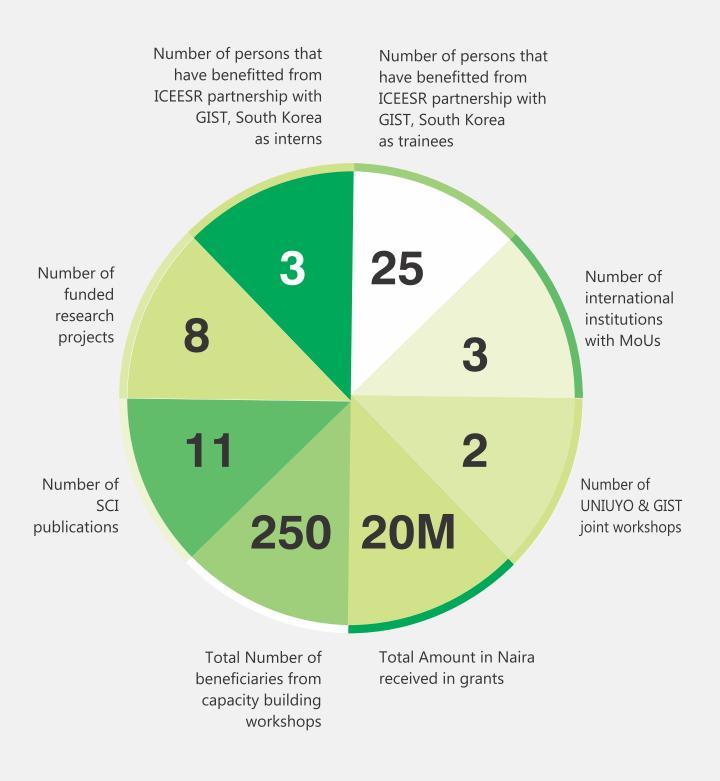
Title: Monitoring and health risk assessment of emerging organic contaminants in water resources in Niger Delta Region, Nigeria

Principal Investigator: Dr. Edu Inam

Funding: Ministry of Science, ICT and Future Planning in South Korea through the International Environmental Research Center and the UNU & GIST Joint Programme on Science and Technology

for Sustainability. Status: Completed

Evaluating Progress in Numbers



CHALLENGES

FUNDING TO COMPLETE BUILDING

he ICEESR building is the most important tangible asset that the Centre needs to have. So far, the building is nearing the roofing level and requires substantial amount of money for its completion. Beyond completion, the building will need to be furnished and equipped for optimum use. Estimates from the Quantity Surveyor shows that the Centre will require ¥20.7 million to complete the building. The breakdown of this cost is presented below:

	ITEM	ESTIMATED COST (₦)
1	STRUCTURAL/CARCASSING ROOF C.T.S	3,616,000.00
٦,	LONGSPAN AL ROOFING /SHEET	2,025,000.00
	COVERING/FLASHING C.T.S	2,023,000.00
3	WINDOWS AND DOORS C.T.S	3,266,000.00
4	ELECTRICAL C.T.S	2,800,000.00
5	PLUMBING WORK C.T.S	1,974,000.00
6	FINISHES C.T.S	6,492,000.00
	TOTAL	20,713,000.00

OTHER INFRASTRUCTURE

Other support faciclities needed to fully operationalize the Centre include:

	ITEM	ESTIMATED COST (№)
1	CENTRAL AIR CONDITIONING	10,200,000.00
2	PERIMETER FENCE	10,655,000.00
3	SECURITY AND GENERATOR HOUSE	2,050,000.00
4	WATER TANKS AND TREATMENT PLANT	4,000,000.00
5	HILUX VAN	4,000,000.00
	TOTAL	30,905,000.00

EQUIPMENT FOR LABORATORIES

The first phase of the building will host an Advance Water Chemistry Laboratory. The aspiration of the Centre is to ensure that the laboratory is fully equipped with modern laboratory equipment. The cost of equipping the laboratory is provided below

SN	ITEM DESCRIPTION	QTY	UNIT COST	TOTAL
1	Liquid chromatography-Mass Spectrometry (LC- MS) [LC: Waters 2695; Detector: Waters 2695; MS: micromass Quatra micro API, ESCi multimode ionization, Triple stage quadrupole mass spectrometer]	1	31,275,000.00	31,275,000.00
2	Gas chromatography-mass spectrometry (GC-MS) [GC: Agilent 6890N Network GC system Injector: Agilent 7683 auto injector MS: Agilent 5973 Network Mass Selective Detector	1	24,750,000.00	24,750,000.00
3	Inductively Coupled Plasma Mass Spectrometer (ICP-MS) [Agilent 7599ce (this model can be coupled with HPLC-Agilent 1100)]	1	26,999,550.00	26,999,550,00
4	LC-MS/MS [AB Sciex API 4000 Mass Spectrometer LC-MS/MS]	1	44,550,000.00	44,550,000.00
5	Water Purification System [AquaMax –Ultra Water Purification System with Milli-Q Gradient Millipore Dispenser. (All necessary accessories like the tanks should be purchased alongside the instrument)]	1	1,800,000.00	1,800,000.00
6	Solid-Phase Extraction (SPE) System [Caliper Life Sciences Autotrace SPE Workstation (Normally, a Suction Filter System like the Enva Clean (ENVA-101Lab) Model should accompany the instrument to cover the sample collection point, primarily to avoid spill or escape of volatile substances from source point)]	1	40,050,000.00	40,050,000.00
7	Automated Sample concentration system [TurboVap II Concentration Evaporator Workstation	1	1,800,000.00	1,800,000.00
	TOTAL	1.5		171,224,550.00

ALTERNATIVE POWER SUPPLY

GRANTS AND ENDOWMENT FOR RESEARCHES

Outlook: 2018-2020

- To repay 50% of debts
- To develop and patent at least 3 projects
- To begin phase II building
- To increase by 20% number of SCI Publications
- To increase by 50% number of funded research projects
- To increase by 50% total amount in grants and endowments

2020



- To ensure that the first laboratory is fully operational
- To increase by 50% the number of research publications in ranked journals
- To ensure that ICEESR secures at least 5 postdoctorate research fellowships
- To ensure that ICEESR trains at least 5 new PhD. students

2019

- Implementation of Governance Structure for the Centre
- Recruitment of key staff (administrative and finance officers)
- Completion of Phase one building
- Completion of registrations with Corporate Affairs Commission and other relevant bodies
- Establishment of at least two Spin in Ventures

2018

FINANCIAL REPORT

he International Centre for Energy and Environmental Sustainability Research (ICEESR) is a public-private partnership with the public partner being the University of Uyo and the private partner made up of a group of investors. The projects and activities of the Centre is therefore funded by the University of Uyo and investments by the private sector. These investments may be in kind or cash. For example, the University of Uyo donated a piece of land worth \$17.2million to the Centre for its building while some investors have donated building materials. For investments that are done in kind, the monetary value at prevailing market rates is used to obtain the value of such investments if possible.

Apart from investments that may be monetized, the private investors have supported the activities of the Centre in ways that may be very difficult to monetize in a non-contentious manner. For example, the Centre is managed by staff that are seconded by the University and these staff carry out their duties in a pro bono basis because they do not receive additional allowances nor honoraria.

In this segment, we present the financial statement of ICEESR. We note that the financial statement captures financial flows in cash and those other investments that have been monetized.

FINANCIAL SUMMARY

SUMMARY OF INCOME

			0.000	YE	ARS		
	INCOME SOURCE	2012	2013	2014	2015	2016	2017
1	University of Uyo	1	194,000.00		17,200,000.00	-	
2	Grants won by Dr. Edu Inam	2	E	2,700,000.00	8,060,000.00	5,076,882.00	Ģ
3	Private Investors	300,000.00	808,000.00	1,200,000.00	7,500,100.00	6,554,776.00	6,660,000.00
	TOTAL	300,000.00	1,002,000.00	3,900,000.00	32,760,100.00	11,631,658.00	6,660,000.00

SUMMARY OF EXPENDITURE

	ä			Y	EARS		
	ITEM DESCRIPTION	2012	2013	2014	2015	2016	2017
1	Office Administration	300,000.00	374,000.00	492,000.00	1,653,700.00	949,030.00	621,600.00
2	Travels		350,000.00	200,000.00	4,500,000.00	122,700.00	124,800.00
3	Research	, i		1,433,000.00	1,543,000.00	1,667,120.00	214,180.00
4	Information Dissemination	ï) i	683,000.00	280,600.00	833,400.00	100,000.00
- 5	Personnel	- 8	120,000.00	300,000.00	600,000.00	600,000.00	500,000.00
- 6	Workshops/meetings		158,000.00	292,000.00	1,971,200.00	2,459,408.00	
7	Building		0.00.00.00.00.00.00	500,000.00	22,211,600.00*	5,000,000.00	5,000,000.00
	TOTAL	300,000.00	1,002,000.00	3,900,000.00	32,760,100.00	11,631,658.00	6,560,580.00

^{*}land value inclusive

2012 and 2013 Financial Statement

YEAR	8	DESCRIPTION	
2012		RECEIPTS	
	SN INCOME CATEGORY	DESCRIPTION	AMOUNT
	1 Contributions from investors	Contributions from investors	₩ 300,000.0
	Services (All Annie Marie Mari	TOTAL	₩ 300,000.00
	ē ģ	PAYMENTS	6
	SN PAYMENT CATEGORY	DESCRIPTION	AMOUNT
	1 Secretariat	Payment for Internet	₩ 30,000.0
	I	Production of Proposal (200 copies)	₩ 150,000.0
	I	Photocopy	₩ 20,000.0
	I	Copyright registration of proposal	₩ 20,000.0
	I	Logistics	N 30,000.00
	I	Stipend to students assistant	N 50,000.0
	Sub-Total	Superia to students assistant	₩ 300,000.00
	TOTAL		₩ 300,000.00
	YEAR END BALANCE		N 0.00
2013		RECEIPTS	
	SN INCOME CATEGORY	DESCRIPTION	AMOUNT
	1 Contributions from investors	Contributions from investors	₩ 808,000.0
	2 University of Uyo support	University of Uyo support	N 194,000.0
		TOTAL	N 1,002,000.00
		PAYMENTS	17 10-22-22-22-2
	SN PAYMENT CATEGORY	DESCRIPTION	AMOUNT
	1 Office Operations	Payment for Internet	₩ 30,000.00
		Production of Proposal	₩ 40,000.00
	I	Photocopy	₩ 20,000.00
	I	Building design	N 50,000.00
	I	Ink and paper	₩ 50,000.00
		African Centre for Excellence Proposal	N 184,000.00
	Sub-Total	<u>U</u>	N 374,000.00
	2 Transportation	Transportation to Lagos (5x) and Abuja (2x) for meetings: Tickets	₩ 200,000.00
	STATE OF STA	Transportation to Lagos (5x) and Abuja (2x) for meetings: Taxi fare	N 50,000.0
		Accommodation & incidentals	₩ 100,000.00
	Sub-Total		N 350,000,00
	3 Meetings	Hosting of meetings and visits in Uyo	N 158,000.00
	4 Personnel	Stipend to students assistant	N 120,000.00
	TOTAL	No 6-section and account of the STATE TO A	N 1,002,000.00
	YEAR END BALANCE		N 0.00

2014 Financial Statement

20	l .	RECEIPTS	
SN	INCOME CATEGORY	DESCRIPTION	AMOUNT
1	Grants won by Dr. Edu Inam	Grant won by Dr. Edu Inam	₦ 2,700,000.0
2	Contributions from investors	Contributions from investors	₩ 700,000.0
3	University of Uyo support	University of Uyo support	₩ 500,000.0
- 11	Marian Mariana	TOTAL	N 3,900,000.00
		PAYMENTS	
SN	a ampowe	DESCRIPTION	AMOUNT
1	Research Activity	Payment for Sample Analysis in FUGRO Lab. Port Harcourt	₩ 600,000.00
	8	Payment for Chemicals and Reagents	N 300,000.00
		Payment for Equipment and apparatus purchase	₩ 533,000.00
	Sub-Total		₦ 1,433,000.00
2	Hosting of Meetings (GIST,Korea, Team) in Abuja April 2014	Payment for Air tickets to Abuja (Prof. Essien & Dr. Inam)	₩ 80,000.00
		Payment for Local transportation	4 50,000.00
		Payment for Hotel accommodation	₩ 42,000.00
		Foods and snacks	# 80,000.00
		Hiring of Projector	₩ 20,000.00
		Logistics and PR	₩ 20,000.00
	Sub-Total	LOGISUCS BING PK	₩ 292,000.00
2	Information Dissemination	Payment for Advert in Punch Newspaper	₩ 265,000.00
,	Information Dissemination	Payment for Website	₩ 168,000.00
		Production of Brochure	N 250,000.00
	Sub-Total	Treductor of Erections	N 683,000.00
4	Personnel Cost	Stipend to office & research assistant @ N25,000/month for 12 months	₩ 300,000.00
- 5	Administrative cost	Advance payment to Lawyer for CAC Registration	N 100,000.00
		Internet @N9000 per month for 12 months	₩ 108,000.00
		Photocopying	₩ 15,000.00
		Purchase of Ink and Paper	N 60,000.00
		Photographs	₩ 15,000.00
		Production of Folders	4 30,000.00
		Purchase of Furniture (book shelve & 3-seater chair)	₩ 119,000.00
		Payment for Local transport	₩ 40,000.00
		Production of ICEESR seal	₩ 5,000.00
	Sub-Total		₩ 492,000.00
6	Travels	Payment for Local air tickets to attend meetings in Abuja (2 trips) and Lagos	₩ 100,000.00
		Payment for Accommodation	₩ 100,000.00
	Sub-Total		₦ 200,000.00
7	CEESR Building	Payment for Architectural drawings	₩ 500,000.00
		TOTAL	N 3,900,000.00

2015 Financial Statement

Car		RECEIPTS	
SN	INCOME CATEGORY	DESCRIPTION	AMOUNT
1 (Grants won by Dr. Edu Inam	Grant won by Dr. Edu Inam	₦ 8,060,100
2 0	Contributions from investors	Contributions from investors	₩ 7,500,000
31	University of Uyo support	University of Uyo Land Value	# 17,200,000
		TOTAL	N 32,760,100.
		11	
5N		PAYMENTS DESCRIPTION	AMOUNT
	Research Activity	Payment for Sample Analysis	₩ 648,599
6136		Payment for Chemicals and Reagents	₩ 765,783
۱.		Payment for Equipment and apparatus purchase	₩ 128,618
	Sub-Total		N 1,543,000
1	Hosting of Meetings (a) Hosting of 1st UNIUYO & GIST Joint Programme workshop		
		Payment for Printing of Book of Proceedings, Receipt	₩ 210,000
		Printing and production of folders and evaluation form	N 50,000
		Venue and Meals	₩ 574,000
		Printing of Certificates	N 7,000
		Media and Publicity	₦ 125,000
		Accommodation Bills	N 62,500
		Transportation Bills (including air tickets)	N 115,200
		Printing of A4-Size Fliers	₩ 15,000
		Internet, Data & Phone Bills	N 20,000
		Stationeries & Photocopies	N 36,500
		Miscellaneous	N 20,000
	(b) Foundation laying event	Prisceld reous	14 20,000
1	(-)	Media and Publicity	N 70,000
		Canopies, chairs & decorations	₩ 90,000
		Marble plaque & signpost	N 200,000
		Welfare	₩ 60,000
		0.00000	93314800X
		Flex banners (3 copies)	₩ 31,000
		Photos and video	₩ 30,000
100		Logistics	₩ 15,000
((c) MOU Signing event	Photos and Video	₩ 15.000
		Welfare	₩ 25.000
	(d) American Chemical Society event in Abuja	Date (C. L. W. J.	N 200 000
		Printing of Students Manuals	₩ 200,000
	Sub-Total Personnel Cost	Stipend to 2 research assistants @ N25,000/month for 12 months	N 1,971,200 N 600,000
	Administrative cost	Payment of Balance to Lawyer for CAC Registration	₩ 200,000
	Tallilla dell'e cose	Payment for Internet @N11,000/Month for 12 months	₩ 132,000
		Payment for photocopying	₩ 50,000
		Purchase of stationeries	₩ 100,000
		Payment for Office Furniture (Book shelve, Desktop computer set, Tables, Cha	₩ 607,700
		Welfare for Visitors	N 50,000
		Payment for Origin Data Analysis soft ware	₩ 364,000
		Purchase of Documents from Federal Ministry of Environment, Abuja	₩ 30,000
		Local Transportation Costs	₩ 120,000
	Sub-Total Travels	Roturn air ticket to Philippings for 1 pages	N 1,653,700
0	i ravels	Return air ticket to Philippines for 1 person	₩ 350,000
		Return air ticket to USA including accommodation (4 persons)	4 4,000,000
		Return air and accommodation tickets to Abuja for ACS event (2 persons)	₩ 150,000
	Sub-Total	12. 172 173 27 17 179	₦ 4,500,000.
_	Information Dissemination	Payment for website fees and maintenance	₩ 220,000
_		Payment for journal publication fees	A 60,600
71			N 280,600.
7 1	Sub-Total		
7 1	Sub-Total CEESR Building	Payment for Structural, Mechanical and Electrical drawings	₩ 100,000
7 1	Table - Land - L	Payment for Structural, Mechanical and Electrical drawings Payment for Surveying and Boundary Poles	₩ 100,000 ₩ 100,000
7 1	Table - Land - L	[17.7] [17.7] [17.7] [17.7] [17.7] [17.7] [17.7] [17.7] [17.7] [17.7] [17.7] [17.7] [17.7] [17.7] [17.7]	₩ 100,000 ₩ 100,000
7 1	Table - Land - L	Payment for Surveying and Boundary Poles	₩ 100,000 ₩ 100,000 ₩ 17,200,000
7 1	Table - Land - L	Payment for Surveying and Boundary Poles Land Value	₩ 100,000 ₩ 100,000 ₩ 17,200,000 ₩ 250,000
7 1	Table - Land - L	Payment for Surveying and Boundary Poles Land Value Land clearing	H 100,000 H 100,000 H 17,200,000 H 250,000 H 4,561,600 H 22,211,600

2016 Financial Statement

- 100		RECEIPTS	San Colon Colon Colon
SN	INCOME CATEGORY	DESCRIPTION	AMOUNT
1	Grants won by Dr. Edu Inam	Grant won by Dr. Edu Inam	₩ 5,076,882.0
2	Contributions from investors	Contributions from investors	N 6,554,776.0
		TOTAL	N 11,631,658.00
SN	1	PAYMENTS DESCRIPTION	AMOUNT
TESS	Personnel Cost	Stipend to 2 research assistants @ N25,000/month for 12 months	N 600,000.0
-	Travels	Travel for project meeting at Abuja and conference attendance at Illorin (1	N 122,700.0
337	ITAVEIS	person, 2 trips)	H 122,700.0
	Sub-Total		N 122,700.0
3	Research Work	Payment for Car hire (2 trips)	₩ 48,000.0
		Payment for Boat hire (1 boat)	N 50,000.0
		Payment for Car hire Snack/lunch during trip (3 trips)	₩ 8,200.0
		Payment for Car hire posting of samples to China (20 sample vails)	N 18,500.0
		Posting of samples to Korea (3 times)	N 105,620.0
		Local transport for research work (for 10 months)	N 37,500.0
		Payment for transportation of samples from Abuja to Uyo (2 trips)	₩ 70,000.0
		Purchase of chemicals, reagents and consumables (as required)	₦ 187,400.0
		Purchase of sample containers (30 pieces of 50kg PVC, 20 peices1.5L bottles, 50 pieces of 20ml vails)	N 57,400.0
		Purchase of Computer (1 piece of HP monitor with CPU, keyboard, Ups, and printer)	₩ 331,600.0
		Construction of Composting Chamber (1 composting chamber with housing)	N 153,500.0
		Construction of Pyrolysis chamber (1 pyrolysis chamber with housing)	₩ 201,000.0
		Construction of screen house for lab scale testing of biofertilizer (1 screen of 12x20 feets)	₦ 188,000.0
		Payment for metal analysis (Screening for 10 trace metals in 40 samples)	₩ 115,000.0
		Payment for DNA analysis (once)	₩ 95,400.0
3	Sub-Total		₩ 1.667.120.00
4	Office Operations	Purchase of inks and stationeries (12 months supply for 2 printers)	₩ 116,200.0
		Printing and photocopying of documents (For 12 months period)	₩ 19,830.0
		Purchase of Computer Software (12 months subscription antivirus, MS office, Corel draw)	N 10,000.0
		Purchase of computer cable (1 power cable)	₩ 1,000.0
		Purchase of Projector and Screen (1 piece of Dell)	₩ 540,000.0
		Repairs of computer (once)	N 12,000.0
		Legal fees payment (Richgate Chambers Abuja)	₩ 250,000.0
-	Sub-Total	Deschare of internet data (for 12 months)	₩ 949,030.0
5	Information Dissemination	Purchase of internet data (For 12 months)	₩ 119,000.0
		Payment for website maintenance (I year maintenance fee)	₩ 100,000.0
		Project dissemination meeting (Hosting of 3 project meetings in Uyo)	₩ 524,400.0
		Payment for ICEESR picture enlargement (5 pieces)	₩ 90,000.0

2016 Financial Statement contd

Sub-Total
Sub-Total
L
CEESR Building
Transference (Control of Control
Sub-Total

2017 Financial Statement

7 30	DECEIPTE		77777777777777
5	N INCOME CATEGORY	DESCRIPTION	AMOUNT
	1 Contributions from investors	Contributions from investors	N 6,660,000.00
P	W	TOTAL	N 6,660,000.00
	PAYMENTS		
5	W	DESCRIPTION	AMOUNT
3	1 Personnel Cost	Stipend to 2 research assistants (1 person for 12 months and 1 person for eight	₦ 500,000.00
	2 Travels	Travel for project meeting at Ethiopia Dr Valerie Solomon (return air fare to Uyo to Lagos, accomodation and logistics)	₩ 100,000.00
-		Travel to ACS Symposium Ilorin	₩ 24,800.00
-	Sub-Total	2010 1000 - 1000 120 A 1000 A 1000 A	N 124,800.00
9	3 Research Work	Field trip for distribution and collection of questionnaires Purchase of Containers Shipping for Samples Map making Advanced Data Analysis	₩ 150,000.00 ₩ 15,500.00 ₩ 18,680.00 ₩ 5,000.00
	Sub-Total	Activity of the Control of the Contr	N 214,180.00
	4 Office Operations	Purchase of inks and stationeries (12 months supply for 2 printers) Purchase of wi-fi modem Purchase of Computer Software (12 months subscription antivirus) Internet data subscription Purchase of 2 Wireless Adapters Repairs Printing, photocopying and production of documents Legal fees payment (Richgate legal firm, Abuja) Legal fees payment (Consolex legal firm, Lagos) Payment to Consultant for Financial Appraisal (SPIDER Solutions Nig. Ltd)	№ 20,000.00 № 22,000.00 № 21,500.00 № 60,200.00 № 18,000.00 № 30,000.00 № 100,000.00 № 150,000.00
	Sub-Total		N 621,600.00
13	Information Dissemination	Payment for website maintenance (I year maintenance fee)	₩ 100,000.00
	Sub-Total	Tree in	N 100,000.00
1 5	CEESR Building	reinforcement to summary	₩ 2,000,000.00
	6.1.7.1	Brick/Block Walling	N 3,000,000.00
	Sub-Total TOTAL		N 5,000,000.00 N 6,560,580.00

Summary

Total Receipts from 2012 to 2017 = $\frac{1}{5}$ 56,253,758.00 Total Payments from 2012 to 2017 = $\frac{1}{5}$ 56,154,338.00 Balance at the end of October, 2017 = $\frac{1}{5}$ 99,420.00



International Centre for Energy and Environmental Sustainability Research University of Uyo, Uyo, Nigeria

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