



**International Centre of Insect Physiology and Ecology**

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REPORT  
AND  
FINANCIAL STATEMENTS  
  
FOR THE YEAR ENDED  
31 DECEMBER 2021

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An FAO Reference Centre



OIE Collaborating Centre for  
Bee Health in Africa



A Stockholm Convention  
Regional Centre

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Governing Council (GC) members who served during the year:

**Prof. Dr. Bill S Hansson**

**Outgoing Chair - *icipe* GC. Ceased to be Chair 18 November 2021**

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Director

Max Planck Institute for Chemical Ecology  
Department of Evolutionary Neuroethology  
Hans-Knoell-Strasse 8

D-07745 Jena

**GERMANY**

Prof. Bill S. Hansson has since 2006 been a Director at the Max Planck Institute for Chemical Ecology in Jena, Germany. During his six-year term as Vice President of the Max Planck Society (2014-2020), Prof. Hansson was responsible for the 27 Max Planck Institutes that focus on biology and medicine in Germany and the USA. He also coordinated the international work of the Max Planck Institutes with partner organisations in Shanghai, China, and Buenos Aires, Argentina, as well as 19 Max Planck centres all over the world. After ending his term as Vice President, Prof. Hansson remains responsible for Max Planck collaborations with Africa.

Prof. Hansson's research centres on the neural basis of insect behaviour, and the interactions between insects and their host plants. He is particularly interested in how scents affect the behaviour of insects and other arthropods, and in the evolution of olfactory function from a behavioural and ecological perspective. From 2006 to 2016, Prof. Hansson was part of the leadership of the Swedish Linnaeus Project in Insect Chemical Ecology, Ethology and Evolution and in 2020 he started the Max Planck Center 'Next Generation Insect Chemical Ecology (nGICE)' as a collaboration between Max Planck, the Swedish University for Agricultural Sciences and Lund University, Sweden. During his career, he has worked at universities and research institutions in Germany, Japan, Kenya, Sweden, the UK and the USA.

Prof. Hansson is a Fellow of the African Academy of Sciences and an Honorary Fellow of the Royal Entomological Society. He is also a member of the Royal Swedish Academy of Sciences, the Royal Swedish Academy of Agriculture and Forestry, The German National Academy of Sciences Leopoldina, The Finnish Society of Sciences and Letters, and the Saxonian Academy.

**Prof. Kym Anderson**

**Incoming Chair-*icipe* GC. Appointed Chair 18 November 2021**

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George Gollin Professor Emeritus

School of Economics,  
University of Adelaide

**AUSTRALIA**

Prof. Kym Anderson is George Gollin Professor Emeritus in the School of Economics at the University of Adelaide (where he has been affiliated since 1984) and an Honorary Professor at the Australian National University's Crawford School of Public Policy (where he was a Research Fellow 1977-83 and a part-time Professor of Economics 2012-18). In two periods of extended leave, he served as deputy head of economic research at the GATT (now World Trade Organization) Secretariat in Geneva (1990-92) and as Lead Economist (Trade Policy) at the World Bank in Washington DC (2004-07). He became the first economist to serve on a series of dispute settlement panels at the World Trade Organization (1996-2008). During 2000-05 he was a Non-Executive Director on the Board of Australia's Grape and Wine Research and Development Corporation, and during 2010-17 he served on the Board of Trustees of the International Food Policy Research Institute (Washington DC), chairing it from 2015-17-. He has also served the Australian Centre for International Agricultural Research on its Commission for International Agricultural Research, 2011-14 and as President of its international Policy Advisory Council since 2014. In May 2009 he took part in a study week on Transgenic Plants for Food Security in the Context of Development, at the Pontifical Academy of Sciences in the Vatican, Rome.

Since doctoral studies at the University of Chicago and Stanford University, he has published more than 400 articles and 40 books. His books include *The Political Economy of Agricultural Protection* (with Yujiro Hayami, 1986), *Disarray in World Food Markets* (with Rod Tyers, 1992), *Agricultural Trade Reform and the Doha Development Agenda* (with Will Martin, 2006), *Measuring WTO's Contributions to Global Economic Welfare* (2014), *Agricultural Trade, Policy Reforms and Global Food Security* (2016), *Wine Globalization: A New Comparative History* (with Vicente Pinilla, 2018), and *World Scientific Reference on Asia-Pacific Trade Policies* (2020).

Prof. Kym Anderson is a Research Fellow at Europe's London-based Centre for Economic Policy Research, an Honorary Life Member of the International Association of Agricultural Economists, a Fellow of the (American) Agricultural and Applied Economics Association, a Distinguished Fellow of the Australian Agricultural and Resource Economics Society, a Fellow of the American Association of Wine Economists, a Distinguished Fellow of the Economic Society of Australia, and a Fellow of the Academy of the Social Sciences in Australia. He is a recipient of an Honorary Doctor of Economics degree from the University of Adelaide and is a Distinguished Alumnus of the University of New England. In 2015 he became a Companion of the Order of Australia (AC).

**Dr. Barbara Frei Haller**  
**Chair Nominating Committee**

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Lecturer in Ethnopharmacy, ETH Zurich, Switzerland  
Fed. dipl. Pharmacist, PhD (Dr. sc. nat. ETH ZH)  
Board Member BioVision, Foundation for Ecological Development  
Bröl dadaint 14  
CH-7546 Ardez  
**SWITZERLAND**

Dr. Barbara Frei Haller is a Swiss scientist with an interdisciplinary background in pharmaceutical sciences. She is affiliated to the Institute of Pharmaceutical Sciences IPW at the Swiss Federal Institute of Technology ETH Zurich as a lecturer in ethnopharmacy. She holds a PhD in phytochemistry, ethnobotany, ethnomedicine, and a MSc and BSc in pharmaceutical sciences all from ETH Zürich, Switzerland. Her main research interests cover natural product chemistry regarding prevention and treatment of malaria, ethnobiology and its general leverage for parasitic diseases, and transdisciplinary approaches in development cooperation. Her research led her to longer stays among Mexican indigenous healers and to a long-standing collaboration with *icipe* HQ in Nairobi, its field stations and project sites.

Dr Barbara Frei Haller is a Board Member of Biovision Foundation for Ecological Development (BFED), a Swiss nongovernmental organisation focussing on food security and sustainable agriculture by contributing to the implementation of Agenda 2030 with a strong focus on SDG 2 "Zero Hunger". At BFED, Dr Barbara Frei Haller chairs the program committee which is responsible for the preliminary selection of new and innovating projects and the monitoring and impact assessment of on-going projects and capacity building.

Through Dr Barbara Frei Haller's further positions in a public pharmacy and as an advising clinical pharmacist, as well as a member of the Swiss Academy of Pharmaceutical Sciences SAPHs she is involved in the ongoing discussions and development in all areas of the pharmaceutical and public health care sector nationally and globally.

**Prof. Rickard Ignell**  
**Chair Programme Committee**

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Head of Department of Plant Protection Biology  
Professor, Division of Chemical Ecology  
PO Box 102 Sundsvägen 14 SLU 230 53 Alnarp  
**SWEDEN**

Prof. Rickard Ignell is the Head of Department of Plant Protection Biology at the Swedish University of Agricultural Sciences (SLU), a position he has held since 2012.

His scientific research focus is on the chemical ecology of disease vectors, particularly mosquitoes. Using a multi-pronged approach, he is interested in how odour-mediated behaviours of mosquitoes have evolved and are regulated.

His work on malaria mosquitoes has allowed him to establish a collaborative network across Africa, where he has a long-standing collaboration with Addis Ababa University. His connection with *icipe* started in the late 1990s when he collaborated with the Centre on locust chemical ecology.

**Mr. Jim Park**  
**Chair Audit and Finance Committee**

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Executive Chair  
The Mortgage Collaborative  
7641 Sitio Algodon  
Carlsbad CA 92009  
USA

With close to 30 years in the housing and mortgage banking field, and non-profit organisations, Mr. Jim Park is currently the Chief Executive Officer and co-founder of the Mortgage Collaborative, a cooperative of independent US mortgage banks working together to create growth and profitability. Mr. Jim Park is also the past President and Chair Emeritus of the Asian Real Estate Association of America (AREAA), the largest US non-profit trade organisation focused on expanding sustainable housing opportunities for Asian American and immigrant communities.

Previously, Mr. Jim Park was the founder and CO-CEO of New Vista Asset Management, a distressed asset management USA firm, focused on restoring home ownership in traditional underserved markets. He was also a Vice President of Industry Relations and Housing Outreach at Freddie Mac, the Federal Home Loan Mortgage Corporation, where his team worked with outside industry groups on regulatory and business issues impacting the company.

As a senior adviser to the United States Federal Housing Administrative (FHA) Commissioner, Mr. Jim Park oversaw all legislative and regulatory issues impacting the ability of FHA to serve low- and moderate-income consumers. He also worked at the USA-based National Community Development Association, which represents 500 cities and counties on housing and economic development issues. Further, Mr. Jim Park helped to launch a number of prominent non-profit organisations including the Housing Renaissance.

Over the years, Jim has served on various corporate advisory boards and non-profit boards that currently include: Board Member, Leaders Forum, San Francisco, California; Advisory Board Member & Past Chair, Asian Pacific American Institute for Congressional Studies, Washington, DC; Advisory Board Member, Quicken Home Loans, Detroit, Michigan.

Mr. Jim Park attended the University of California at Irvine, USA, where he received degrees in Economics, Political Science and Art. Additionally, he attended the George Washington University where he received his Master's in Public Administration and Policy.

**Professor Quarraisha Abdool Karim**  
**Vice Chair Nominating Committee. Ceased to be member 18 November 2021**

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Associate Scientific Director: CAPRISA  
PI: CAPRISA Clinical Trials Unit  
Professor in Clinical Epidemiology: Columbia University  
UNAIDS Special Ambassador for Adolescents and HIV  
Pro Vice-Chancellor African Health: University of KwaZulu-Natal  
SOUTH AFRICA

Prof. Quarraisha Abdool Karim is an epidemiologist and National Research Foundation (NRF, South Africa) A-rated scientist who has made pioneering contributions over the past 28 years to preventing HIV in adolescent girls and young women. Her accomplishments include the landmark CAPRISA 004 trial that demonstrated for the first time that anti-retrovirals can prevent HIV infection. This milestone was lauded by *Science* as one of the top 10 scientific breakthroughs in 2010.

Through the Columbia University-Southern African Fogarty AIDS International Training and Research Programme (CU-SA Fogarty AITRP), Prof. Quarraisha Abdool Karim has played a central role in training over 600 scientists, enabling the establishment of a strong science base to enhance responses to HIV/AIDS and tuberculosis through scientific discoveries and implementation of science-led strategies. She is a strong advocate of the rights of people living with, and affected, by HIV, and for women to pursue careers in science and technology.

Prof. Quarraisha Abdool Karim is co-Founder and Associate Scientific Director of the world-renowned AIDS Research Centre, CAPRISA; Professor in Clinical Epidemiology, Columbia University, USA; Pro-Vice Chancellor for African Health, University of KwaZulu-Natal and UNAIDS Special Ambassador for Adolescents and HIV. She is a member of the UNAIDS Scientific Expert Panel and Scientific Advisor to the Executive Director of UNAIDS; Scientific Advisory Board member of the US President's Emergency Plan for AIDS Relief (PEPFAR); Vice-Chair of the South African Medical Research Council Board; and Chair of the South African Medical Research Council (SAMRC) research and development committee.

Prof. Quarraisha Abdool Karim is a Fellow of the African Academy of Sciences (AAS); National Academy of Medicine (USA), The World Academy of Sciences (TWAS); Royal Society of South Africa; Academy of Science of South Africa (ASSAf); and Organisation of Women in Science in the Developing World (OWSD). She is the recipient of prestigious awards including: the inaugural AAS Olusegun Obasanjo Prize; TWAS Lenovo Prize; L'Oreal-UNESCO Laureate for Africa and the Middle East and South Africa's highest honour, the Order of Mapungubwe, from the President of South Africa.

**Prof. Hamadi Boga**  
**Member**

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Principal Secretary, Agriculture and Research  
State Department for Agricultural Research  
Ministry of Agriculture, Livestock and Fisheries  
**KENYA**

Prof. Hamadi Iddi Boga is the Principal Secretary of the State Department for Agricultural Research in the Ministry of Agriculture, Livestock and Fisheries. He is the former founding Principal of Taita Taveta University College and was later its Vice Chancellor between 2007 and 2017. He is a Professor in the Department of Botany at the Jomo Kenyatta University of Agriculture and Technology. His skills and interests are in biology, agricultural science, microbiology and molecular biology. He specialized in microbial ecology of insects' guts, soils and soda lakes and has worked with termites, the soda lakes of Kenya, mangrove swamps, agricultural and forest soils and on Mount Kenya glacier. He has a PhD in Biology from Universität Konstanz in Germany and had a Post-doctoral stint at the Max Planck Institute for Terrestrial Microbiology in Marburg, Germany.

**Dr. Michel Eddi**  
**Member**

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Dr. Michel Eddi (New Member)  
President Director General  
CIRAD, the French Agricultural Research Centre for International Development,  
42 rue Scheffer-75116 Paris  
**FRANCE**

Dr. Eddi joined the CNRS as a contract worker in 1975, and then the IPSN (Institut de protection et de sûreté nucléaire), which was at the time part of the CEA, where he worked on his PhD from 1977 to 1980. He stayed with the CEA as a research engineer until 1986, when he joined the Ministry of Research and Technology. In 1993, he joined CIRAD, initially as Deputy Director of Research until 1996, then as Secretary General from 1996 to 2001. He subsequently joined the Ministry of Education, Higher Education and Research, where he was Assistant to the Director of Research from 2001 to 2005. From 2005 onwards, Dr. Michel Eddi was Deputy Director General at INRA (Institut national de la recherche agronomique), in charge of research support. He returned to CIRAD as President Managing Director in March 2013.

Dr. Michel Eddi is a graduate of the École nationale supérieure de chimie de Lille (1974) and the École nationale supérieure d'électrotechnique et de génie physique at the Institut national polytechnique de Grenoble (1975), and was awarded a PhD in engineering by the University of Provence (Aix-Marseille-I) in 1980. He is also a former student of the École nationale d'administration (Michel de Montaigne class of 1988).

**Dr. Ignace Gatare**  
**Member**

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Principal,  
College of Science and Technology,  
University of Rwanda.  
**KIGALI - RWANDA**

Dr. Ignace Gatare is the current Principal of the College of Science and Technology in the University of Rwanda. Prior to this appointment, he served as the Director General of the Rwanda National Commission of Science and Technology (NCST), a public institution serving as think-tank and advisory board to the Rwanda Government on issues pertaining to the development of science, technology, research and innovation. He also served in the Government of Rwanda as Minister in Charge of Information and Communications Technology, from November 2009 until April 2012.

Currently, he is a member of various governing bodies in national and international institutions and projects including: Chair of the Regulatory Board of the Rwanda Utilities Regulatory Authority, Chair of the Joint advisory board of Carnegie Mellon University Rwanda Campus; member of the Advisory Committee of the GEONET project (an initiative of the Oxford Internet Institute, University of Oxford, UK); Program Advisory Committee of BioInnovate Africa. He is currently the Rwanda National Coordinator for AFRA, a Pan-African intergovernmental cooperation body between Africa and the International Atomic Energy Agency (IAEA).

Dr Gatare attained his undergraduate and M.Sc. degrees in Electrical Engineering, respectively in 2001 and 2004, with major in Telecommunications, from the Mons Engineering Faculty (FPMs), Mons, Belgium. In 2008, he obtained a PhD in Engineering Sciences with specialization in Photonics from the Vrije Universiteit Brussel (VUB), where he also worked as a postdoctoral research fellow. His research interests include optical switching, optical injection-locking and synchronization of semiconductor lasers.

Dr. Gatare has extensive experience coordinating and supervising several national telecommunications and ICT infrastructure projects including the construction of the 2600km National fibre-optic backbone network and the deployment of the National Digital Terrestrial Broadcasting Television Platform in Rwanda.

**H.E. Prof. Hirut Woldemariam**  
**Member**

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Advisor, Social Affairs  
Office of the Prime Minister,  
**FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA**

Prof. Hirut Woldemariam has served in different position of vice presidency in Addis Ababa University namely: Vice president for Institutional Development, Vice president of External Relations, Strategic Planning and Partnership, and Associate Vice President for Academic Affairs. She also served as a Head, Department of Linguistics, Faculty of Humanities, Addis Ababa University.

Prof. Hirut Woldemariam has been of service to Ethiopia in many cabinet minister's position, namely Ministry of Culture and Tourism, Ministry of Labour and Social Affairs. She is now performing duties on a position of Social Affairs Advisor to the Prime Minister.

She has made great contribution to community and public services as a member of Public Diplomacy of Ethiopia, National Council for the Great Renaissance Dam of Ethiopia, Academy of Ethiopian Languages.

She received both her Bachelor of Arts and Master of Arts in Linguistics from Addis Ababa University and her Doctor of Philosophy in Linguistics from the University of Cologne, Institute of African Studies. She is a professor in the Department of Linguistics and Philology, College of Humanities, Journalism and Communication of the Addis Ababa University.

Prof. Hirut Woldemariam is a fellow of the Ethiopian Science Academy, Secretary of the Executive Committee of the Ethiopian Philological Society, leader of a joint NOREHED project; member of the Network on Multilingualism in Society across the Lifespan in University of Oslo, member of the Advisory Board of the Centre for Multilingualism and Diversities Research at the University of the Western Cape, South Africa (CMDR).

She has received different awards including Doctor Philosophiae causa for 2020 from University of Oslo; Research Award for Senior Scientists from Alexander Humboldt; Solidarity Award from the Association International de Linguistique Appliquée (AILA), USA; and OSSREA.

**Prof. Daniel Chamovitz**  
**Member**

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President,  
Ben-Gurion University of the Negev  
**ISRAEL**

Prof. Daniel Chamovitz, President of Ben-Gurion University of the Negev in Israel, is a plant geneticist, food security expert and author. In 2013 he founded the Manna Centre Program in Food Safety and Security at Tel Aviv University. Prof. Chamovitz has lectured worldwide on issues of global food security. He co-authored the 2018 report "Opportunities and challenges for research on food and nutrition security and agriculture in Asia" for the Association of Academies and Scientific Societies of Asia. He was co-chair of the India-Israel Forum subcommittee on Food Security, and a member of the Barilla International Forum on Food and Nutrition as an advisor to the Milan Protocol.

Prof. Chamovitz studied at both Columbia University and the Hebrew University of Jerusalem, where he received his PhD. in Genetics in 1992. From 1993 to 1996 he carried out postdoctoral research at Yale University before accepting a faculty position at Tel Aviv University as a recipient of the prestigious Alon Fellowship by the Council for Higher Education in Israel for outstanding young researchers. Prof. Chamovitz was a visiting scientist at the Fred Hutchinson Cancer Research Centre in Seattle and is a Visiting Professor at the School of Advanced Agricultural Sciences at Peking University. He served as Dean of the George S. Wise Faculty of Life Sciences at Tel Aviv University from 2014 to 2018.

Prof. Chamovitz's scientific career has been characterized by novel and field-defining research. During his doctoral research, he cloned several genes involved in the biosynthesis of beta-carotene. As a postdoctoral fellow at Yale University, he discovered the COP9 Signalosome (CSN) complex.

His laboratory pioneered the study of the CSN in both *Arabidopsis* and *Drosophila*, using genetic, biochemical, molecular and computational approaches. His lab also studies the role of glucosinolate breakdown products in plant signalling and development.

Prof. Chamovitz 2012 book - "What a Plant Knows" has been translated into 18 languages and was featured in the world press and media. Prof. Chamovitz is passionate about teaching and lectures to groups about the role of Plant Biology in feeding a growing world.

**Prof. Dr.-Ing. Alexander Mathys**  
**Member**

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Assistant Professor  
Department of Health Sciences and Technology  
ETH Zurich  
**SWITZERLAND**

Prof. Dr.-Ing. Alexander Mathys, a food technologist, received a doctoral degree in food processing in 2008. Since 2015, he has been Assistant Professor (Tenure Track) in Sustainable Food Processing at ETH Zurich, Switzerland, where he is focusing on more efficiency and sustainability of value chains in food and feed. His current research centres on material and energetic utilization of side streams; innovative multi hurdle technologies for gentle preservation of healthy and high-quality food; novel protein sources from algae and insects to improved food security as well as multi-indicator sustainability assessment as basic analysis in food processing.

Dr Mathys is the author of more than 76 publications, including nine patent applications. He has won several prestigious research awards from the International Union of Food Science and Technology (IUFOST); International Congress on Engineering and Food (ICEF); Institute of Food Technologists (IFT); and European High-Pressure Research Group (EHPRG).

Dr Mathys was selected IFT W.K. Kellogg International Food Security Award Winner 2020; Young Researcher of the 60th Meeting of Nobel Laureates 2010; Einstein Young Scholar 2010; and A.T. Kearney Scholar 2011 and 2012 at the Falling Walls conferences.



**Dr. Morven A. McLean**  
**Member**

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Director,  
Global Strategy,  
Regulatory and Public affairs  
Bill & Melinda Gates Agricultural Innovations (Gates Ag One),  
USA

Dr. Morven A. McLean is Director, Global Strategy, Regulatory and Public Affairs at Bill & Melinda Gates Agricultural Innovations (Gates Ag One), a non-profit dedicated to ensuring high-quality, cutting-edge crop innovations are available and accessible to those that need them most. Dr. Morven is an agricultural scientist with 20+ years of experience developing and implementing applied agricultural research and capacity building programs that address scientific, regulatory and trade issues related to agricultural innovation and food security.

Dr. Morven has worked internationally with governments, non-governmental organizations, and the public and private sectors on issues of policy and regulation pertaining to agricultural, forest and aquatic biotechnology. Dr. Morven has served as a technical expert on biotechnology risk assessment, regulation and policy for many organizations, including the Food and Agriculture Organization, the World Bank, the United States Agency for International Development and the United Nations Environmental Program, as well as many national governments in Sub-Saharan Africa, South Asia and South America.

Before joining Gates Ag One, Dr. Morven was CEO of the non-profit Agriculture & Food Systems Institute. Dr. Morven is a member of the Global Steering Council for the Agricultural Model Intercomparison and Improvement Project and is Chair of the Board of Trustees for the National Fund for the U.S. Botanic Garden. Dr. Morven received a B.Sc. (Agriculture) from McGill University, M.Sc. in environmental biology from the University of Guelph, and PhD. in molecular plant virology from the University of British Columbia.

**Prof. Ted Turlings**  
**Member**

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Vice Director,  
Institute of Biology, Faculty of Science  
University of Neuchâtel  
**SWITZERLAND**

Prof. Ted TURLINGS is a national of The Netherlands but has lived and worked most of his adult life in Switzerland. He is a chemical ecologist with a specific interest in plant-insect interactions. He is full professor at the University of Neuchâtel where he heads the research laboratory of Fundamental and Applied Research in Chemical Ecology (FARCE). After his biology studies at Leiden University (The Netherlands) he obtained his PhD at the University of Florida, and then moved to Switzerland, first to the ETH Zürich and eventually to the University of Neuchâtel.

From 2008-2013, Prof. Turlings was the director of the National Centre of Competence in Research Plant Survival, and currently directs the Centre of Competence in Chemical Ecology (C3E) at the University of Neuchâtel. As a founding co-director of the Swiss Plant Science Web Prof. Ted Turlings established the Neuchâtel Platform for Analytical Chemistry. Prof. Ted Turlings is involved in coordination and evaluation activities of the Swiss National Science Foundation and the Swiss Academy of Sciences.

Prof. Ted Turlings' established the Interuniversity Doctoral Program in Organismal Biology, which he directed from 2001 until 2017. He is also the founding co-director of a Master of Advanced Studies (MAS) in Integrated Crop Management, which was launched in 2014 in collaboration with CABI-Switzerland. Prof. Ted Turlings coordinates strong collaborative international projects that, among others, involve scientists in China, the USA, Africa, Mexico and throughout Europe.

**Ambassador (Dr) Amina C. Mohamed, EGH, CAV**  
**Member (Joined November 2021)**

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Cabinet Secretary  
Ministry of Sports, Culture and Heritage  
**Kenya**

Amb. (Dr) Amina Mohamed is a Kenyan diplomat, lawyer and negotiator currently serving as the Cabinet Secretary for Sports, Culture and Heritage in the Republic of Kenya. An accomplished international civil servant, she has distinguished herself in public and foreign service working on a wide range of global issues, from environmental policy and sustainable development to intellectual property and international trade.

Before moving to her current docket, Amb. Mohamed held the positions of Cabinet Secretary for Education (2018 - 2019), and Cabinet Secretary for Foreign Affairs (2013 - 2018). Earlier, as the Permanent Secretary, Ministry of Justice, National Cohesion and Constitutional Affairs, she was instrumental in the legal and institutional reforms that took place in Kenya from 2008 to 2011, including the review process that culminated in the promulgation of a new constitution.

A legal expert and practitioner in domestic and international law, Amb. Mohamed has also held various high-level international leadership positions, including United Nations Assistant Secretary General and Deputy Executive Director of the United Nations Environmental Programme (UNEP) (2011 - 2013). During her tenure, she spearheaded the implementation of UNEP's Medium-Term Strategy and reforms. She also served as Kenya's Permanent Representative to the United Nations in Geneva (2000 - 2006), where she was the first woman to chair the African Group at the World Trade Organisation (WTO).

Her outstanding service has earned her various awards, including the prestigious Adebisi Babatunde Thomas Entrepreneurship Institute Excellence in Diplomacy Award, the Grand Cordon of the Order of the Rising Sun (Government of Japan), an honorary knighthood by the Italian Government, and Kenya's highest national award of Elder of the Golden Heart.

Amb. Mohamed holds a master's degree in International Law from Kiev State University, and additional post-graduate qualifications from the University of Oxford and the Kenya School of Law.

**Dr. Segenet Kelemu**  
**Director General & Governing Council Ex-Officio Member**

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Director General & CEO  
International Centre of Insect Physiology and Ecology (*icipe*)  
PO Box 30772 - 00100 GPO  
**NAIROBI**

Dr. Kelemu is the fourth Director General of the International Centre of Insect Physiology and Ecology (*icipe*) in Nairobi, Kenya, since 2013 and the first woman to lead the Centre.

She has a PhD in plant pathology and her research work has been in molecular plant pathology with emphasis on elucidation of molecular determinants of host-pathogen interactions, development of novel plant disease control strategies including genetic engineering, biopesticides, pathogen population genetics and dynamics, and endophytic microbes and their role in plant development.

Prior to becoming Director General of *icipe*, she was Vice President for Programmes at the Alliance for a Green Revolution in Africa (AGRA). Before that, she had worked as Director of the Biosciences eastern and central Africa (BecA) hub, a regional research facility at the International Livestock Research Institute (ILRI) in Nairobi, Kenya. Previously, she was Leader of Crop and Agroecosystem Health Management at the International Center for Tropical Agriculture (CIAT).

Dr. Kelemu has received many international accolades including: The World Academy of Sciences (TWAS) Regional Award for building scientific institutions; Woman of the Decade in Natural and Sustainable Ecosystems for outstanding leadership by the Women Economic Forum; International Fellow of the Academy's General Section by the Royal Swedish Academy of Agriculture and Forestry; Ellis Island Medal of Honor, New York; Donald Danforth Plant Science Center Science Honoree; College of Agriculture Alumni Fellow of Kansas State University; one of five 'Heroes in the Field' who are using their talents to fight poverty, hunger and disease, and providing opportunities for the next generation by Bill Gates; the L'Oréal-UNESCO Awards for Women in Science ; Fellow, TWAS – The World Academy of Sciences; honorary doctorate by Tel Aviv University, recognition as one of Forbes Africa top 100 most influential African women; mentioned as one of 10 most influential African women in agriculture by the Journal of Gender, Agriculture and Food Security (AgriGender Journal); elected as a Fellow of the African Academy of Sciences; CIAT's Outstanding Senior Scientist Award; Friendship Award granted by the People's Republic of China; the TWAS Prize for Agricultural Sciences granted by TWAS, The World Academy of Sciences. She also serves on various Boards, advisory panels in major global initiatives and has served in international juries of key science awards.

### **Governance and Management**

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The Governing Council (GC) exercise all the powers conferred by the Charter upon the Centre, directly or by delegation through the bodies of the GC in line with the rules of procedure established that define its scope of authority and limitations. The bodies of the GC are the Executive Board, the Nominating Committee, the Programme Committee, and the Audit & Finance Committee. Through these bodies, the GC establishes the Centre's policies, guides the direction of its programmes and optimizes the efficient use of its resources to effectively achieve its mission.

Based on provisions found in the Charter and the principle that governance and management are best separated, the GC has delegated authority for the day-to-day running of the Centre to Management under the leadership of the Director General. Management exercise that authority in accordance with the Centre's policies and procedures that are approved by the GC. The membership of Management during the year was as follows:

Segenet Kelemu, PhD  
Sunday Ekesi, PhD  
Gatigwa Kimana, MBA

Director General & CEO  
Director of Research and Partnerships  
Director of Finance and Administration

The Governing Council presents its report for the year ended 31 December 2021 which shows the state of the Centre's affairs.

## **1. Principal activities**

The Centre works to alleviate poverty, ensure food security and improve the overall health status of peoples of the tropics, by developing and extending management tools and strategies for harmful and useful arthropods, while preserving the natural resource base through research and capacity building.

The Centre prepares a separate annual programmatic report based on results-based management approach with the aid of the logical framework. This report highlights progress made by the Centre during the year, across all its activities with interlinked advances in basic science; development and dissemination of technologies and strategies to control crop pests and disease vectors; as well as contributions to various national policies.

## **2. Operating results**

During the year, *icipe* grants income amounted to US\$ 35,741,515 (2020 - US\$ 30,104,933). The grant income, together with other income, totaled US\$ 37,905,862 (2020 - US\$ 32,211,787). Expenditure for the year was US\$ 37,376,741 (2020 - US\$ 31,699,525), resulting in a surplus of US\$ 529,121 (2020 - surplus US\$ 512,262).

## **3. Financial statements**

At the date of this report, the Governing Council is not aware of any circumstances, which would have rendered the values attributed to the assets and liabilities in the financial statements of the Centre misleading.

## **4. Impact of Coronavirus disease 2019 (COVID-19)**

The year 2021 continued to be dominated by the spread of Coronavirus disease 2019 (COVID-19). The Centre prioritized the continuation of activities as an imperative duty and did not close its campuses but instead continued to observe the strong measures put in place to ensure the safe working conditions for its staff and others we work with. The year 2021 recorded growth in activities as a result of a more relaxed regulatory regime on travel which adversely affected field activities in the prior year.

COVID-19 continued to have a significant impact in the economies of the countries in the North, affecting the level of our core funding, which is largely dependent on funding from governments in those countries. However, the Centre is prepared and has bridged the gap through improved overheads recovery, directly from volume growth and through recharges and by continuing to rationalize our support services.

The pandemic that continues in 2022 does result in ongoing uncertainty on performance of most of our grants which are given only for a specific period. However, the on-going vaccines rollout offers hope for stability in the future. Given the real possibility for a turnaround in economic activities in 2022, the Governing Council feels that there are no significant COVID-19 related developments that are likely to negatively impact the prospects of the Centre in the foreseeable future.

## **5. *icipe's* initiatives towards life and general environmental sustainability**

### **Policy statement**

*icipe* is committed to managing its environmental impact as an integral part of its operations. *icipe's* policy is always to uphold environmental integrity, and therefore adopts measures aimed at minimizing the institution's impact on the environment. Further the Centre is committed to reduce and where possible eliminate environmental risks to health through integration of relevant practices in its work.

## 5. *icipe's* initiatives towards life and general environmental sustainability (continued)

### Projects initiatives

*icipe's* projects have environmental sustainability goals and, increasingly aim for a healthy, functioning environment. Several of *icipe's* current projects are having an impact on global policy debates, for example its work on counter measures against the negative effects of the introduction of alien invasive species to Africa and their adverse impact on agricultural productivity and intra- and inter-continental trade. In addition, there is lobbying efforts for integrated and environmentally friendly vector management as a key intervention strategy for disease control in Africa and as an effective alternative to the use of pesticides for vector control. *icipe* is pursuing the latter objective as part of its mandate as a regional centre of the UN's Stockholm Convention.

*icipe* principles of conserving natural diversity and maintaining environmental integrity by promoting alternatives to synthetic pesticides shall continue to promote the use of environmentally friendly pest control strategies.

*icipe* identifies the key entry points, in partnership with essential stakeholders that have potential for scaling up its research and development projects by:

- Providing science based working models of community enterprises that have potential to contribute to livelihood security and to change community and local authority approaches towards the management of fragile and threatened ecosystems.
- Increasing institutional, human resource and technological capacities in science and biodiversity to plan and implement policies, programmes and activities that contribute to environmental sustainability. This points to the rationale of increasing joint programmes with key partners with a potential to leverage widespread change.
- Providing informed positions on the impact, opportunities, and threats of climate change to communities in fragile and threatened ecosystems that the Centre's programmes are working with.

### Specific Contribution to Environmental Sustainability by projects

#### Environmental Health Initiatives

- **Climate change:** *icipe* recognises that climate change is a serious global challenge and climate-related impacts can adversely affect the socio-economic well-being and development efforts of its operations. *icipe's* research for development (R4D) activities support climate-friendly solutions (e.g., modelling and mapping the impacts of climate-change on insect-related threats and opportunities; Climate-smart cropping technologies such as climate-smart push-pull technology, Netting technology) and opportunities for its clientele in addition to supporting adaptation measures that promote sustainable livelihood opportunities.
- **Conservation and income generation opportunities and management of fragile ecosystem:** Support conservation of fragile and threatened ecosystems from negative impacts of community exploitation, through provision of science based working models of community enterprises (e.g., Apiary; Stingless bee farming; Bombyx and wild silk culture; and Plant-based bioproducts development) adjacent to these ecosystems. These enterprises have the potential to contribute to livelihood security and change the approach of community and local authority towards the threatened ecosystems from exploitation to conservation.

**Capacity development:** Increasing institutional, human resource and technological capacities in biodiversity and conservation to plan and implement policies, programmes and activities that contribute to environmental sustainability.

- **Ecosystem services:** Insects contribute to diverse ecosystem services. These include food provisioning both directly and indirectly through their impacts on crop productivity, Pest regulation through natural control, pollination and nutrient cycling. Climate, weather, and anthropogenic factors substantially influence the development, and distribution of insects and their ecosystem service contribution. *icipe* focuses to fill critical gaps in knowledge related to climate change and anthropogenic impacts on ecosystem services and to develop ecologically sustainable adaptation strategies towards mitigating these risks by building the capacity of local research and administrative organisations through research, training and dissemination.

## 5. *icipe*'s initiatives towards life and general environmental sustainability (continued)

### Projects initiatives (continued)

- **Pollination:** Research efforts have been focused on identifying the relative contributions of the factors that are threatening wild and managed pollinator populations. Other lines of research are focused on development of suitable management options for pollinators and their environments in order to mitigate the negative effects on pollinators and their ecosystem service function.
- **INSEFF platform:** "Insects for food and feed" (INSEFF) platform contributes to "One Health" concept through market-led and science-driven innovations that support high-value and sustainable edible insect technologies to address the food planet challenges in Africa and beyond. Closely aligned with our focus on "One health" and the Sustainable Development Goals (SDGs) and African Union Agenda 2063 aspirations is also our long-term goal for promoting a circular economy in Africa. Our current food systems are largely unidirectional that exhaust natural resources with very little or no feedback to the environment for system sustainability and restoration. This unidirectional food system contributes to other diverse constraints, including biodiversity loss, increasing system fragility due to global challenges such as climate change, invasive species, soil degradation, poor human and animal nutrition, decline in employment, and enormous food losses. Harnessing underutilized food sources such as edible insects for food and feed can transform the current unidirectional food system to a vibrant circular system with effective feedback to the environment, meeting the nutritional requirement of vulnerable communities and offering employment opportunities, especially for the vulnerable youths and women at the grassroots. The replacement of the conventional animal feed protein (fishmeal and soymeal) and energy (e.g., maize) feed sources with insect-based products can recycle significant tonnes of waste, contributing to good health and well-being, as well as sustainable and resilient biosphere. This recycling of waste also result in production of organic fertilizers, contributing to: (i) resilient food systems and biosphere, (ii) sustainable and fertile agricultural land, a primary asset to food systems, and (iii) reduced GHG emissions and water contamination.
- **Bee keeping and sericulture:** The Beneficial and Commercial Insects Programme (CIP) of the Environmental health theme focuses on enabling resource poor communities, especially those living adjacent to protected biodiversity ecosystems to engage in income-earning activities through apiculture and sericulture enterprises that are sustainable, eco-friendly and synergistic. Our approach contributes to multiple impacts that include, creation of employment opportunities for youth and women, poverty alleviation, enhanced food security and reduced pressure on protected biodiversity ecosystems and overall environmental sustainability.
- **Bee Health Reference Centre:** As a reference centre for bee health, the Environmental Health Theme (EHT) research efforts contribute to the monitoring of various abiotic (climate related), biotic (pest and diseases) and man-made (pesticide application) factors that are impacting on the health of bee pollinators in Africa. Our R4D focus is also on developing and promoting suitable management options for bees, landscapes and farming practices with a special emphasis on nutritional needs of bees including effects on bee health and delivery of pollination services.
- **World Organization of Animal Health (OIE)- Collaborating Centre for Bee Health in Africa:** *icipe* plays critical and significant roles as a key global focal Centre for Bee health research and development (R&D) in Africa. The African Reference Laboratory for Bee Health is based within the EHT with a focus on honeybees, stingless bees and other solitary bees and this laboratory is accredited as the OIE Collaborating Centre for Bee Health in Africa. Data collected from North America and Europe, indicate a significant decline in wild pollinators due to various biotic and abiotic factors. It is also expected that in Africa, such declines are occurring given the prevalence of threats to pollinators, however, data is currently lacking. The well-being of bees and other pollinators is considered as a key step to ensure the ecosystem service of pollination, contributing to our well-being, and sustainable conservation of biodiversity. In addition, sustainable wild honeybee populations play a key role for improving livelihoods of beekeepers in Africa via income generated by honey production, beeswax, and other bee products. The OIE Collaborating Centre for Bee Health in Africa is developing a database of African pollinators (bees) with an aim to catalogue bee pollinators, which will cover the honeybee (*Apis mellifera*), alternative (domesticated) pollinators, and wild pollinators. This database will include the preferred food plants and provide a basis for monitoring bee pollinators in space and time. The basis for this database will be East Africa, with a special emphasis on Kenya, but in the future, it will include other countries and regions as well.

## 5. *icipe*'s initiatives towards life and general environmental sustainability (continued)

### Projects initiatives (continued)

#### Animal Health Initiatives

- **Management of vectors of animal borne diseases:** The Animal Health Theme (AHT) pursues environmental and social opportunities and outcomes through the development and deployment of environmentally sustainable management of vectors of animal borne diseases:
- **Environmentally sustainable approaches:** The Theme promotes broad uptake of environmentally sustainable approaches for control of vectors of livestock diseases. For tsetse fly control, *icipe* has been at the forefront of developing environmentally friendly tools, epitomized in the early years (1980s) by the development of the Ngu trap for tsetse flies. These tools are stationary devices that attract flies through vision and are enhanced by olfactory cues provided by readily available natural blends. During this period, *icipe* also developed the Nzi (Swahili for fly) trap for nuisance biting flies, such as *Stomoxys* and *Tabanids*, which transmit various pathogens mechanically.
- **Develop attractant and repellent compounds:** *icipe* has explored to improve knowledge on the chemical communication between vectors and their environment to identify and develop attractant and repellent compounds for vector control. As part of this development, the Centre has registered a tsetse repellent for controlling these vectors, as a commercial product.
- **Fungal biopesticide to control ticks:** Ticks are ectoparasites that transmit many diseases to livestock and humans. Commercial acaricides are available, and have been in use for many decades, resulting in widespread resistance, and environmental contamination and human health impacts. *icipe* has identified a fungal biopesticide that is effective and is currently being progressed for registration as an alternative to chemical acaricides.
- **Food and Agriculture Organization (FAO)- Reference Centre for vectors and vector-borne animal diseases (tsetse flies and animal trypanosomiasis; arthropod-transmitted viral animal pathogens):** The Reference Centre is based in the AHT, and it has contributed to research on vector borne diseases in collaboration with FAO and the African Union (AU) member states in the context of the Pan African Tsetse and Trypanosomiasis Eradication Council (PATTEC) and conducted training in vector biology and control. The Ngu and Nzi traps are widely used in endemic countries in Africa, contributing to community use toward amenable vector control that does not compromise biodiversity and health.

#### Human Health Initiatives

- **Integrated vector management (IVM):** To control and eliminate malaria and other vector-borne diseases (VBDs) and improve human health, *icipe* uses IVM as a key principle. IVM is a rational decision-making process for the optimal and environmentally sustainable use of resources for vector control. IVM emphasizes the use of combinations of non-chemical and chemical interventions with proven or potential efficacy that benefits the environment as opposed to relying on only a single chemical intervention.
- **Non-insecticidal interventions for mosquito-proofing of houses:** To control malaria, *icipe* has been piloting mosquito-proofing of houses as an important environmentally sustainable and practical non-insecticidal intervention in the high malaria transmission zone of Lake Victoria basin in Kenya. In partnership with World Health Organization Regional Office for Africa (WHO-AFRO), *icipe* has expanded these efforts to three other countries, Zambia, Mozambique and Zimbabwe where this intervention has potential to drive malaria to elimination.
- **Biopesticides for mosquito larval control:** *icipe* assessed the feasibility of applying WHO-approved *Bacillus thuringiensis israelensis* (Bti) in stagnant water as an environmentally sustainable approach to kill mosquito larvae during their peak breeding season. This approach involving the use of eco-friendly biological control agents is safer than applying synthetic chemical insecticides that damages the environment and is known to be harmless to humans and most other non-target organisms. The efficacy and effectiveness of this approach is proven in Kenya and Ethiopia and in partnership with WHO it has been expanded to three countries in southern Africa (Botswana, Eswatini and Namibia) for malaria elimination. In addition, *icipe* has developed UZIMAX, an environmentally safe plant-based biopesticide, for control of larvae of malaria vectors. This product has been registered by the Pest Control Products Board (PCPB) for use in Kenya.
- **Environmentally sustainable mosquito trap technology:** A community of about 25,000 residents on Rusinga Island in western Kenya shared their knowledge on benefits from installation of odour-baited mosquito trap technology in every household to control malaria, while providing solar power. This is an excellent example for use of an environmentally sustainable technology at community level to control malaria.

## 5. *icipe's* initiatives towards life and general environmental sustainability (continued)

### Projects initiatives (continued)

#### Plant Health initiatives

- **Integrated pest management (IPM):** IPM, a combination of ecologically sustainable and economically feasible technologies to keep pests under economic threshold, is a key principle of the Plant Health Theme (PHT). IPM contributes to environmental sustainability by minimizing the use of chemical pesticides. The PHT has developed IPM toolboxes for a diverse array of pests such as tephritid fruit flies, the tomato leafminer *Tuta absoluta*, citrus pests and the fall armyworm *Spodoptera frugiperda*.
- **Biological control:** At the core of *icipe's* plant health research is a focus on biological control. Biological control harnesses naturally occurring beneficial organisms without compromising the environment. Conservation biological control, including habitat management and behavioural manipulation based on intricate knowledge of chemical ecology and insect-plant tritrophic interactions, form the basis of push-pull technology (PPT). Classical biological control introduces parasitoids from the area of origin to combat invasive pests in Africa, and this powerful tool has been used against *Bactrocera dorsalis* and *T. absoluta*. *icipe's* work on augmentative biological control has concentrated on the formulation of microbes, mainly fungi, into potent biopesticides against numerous African pests.
- **Climate-smart IPM:** With climate change, development of climate-smart IPM technologies takes centre stage in the PHT. In PPT, for example, novel companion plants are identified that not only can cope with climate change, but also aid in improving soil fertility and carbon sequestration.
- **Outreach programmes and partnerships that encompass environmental sustainability:** The R4D efforts of PHT focus on pursuing locally adapted, best practices in pest management that not only reduce reliance on chemical pesticides, but also have positive impacts on livelihoods and the environment, using a 'one health' approach. For example, evidence on the economic, social and environmental impacts of fall armyworm and its management strategies is considered as essential and it is used to facilitate the uptake of new IPM technologies. Also, environmentally friendly fruit fly IPM packages are assessed holistically, measuring not only income and nutrition outcomes, but also environmental outcomes, using gender-disaggregated data.

#### Bioinnovate Africa Programme (BAP)

Research and innovation projects: BAP finance and supports investment in research and innovation projects that are expected to meet the requirements of environmental sustainability in line with the SDGs 2030 and the African Union Agenda 2063. The environmental sustainability and contribution to SDGs is a key evaluation criterion, which is publicly announced in the call for proposals. Consequently, all BAP supported projects have elements of circularity and sustainability embedded in their design and implementation framework.

- **Environmental risk assessment:** As part of BAP due diligence process and implementation, third party risk assessment is done to ensure compliance with environmental sustainability principles of low carbon emissions and less pollutants. In this regard, BAP may refrain from supporting a project that is likely to degrade the environment or severely contribute to biodiversity loss.
- **Environmental and social risk management:** Each project supported by BAP prepares an environmental and social risk management and reporting plan. The key elements of the management plan include: hazardous biological, chemical and radioactive waste; occupational safety in construction sites; protection of rivers and lakes ecology; biodiversity in protected areas; geology and soils; landscapes and aesthetics; archaeological and cultural heritage sites; and resettlement and or land acquisitions, among others.
- **Environmental commitments:** At country level, BAP ensures that projects adhere to local standards and environmental commitments expressed in national policies and legal instruments.



## 5. *icipe's* initiatives towards life and general environmental sustainability (continued)

### Projects initiatives (continued)

#### Regional Scholarship Innovation Fund (RSIF)

No adverse or only minimal environmental impacts are anticipated under the project, given that no new structures or works are envisaged under the project, and therefore the environmental or resettlement risks are negligible. The operational manual for participating universities is required to reference to the World Bank group's general environment, health and safety guidelines to promote best practices for activities such as classroom renovations or equipment replacement.

#### Stockholm Convention Regional Centre

*icipe* serves as a key Stockholm Convention Regional Centre on the African continent. *icipe's* collaborative IVM work with WHO-AFRO is focused on six southern African countries (Botswana, Eswatini, Namibia, Mozambique, Zambia, Zimbabwe) and it supports the implementation of the United Nations Environment Programme (UNEP) roadmap for development of alternatives to chemical pesticide, dichloro-diphenyl-trichloroethane - DDT, (UNEP/POPS/COP.7/INF/7). The work supports key elements of implementing the road map for the development of alternatives to DDT application. These include: (i) strengthening the base of knowledge for policy formulation and decision-making; (ii) developing and implementing IVM strategies; (iii) assessing and deploying alternatives; and (iv) sharing experiences and up scaling the application of non-chemical alternatives.

### Institution initiatives

As a research Centre, *icipe's* main environmental impact arise from waste generation, water use, paper use and energy consumption. The year under review provided yet another opportunity to closely monitor performance of the various initiatives under the three broad measures of greening of *icipe* i.e., solar PV power generation, energy conservation and water harvesting. The greening of *icipe* initiatives have continued to impact positively on the environment while reducing our carbon footprint. Some of the initiatives achieved among other greening initiatives are summarized below:

#### a) Energy saving measures

The Energy Management System (EMS) installed at the Centre captures and analyzes data to identify areas/opportunities of energy efficiency and conservation. The system provides ease of monitoring of energy use across *icipe* facilities as well as identifying energy leaks that are constantly addressed through routine maintenance schedules. There has been a steady decrease of energy consumption across our campuses and field stations due to ongoing energy saving initiatives. The reliance on grid Power has steadily declined from 2,185, 000 kWh five years ago to 1,089,000kWh in the year under review with solar supply contributing 38% of the total energy consumed in year 2021.

#### b) Carbon Savings

The reliance on grid has remained relatively stable at 54% since the introduction of solar energy. The use of generator has reduced from a previous level of 14% (315,325kWh) to 8% (158,220kWh) in the year under review with the resultant savings in carbon emissions. The carbon savings recorded in year 2021 is derived at 107,542kgCOe, and the total carbon savings realized since the commissioning of investments in Solar energy supplies in 2017 is derived at 581,266kgCOe.

#### c) Water Saving Measures

The Water Management System (WMS) captures and analyzes data to identify areas/opportunities of water conservation. The system enables efficient use of the available water resources at Duduville campus. More efficiencies have arisen from the intelligent lawn irrigation system installed at Duduville campus that utilizes programmed water supply from the available sources. The water supply is subjected to quaterly testing through a government regulated service provider to determine its suitability for usage. Results obtained qualified the water in use as being fit for human consumption.

At Mbita station a separate channel is used for clean but unchlorinated lake water for irrigating all experiemental crop fields and this reduces the use of chlorine and ground contamination. Some fields use the more precice drip irrigation, reducing the volume of water used. High-capacity water tanks have been installed next to screenhouses and experimental fields to store irrigation water and reduce the carbon footprint of continuous pumping of water.

5. *icipe's* initiatives towards life and general environmental sustainability (continued)

Institution initiatives (continued)

d) **Tree planting**

Since 2015 *icipe* has planted, 924 trees and 13,625 assorted plants within Duduville campus, while at Mbita 65 trees and 350 assorted plants have been planted. *icipe's* vision is to partner with international and local organizations that are interested in partnering in planting trees in its field stations at the Coast and in the western part of Kenya.

e) **Green purchasing**

*icipe* ensures that goods procured, especially equipment like refrigerators and freezers are Chlorofluorocarbons (CFC) free. The printing and photocopying paper used at *icipe* originates from the green range family (Mondi Rotatrim) and consists entirely of Forest Stewardship Council (FSC) registered certified paper from well-managed forests and is totally chlorine free. In addition, *icipe* is currently procuring glass bottled mineral water instead of plastic bottled water.

f) **Waste handling recycling & disposal**

- **Paper waste** - A total of 1,710 Kgs of wastepaper was collected for recycling in 2021. The wastepaper is collected by a contracted firm for safe disposal through recycling. In addition, to optimize use of paper, most of *icipe's* printing and photocopying is done from centralized machines that ensure controlled usage with a default setting of back-to-back printing.
- **E-waste disposal** - Obsolete and scrap electronic equipment is disposed through a contracted organization that recycles E-waste in an environmentally sound manner that is protective of public health and in accordance with all local and international environment standards and all applicable rules and regulations. In 2021, *icipe* disposed a total of 2,360kgs of e-waste from both Duduville campus and ITOC Mbita through a provider registered with the National Environment Management Authority (NEMA). The waste included among others, ICT equipment, fluorescent tubes and circuit boards, refrigeration components and accessories, UPS, batteries and projectors.
- **Biohazardous waste disposal**. In 2021, *icipe* disposed a total of 3,240 Kgs of Biohazardous waste through a NEMA registered service provider. The waste is disposed via high heat incineration. Disposal certificates were received from the service provider.
- **Composting** - The Centre adopts alternative uses for organic waste from the kitchen and gardens by composting them into green manure for use in the green houses and experimental plots and for research purposes (e.g., rearing of insects for food and feed) and this effort continued during the year. In Mbita, a waste-segregation initiative separates biodegradable waste from hazardous waste and recyclable waste. Infectious waste is incinerated, and ashes disposed of in NEMA-approved land fill, while biodegradable waste is converted into compost for fertilising gardens and experimental crop fields.
- **Plastic waste disposal** - In Duduville campus, a total of 100Kgs of plastic waste was disposed off through a NEMA registered plastic recycling company that recycles the plastic waste into water drums and containers.
- **Sewage treatment system in Mbita** - A sewage treatment system which fully meets NEMA standards is installed in Mbita. The system has an oxidation pond in which natural techniques, filtration and aquatic plants are used to treat wastewater. Up to 63cubic metre of level 1 field research laboratories, workshop, primary school, guest house and domestic wastewater is treated and discharged per day. These reduces the need for chemical decontaminants, while discharging water that meets the NEMA public health standards. Living organisms, like microbes and bacteria, are used in the removal of contaminants, pollutants, and toxins from grey water (Bioremediation). Living plants like water hyacinth, Nile cabbage, and algae are used to clean up hazardous chemical contaminants (Phytoremediation), and Photoremediation techniques which rely on natural sunlight, are used to treat wastewater. Effluent quality analysis is conducted by the Government Chemist quarterly per ISO standards. The report issued in 2021 shows ITOC Mbita effluence quality to be fit to be discharged into the natural environment.

**5. *icipe*'s initiatives towards life and general environmental sustainability (continued)**

**Relevant legislation**

*icipe* complies with all applicable local and international environmental regulations and other environmental related requirements through the continual improvement of its environmental management system and the prevention of pollution. *icipe* has an Occupational Health and Safety Committee and an Environment Management Committee both of which are respectively responsible for overseeing the management of staff risks and the risk to the environment. In 2021, an Environmental Impact Assessment (EIA), Occupational Safety and Health (OSHA) and Fire Safety audits were conducted at Mbita Campus. The station was found to be fully compliant with all legal requirements applicable to the organization in terms of Occupational Safety and Health per requirements of Legal Notice 31 of 2004 (OSHA); external Environmental Audit in line with the requirements of Legal Notice No. 101 (EMCA); and Fire Safety factories and other Places of Work (Fire Risk Reduction) rules, legal Notice 59 of 2007. An external Environmental Management Plan was also prepared and submitted as per EMCA. A similar post Covid-19 exercise for Duguville Campus shall be undertaken as soon as circumstances allow.

**6. Governing council**

The membership of the Governing Council during the year is detailed on pages 2-10.

**7. Auditors**

Ernst & Young LLP served as auditors during the year.

By order of the Governing Council



Prof. Kym Anderson  
Chair

Date: 15 March 2022

Management is responsible for the preparation and presentation of the financial statements of International Centre of Insect Physiology and Ecology (*icipe* or the Centre) set out on pages 22 to 35 which comprise statement of financial position as at 31 December 2021, the statement of activities, statement of changes in reserves and the statement of cash flows for the year then ended, and notes to the financial statements including a summary of significant accounting policies and other explanatory information.

Management responsibilities include: determining that the basis of accounting described in Note 2 is an acceptable basis for preparing and presenting the financial statements in the circumstances, preparation and presentation of financial statements in accordance with Centre's accounting policies and for such internal controls as the Governing Council determine are necessary to enable the preparation of financial statements that are free from material misstatements, whether due to fraud or error.

Management accepts responsibility for the annual financial statements, which have been prepared using appropriate accounting policies supported by reasonable and prudent judgements and estimates, in conformity with the basis of accounting described in Note 2, management is of the opinion that the financial statements give a true and fair view of the state of the financial affairs of the Centre and of its results of activities and cash flows. Management further accepts responsibility for the maintenance of accounting records which may be relied upon in the preparation of financial statements, as well as adequate systems of internal financial control.

The Governing Council exercises its responsibility for these financial statements through its Audit and Finance Committee. The Committee meets with Management, Internal Auditor and External Auditors to review matters relating to financial planning, financial reporting, risk management, internal control and auditing.

Management have made an assessment of the Centre's ability to continue as a going concern and have no reason to believe the Centre will not be a going concern for at least the next twelve months from the date of this statement.

Signed on behalf of management by:

  
Segenet Kelemu, PhD  
Director General

  
Gatigwa Kimana, MBA  
Director of Finance & Administration

Date: 15-3-2022

Date: 15-3-2022



**Report of the Independent Auditor  
To the Governing Council of the International Centre of Insect Physiology and Ecology  
Report on the Audit of the Financial Statements**

***Opinion***

We have audited the accompanying financial statements of International Centre of Insect Physiology and Ecology (*icipe* or the Centre), set out on pages 22 to 35, which comprise the statement of financial position as at 31 December 2021, the statement of activities, the statement of changes in reserves, and statement of cash flows for the period then ended, and a summary of significant accounting policies and other explanatory notes.

In our opinion, the financial statements are prepared in all material respects, in accordance with the Centre's accounting policies set out in Note 2.

***Basis for Opinion***

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of *icipe* in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code). We have fulfilled our other ethical responsibilities in accordance with the IESBA Code, and in accordance with other ethical requirements applicable to performing audits of financial statements in Kenya. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

***Emphasis of Matter - Basis of Accounting and Restriction on Use***

We draw attention to Note 2 of the financial statements, which describes the basis of accounting. The financial statements are prepared to comply with the financial reporting provisions of the Centre and donor requirements. As a result, the financial statements may not be suitable for another purpose. Our report is intended solely for *icipe* and its donors and should not be used by parties other than *icipe* and its donors. Our opinion above is not modified in respect of this matter.

***Other Information***

The Governing Council is responsible for the other information. The other information comprises the information included in the Report of the Governing Council. The other information does not include the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and we do not express an audit opinion or any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

***Responsibilities of management and those charged with Governance for the Financial Statements***

Management is responsible for the preparation of the financial statements in accordance with the Centre's accounting policies set out in Note 2 and for such internal control as the Governing Council determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the management is responsible for assessing the Centre's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Council either intends to liquidate the organisation or to cease operations, or have no realistic alternative but to do so.

The Governing Council is responsible for overseeing the Centre's financial reporting processes.

### *Auditor's Responsibilities for the Audit of the Financial Statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Centre's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the management; and
- Conclude on the appropriateness of the management's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Centre's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Centre to cease to continue as a going concern.

We communicate with the those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

The engagement partner responsible for the audit resulting in the independent auditor's report is CPA Nancy Muhoya - Practicing Certificate No. 2158.




For and on behalf of Ernst & Young LLP  
Certified Public Accountants  
Nairobi, Kenya

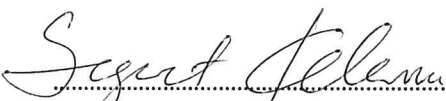
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The International Centre of Insect Physiology and Ecology (*icipe*)  
Statement of Financial Position  
For the Year Ended 31 December 2021

Description	Note	2021 US\$	2020 US\$
<b>Non-current assets</b>			
Property and equipment (restricted)	4(a)	7,965,750	<u>8,690,808</u>
Property and equipment (unrestricted)	4(b)	<u>304,398</u>	<u>396,470</u>
Sub-total non-current assets		8,270,148	9,087,278
<b>Current assets</b>			
Consumable stores		34,313	21,715
Grants receivable	5	529,864	3,896,160
Receivables and prepayments	6	2,206,438	3,937,773
Cash and cash equivalents	7	<u>59,566,512</u>	<u>33,808,207</u>
Sub-total current assets		<u>62,337,127</u>	<u>41,663,855</u>
<b>Total assets</b>		<u>70,607,275</u>	<u>50,751,133</u>
<b>Current liabilities</b>			
Payables and accruals	8	4,754,038	3,427,875
Unexpended operating grants	9	<u>41,302,563</u>	<u>22,748,509</u>
Sub-total current liabilities		46,056,601	26,176,384
<b>Long term liabilities</b>			
Provision for staff repatriation	10	526,186	527,963
<b>Total liabilities</b>		<u>46,582,787</u>	<u>26,704,347</u>
<b>Total net assets</b>		<u>24,024,488</u>	<u>24,046,786</u>
<b>Financed by:</b>			
Accumulated Surplus		1,835,064	1,305,943
General reserves		11,950,905	11,950,905
Currency revaluation reserves		2,272,769	2,099,130
Restricted assets capital fund	4(a)	<u>7,965,750</u>	<u>8,690,808</u>
<b>Total capital fund &amp; reserves</b>		<u>24,024,488</u>	<u>24,046,786</u>

The financial statements were approved by the Governing Council on 15 March 2022 and signed on its behalf by:

  
.....  
Prof. Kym Anderson  
Chair of the Governing Council

  
.....  
Segenet Kelemu, PhD  
Director General

The International Centre of Insect Physiology and Ecology (*icipe*)  
Statement of Activities  
For the Year Ended 31 December 2021

Description	Note	2021 US\$	2020 US\$
<b>Income</b>			
Unrestricted core grants	11	3,591,892	4,977,091
Restricted project grants	11	32,149,623	25,127,842
Other income	12	2,166,088	2,010,048
Currency translation (loss)/gain		<u>(1,741)</u>	<u>96,806</u>
<b>Total income</b>		<b><u>37,905,862</u></b>	<b><u>32,211,787</u></b>
<b>Expenditure</b>			
<b>Research costs</b>			
Research projects		33,693,492	26,996,684
Scientific equipment		220,881	137,801
Other restricted projects assets		<u>304,183</u>	<u>495,009</u>
Sub-total research costs		<u>34,218,556</u>	<u>27,629,494</u>
<b>Institutional costs</b>			
Centre management		1,429,498	1,423,483
Administration and finance		2,066,679	1,507,844
Corporate		314,097	869,037
Facilities and maintenance		1,006,897	940,206
Field stations		618,602	657,243
Service units		213,270	531,240
Overhead recovery		<u>(2,490,858)</u>	<u>(1,859,022)</u>
Sub-total institutional costs		<u>3,158,185</u>	<u>4,070,031</u>
<b>Total expenditure</b>		<b><u>37,376,741</u></b>	<b><u>31,699,525</u></b>
<b>Surplus for the year</b>		<b><u><u>529,121</u></u></b>	<b><u><u>512,262</u></u></b>



The International Centre of Insect Physiology and Ecology (*icipe*)  
Statement of Changes in Reserves  
For the Year Ended 31 December 2021

	Note	Accumulated surplus US\$	General reserve US\$	revaluation reserve US\$	Currency	Restricted assets capital fund US\$	Total reserves US\$
<b>Year ended 31 December 2020</b>							
1 January		793,681	11,950,905	1,333,003		9,321,016	23,398,605
Surplus		512,262	-	-		-	512,262
Restricted fixed assets acquisitions		-	-	-		632,809	632,809
Net book value of disposed restricted assets		-	-	-		(24,364)	(24,364)
Restricted fixed assets depreciation		-	-	-		(1,238,653)	(1,238,653)
Currency revaluation gain		-	-	766,127		-	766,127
<b>At 31 December 2020</b>		<b><u>1,305,943</u></b>	<b><u>11,950,905</u></b>	<b><u>2,099,130</u></b>		<b><u>8,690,808</u></b>	<b><u>24,046,786</u></b>
<b>Year ended 31 December 2021</b>							
1 January		1,305,943	11,950,905	2,099,130		8,690,808	24,046,786
Surplus		529,121	-	-		-	529,121
Restricted fixed assets acquisitions		-	-	-		525,064	525,064
Net book value of disposed restricted assets		-	-	-		(7,184)	(7,184)
Restricted fixed assets depreciation		-	-	-		(1,242,938)	(1,242,938)
Currency revaluation gain		-	-	173,639		-	173,639
<b>31 December 2021</b>	<b>13</b>	<b><u>1,835,064</u></b>	<b><u>11,950,905</u></b>	<b><u>2,272,769</u></b>		<b><u>7,965,750</u></b>	<b><u>24,024,488</u></b>

The International Centre of Insect Physiology and Ecology (*icipe*)  
Statement of Cash Flows  
For the Year Ended 31 December 2021

Description	Note	2021 US\$	2020 US\$
<b>Operating activities:</b>			
Net surplus for the year		529,121	512,262
Adjustments for:			
Depreciation for assets written off		-	(889)
Depreciation	4(b)	167,914	207,024
Currency revaluation (loss)/gain		173,637	766,127
Gain on disposal of assets		(842)	(10,174)
<b>Operating surplus before working capital changes</b>		<b>869,830</b>	<b>1,474,350</b>
(Increase)/Decrease in consumable stores		(12,598)	9,788
Decrease/(Increase) in grants receivable		3,366,296	(2,383,923)
Decrease/(Increase) in receivables and prepayments		1,731,335	(52,179)
Increase in payables and accruals		1,326,163	767,084
Increase/(Decrease) in unexpended operating grants		18,554,054	(3,150,797)
(Decrease)/Increase in provision for staff repatriation		(1,777)	975
<b>Net cash flows from operating activities</b>		<b>25,833,303</b>	<b>(3,334,702)</b>
<b>Investing activities:</b>			
Cost of assets written off/transferred		-	2,586
Purchase of unrestricted property and equipment	4(b)	(75,840)	(97,131)
Proceeds from disposal of assets		842	10,784
<b>Net cash flows used in investing activities</b>		<b>(74,998)</b>	<b>(83,761)</b>
Net movement in cash and cash equivalents		25,758,305	(3,418,463)
Cash and cash equivalents at the beginning of the year		33,808,207	37,226,670
<b>Cash and cash equivalents at the end of the year</b>	7	<b>59,566,512</b>	<b>33,808,207</b>

## 1. Organisation and nature of activities

The International Centre of Insect Physiology and Ecology (*icipe*), based in Nairobi, Kenya, is a unique international research organisation involved in developing technologies to alleviate world poverty and to ensure food security and good health for the peoples of the tropics through management of both harmful and useful arthropods. The Centre's current activities are focused around improving and promoting the 4Hs - Human, Animal, Plant and Environmental Health. Both Scientists and Integrated Pest Management practitioners benefit from the Centre's educational and training facilities and opportunities.

*icipe* collaborates with many local and international institutions in delivering and testing its improved scientific management techniques.

## 2. Basis of accounting and significant accounting policies

The principal accounting policies set out below have been applied consistently to all periods presented in these financial statements:

### (a) Revenue recognition

- (i) Restricted funds primarily include restricted purpose grants and cost reimbursement contracts for which the Centre has fiscal responsibility. Restricted funds income is recognised when funds are expended irrespective of whether funds have been received from the donors.

Restricted funds received during the year are recorded as unexpended operating grants until they are expended. Any unexpended restricted funds at the end of the year are carried forward to the next financial year as current liabilities.

- (ii) Unrestricted funds (core support) refer to donations received to fund the operations of the Centre, and for providing support, primarily for research and training activities. Unrestricted funds are recognised as income in the year they are received. However, if a donor has committed to provide unrestricted funds to *icipe* in a financial year and these funds are not received in the year, income relating to the financial year is accrued.
- (iii) Grant advances received during one year against the following year's commitments are treated as unexpended grant liabilities in the year of receipt and as income in the year of expenditure.
- (iv) Other income is recognised when earned.

### (b) Expenditure

Expenditure is accounted for on an accrual basis.

### (c) Property and equipment

Assets purchased either fully or partially from restricted funds are charged to the statement of comprehensive income in the year of purchase. These are then capitalised in the statement of financial position through the capital fund. Annual depreciation on these assets is recorded through this fund.

Assets purchased using unrestricted funds are capitalised in the year of purchase. Assets capitalised in the year of purchase have been depreciated at annual rates estimated to write-off the assets over their expected useful life.

The annual rates used are:

Type of asset	Rate
Land and buildings	2.5
Scientific equipment	12.5
Furniture and office equipment	12.5
Motor vehicles	25.0
Computer equipment	25.0
Other Assets	12.5

**2. Significant accounting policies (Continued)**

**(d) Translation of foreign currencies**

Transactions during the year are converted to US\$ at the monthly average rates. Balances denominated in foreign currencies at the year-end are translated into US dollars at the average commercial banks rate ruling at the year-end. Unrealized gains and losses are transferred to currency revaluation reserve.

**(e) Cash and cash equivalents**

Cash and cash equivalents include cash in hand, deposits held at call with banks, other short-term highly liquid investments and bank overdrafts.

**(f) Pension fund contributions**

The Centre makes pension contributions for Internationally Recruited Staff to an offshore Pension fund, channelled through AIARC (the Association of International Agricultural Research Centres) for investment by Generalli, the Pension fund managers. Nationally Recruited Staff pension contributions are made to local private individual pension plans.

**(g) Consumable stores**

The Centre has adopted the just in time purchasing system, and does not hold any consumable stock, except for fuel which is stated at the lower of cost and net realisable value.

**(h) Receivables and Doubtful debts**

Receivables are recognised initially at fair value. They are subsequently stated at the nominal values less write down for any amounts expected to be irrecoverable.

Allowances are made for doubtful debts in specific cases based on their lack of recoverability. In addition, a provision is also recorded on the remainder of grants receivable and on Collaborating organisations balances.

**(i) Comparatives**

Comparative figures where necessary conform to changes in presentation in the current year.

**(j) Land donated by the Government**

The Government of Kenya donated five pieces of land where the Centre has permanent structures, and which facilitate the Centre's research activities. These are Kasarani-Duduville Campus, Mbita-*icipe* Thomas Odhiambo Campus, Kwale-Muhaka field station, Nairobi-Riverside and Nairobi Arboretum Land. The land was donated at nil consideration.

### **3. Financial risk management**

The Centre's operations expose it to a variety of financial risks, including credit risk and the effects of foreign exchange risk. The Centre's overall risk management programme focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on its financial performance.

Risk management is carried out under policies approved by the Governing Council. Finance Unit identifies, evaluates and manages financial risks according to these policies. The policies lay down principles for overall risk management, as well as those covering specific areas such as foreign exchange risk and investing excess liquidity.

#### **Market risk**

##### **(a) Foreign exchange risk**

The Centre operates internationally and is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the Euro, Swiss Franc, Sterling Pound, Swedish Krona and Kenya Shilling. Foreign exchange risk arises from future transactions and recognised assets and liabilities.

The Centre manages foreign exchange risk by converting its foreign currency collections into spending currency on an ongoing basis to cater for its operational requirements. As a result, the Centre does not hold large amounts in currency deposits other than in the recipient and spending currencies.

Sensitivity considerations with respect to the movement in the foreign exchange movement indicate volatility leading to uncertainty on the exchange rates that may prevail, and this may have significant effect on the future results of the Centre owing to the multiplicity of currency amounts the Centre holds.

The Centre, as a matter of practice transacts in the currency most favoured by the stability in exchange rates among the basket of currencies that it holds.

##### **(b) Liquidity risk**

Prudent liquidity risk management includes maintaining sufficient cash and marketable securities due to the dynamic nature of the underlying businesses. Management monitors rolling forecasts of the Centre's liquidity reserve based on expected cash flow.

#### 4. Property and equipment

##### (a) Restricted assets

Property and equipment purchased from restricted funds are written off to the statement of comprehensive income in the year of purchase and shown in the statement of financial position through a capital fund.

	Land & buildings US \$	Scientific equipment US \$	Computer equipment US \$	Office equipment & furniture US \$	Motor vehicles US \$	Others US \$	Totals US \$
<b>Cost</b>							
At 1 January 2021	10,240,176	7,826,849	1,017,393	333,397	2,194,075	68,056	21,679,946
Additions	-	220,881	140,978	33,763	129,442	-	525,064
Disposals	-	(11,126)	(47,067)	(1,178)	-	-	(59,371)
<b>At 31 December 2021</b>	<b>10,240,176</b>	<b>8,036,604</b>	<b>1,111,304</b>	<b>365,982</b>	<b>2,323,517</b>	<b>68,056</b>	<b>22,145,639</b>
<b>Depreciation</b>							
At 1 January 2021	3,948,107	6,081,239	821,210	241,363	1,829,163	68,056	12,989,138
Disposals	-	(11,126)	(39,883)	(1,178)	-	-	(52,187)
Charge for the year	255,959	710,766	102,962	23,563	149,688	-	1,242,938
<b>At 31st December 2021</b>	<b>4,204,066</b>	<b>6,780,879</b>	<b>884,289</b>	<b>263,748</b>	<b>1,978,851</b>	<b>68,056</b>	<b>14,179,889</b>
<b>Net book value</b>							
At 31 December 2021	6,036,110	1,255,725	227,015	102,234	344,666	-	7,965,750

4. Property and equipment (continued)

(a) Restricted assets (continued)

Cost	Land & buildings US \$	Scientific equipment US \$	Computer equipment US \$	Office equipment & furniture US \$	Motor vehicles US \$	Others US \$	Totals US \$
As at 1st January 2020	10,240,176	7,689,048	933,987	285,513	1,944,297	68,056	21,161,077
Additions	-	137,801	120,880	50,034	324,094	-	632,809
Disposals	-	-	(37,474)	(2,150)	(74,316)	-	(113,940)
<b>As at 31st December 2020</b>	<b>10,240,176</b>	<b>7,826,849</b>	<b>1,017,393</b>	<b>333,397</b>	<b>2,194,075</b>	<b>68,056</b>	<b>21,679,946</b>
<b>Depreciation</b>							
As at 1st January 2020	3,692,148	5,346,499	748,895	217,698	1,766,765	68,056	11,840,061
Disposals	-	-	(14,812)	(448)	(74,316)	-	(89,576)
Charge for the year	255,959	734,740	87,127	24,113	136,714	-	1,238,653
As at 31st December 2020	3,948,107	6,081,239	821,210	241,363	1,829,163	68,056	12,989,138
<b>Net Book Value</b>							
As at 31st December 2020	<u>6,292,069</u>	<u>1,745,610</u>	<u>196,183</u>	<u>92,034</u>	<u>364,912</u>	<u>-</u>	<u>8,690,808</u>

4. Property and equipment (continued)

(b) Unrestricted assets

	Riverside house US \$	Arboretum Land US \$	Arboretum house US \$	Dudu Guest House US \$	Scientific equipment US \$	Computer equipment US \$	Furniture & office equipment US \$	Motor vehicles US \$	Totals US \$
<b>Cost</b>									
At 1 January 2021	310,949	3,077	164,067	2,333	1,080,450	1,443,601	208,420	676,747	3,889,644
Additions	-	-	-	-	9,119	65,081	1,640	-	75,840
Disposals	-	-	-	-	-	(62,199)	(9,460)	-	(71,659)
<b>At 31 December 2021</b>	<b>310,949</b>	<b>3,077</b>	<b>164,067</b>	<b>2,333</b>	<b>1,089,569</b>	<b>1,446,483</b>	<b>200,600</b>	<b>676,747</b>	<b>3,893,825</b>
<b>Depreciation</b>									
At 1 January 2021	265,348	3,077	111,978	1,307	954,182	1,358,136	202,243	596,903	3,493,174
Disposals	-	-	-	-	-	(62,199)	(9,461)	-	(71,660)
Charge for the year	9,120	-	4,102	58	47,980	53,642	2,555	50,456	167,913
<b>At 31 December 2021</b>	<b>274,468</b>	<b>3,077</b>	<b>116,080</b>	<b>1,365</b>	<b>1,002,162</b>	<b>1,349,579</b>	<b>195,337</b>	<b>647,359</b>	<b>3,589,427</b>
<b>Net book value</b>									
At 31 December 2021	<u>36,481</u>	<u>-</u>	<u>47,987</u>	<u>968</u>	<u>87,407</u>	<u>96,904</u>	<u>5,263</u>	<u>29,388</u>	<u>304,398</u>



4. Property and equipment (continued)

(b) Unrestricted assets (continued)

	Riverside House US \$	Arboretum Land US \$	Arboretum House US \$	Dudu Guest House US \$	Scientific Equipment US \$	Computer Equipment US \$	Furniture & Office Equipment US \$	Motor Vehicles US \$	Totals US \$
<b>Cost</b>									
As at 1 January 2020	310,949	3,077	164,067	2,333	1,062,902	1,398,968	208,420	676,747	3,827,463
Adjustments*	-	-	-	-	(2,584)	-	-	-	(2,584)
Additions	-	-	-	-	44,400	52,731	-	-	97,131
Disposals	-	-	-	-	(24,268)	(8,098)	-	-	(32,366)
<b>As at 31 December 2020</b>	<b>310,949</b>	<b>3,077</b>	<b>164,067</b>	<b>2,333</b>	<b>1,080,450</b>	<b>1,443,601</b>	<b>208,420</b>	<b>676,747</b>	<b>3,889,644</b>
<b>Depreciation</b>									
As at 1 January 2020	256,228	3,077	107,877	1,249	909,872	1,311,180	199,628	529,682	3,315,793
Adjustments	-	-	-	-	(889)	-	-	-	(889)
Disposals	-	-	-	-	(24,268)	(7,485)	-	-	(31,753)
Charge for the year	9,120	-	4,101	58	69,467	54,441	2,615	67,221	207,023
<b>As at 31 December 2020</b>	<b>265,348</b>	<b>3,077</b>	<b>111,978</b>	<b>1,307</b>	<b>954,182</b>	<b>1,358,136</b>	<b>202,243</b>	<b>596,903</b>	<b>3,493,174</b>
<b>Net Book Value</b>									
As at 31 December 2020	45,601	-	52,089	1,026	126,268	85,465	6,177	79,884	396,470

**5. Grants receivables**

	2021 US\$	2020 US\$
Grants receivables	1,039,864	4,328,525
Provision for diminution in value of grants receivables	<u>(510,000)</u>	<u>(432,365)</u>
<b>Total</b>	<b><u>529,864</u></b>	<b><u>3,896,160</u></b>

**6. Receivables and prepayments**

Accountable travel advances	470,917	284,010
Other debtors and prepayments	811,782	668,257
Collaborating organisations	1,258,739	3,318,828
Provision for diminution in value of partner advances	<u>(335,000)</u>	<u>(333,322)</u>
<b>Total</b>	<b><u>2,206,438</u></b>	<b><u>3,937,773</u></b>

**7. Bank and cash balances**

Cash at banks	59,565,567	33,807,247
Cash in hand	<u>945</u>	<u>960</u>
<b>Total</b>	<b><u>59,566,512</u></b>	<b><u>33,808,207</u></b>

**8. Payables and accruals**

Leave liability	369,460	365,857
Other payables	4,030,866	2,781,980
Accruals and commitments	<u>353,712</u>	<u>280,038</u>
<b>Total</b>	<b><u>4,754,038</u></b>	<b><u>3,427,875</u></b>

**9. Unexpended operating grants**

Description	2021 US \$	2020 US \$
Unrestricted grants	-	310,126
Earmarked	<u>2,905,846</u>	<u>2,461,120</u>
<b>Subtotal</b>	<b>2,905,846</b>	<b>2,771,246</b>
Restricted grants	36,846,853	15,648,739
Grants Receivables	1,039,864	3,896,160
Provisions for the year	<u>510,000</u>	<u>432,364</u>
<b>Subtotal</b>	<b><u>38,396,717</u></b>	<b><u>19,977,263</u></b>
<b>Total</b>	<b><u>41,302,563</u></b>	<b><u>22,748,509</u></b>

**10. Provisions for staff repatriation**

Balance at 1 January	527,963	526,988
Provision for the year	91,701	40,828
Payments in the year	<u>(93,478)</u>	<u>(39,853)</u>
<b>Total</b>	<b><u>526,186</u></b>	<b><u>527,963</u></b>

# 11. Grant Income Balances

Description	Balance b/f 01-Jan-21 US \$	Receipts during the Year 2021 US \$	Balance c/f 31-Dec-21 US \$	Income for the Year 2021 US \$	Income for the Year 2020 US \$
Unrestricted	310,126	4,524,584	-	(3,591,892)	(4,977,091)
Restricted	15,648,739	53,857,738	37,356,854	(32,149,623)	(25,127,842)
Earmarked	-	-	-	-	-
<b>Total</b>	<b><u>15,958,865</u></b>	<b><u>58,382,322</u></b>	<b><u>37,356,854</u></b>	<b><u>(35,741,515)</u></b>	<b><u>(30,104,933)</u></b>

Refer to the schedule of grants (Appendix 1) for the breakdown of income per project.

# 12. Miscellaneous income

	2021 US\$	2020 US\$
Share of costs by collaborators	967,029	921,241
Interest on bank deposits	*(148,936)	148,936
Screen house recharge - projects	26,426	42,792
Gain on disposal of Unrestricted Assets	842	10,173
Other Income	76,637	31,850
Recharge for office & lab space - projects	460,912	519,155
Recharge of research support service - projects	151,240	120,738
Recharge of research coordination costs - projects	200,434	215,163
Recharge of ICT - projects	316,678	-
VAT Exemption	<u>114,827</u>	<u>-</u>
<b>Total</b>	<b><u>2,166,088</u></b>	<b><u>2,010,048</u></b>

\*Year 2020 interest earned on ring-fenced reserve funds transferred to an interest reserve fund to cushion against time derived diminution in value of the funds.

# 13. Transfer from general reserves

The target limit is to maintain a reserve level of three to six months of operational needs in line with the Governing Council recommendation.

# 14. Personnel costs

Personnel costs for the year amounted to US\$ 14,366,764 (2020 - US \$ 13,401,189), including the salaries and benefits of the Centre's full-time employees. The total pension fund contributions added in 2021 were US\$ 1,112,446 (2020 - US\$ 1,063,445). There was a total of 464 (2020 - 516) personnel on payroll at year end. The total amount of statutory deductions was US\$ 2,116,446 (2020 - US\$ 1,696,036) during the year.

The key management compensation for the year amounted to US\$ 1,013,231 (2020 - US\$ 966,703).

**15. Overhead rate**

	2021 Net cost US\$ 000	2020 Net cost US\$ 000
R&D Costs	33,112	26,546
Overhead costs	6,840	5,794
Overhead rate (%)	21%	22%

**16. Taxation**

Under the terms of the Headquarters Agreement with the Government of Kenya, the Centre is exempt from all forms of direct taxation.

*icipe* is recognized by the U.S. Internal Revenue Service (IRS) as an organisation described under section 501 (c) (3) and has also been granted exemption from taxation by the United States of America Internal Revenue Service.

**17. Currency**

These financial statements are presented in United States of America dollars (US\$).

**18. In kind contributions**

In 2021, the French Government through IRD and CIRAD stationed on a full-time basis five visiting Scientists at *icipe*. In addition, CIM, the German Centre for International Migration and Development, subsidized two scientists solidifying and expanding research and development capacities in addition to helping alleviate the financial responsibilities of *icipe*. During the same period, *icipe* received five visiting Scientists from University of Canterbury (one) and Swiss National Science Foundation (one).

**19. Subsequent Events**

The COVID-19 (Coronavirus) pandemic has spread to many countries in the world and has disrupted business activities globally and recent market volatility. The developments surrounding COVID-19 change on a daily basis giving rise to inherent limitations. The management assess that it is not practicable to accurately estimate the financial impact of COVID-19 now as the effects are yet to fully materialize. As of the date of approval of the financial statements, the operations were not significantly affected. The management, in consideration of the above facts, assess the epidemic outbreak as a non-adjusting event.

**Appendix 1: Schedule of grants**

Project Name	Balance Brought Forward 01.01.2021 US \$	Receipts/ Transfers 2021 US \$	Balance Carried Forward 31.12.2021 US \$	Income For The Year 2021 US \$	Income For The Year 2020 US \$
<b>CORE FUNDS</b>					
SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION	-	2,276,589	-	(2,276,589)	(2,128,273)
THE SWISS GOVERNMENT - SWISS AGENCY FOR DEVELOPMENT AND COOPERATION	-	1,621,587	-	(1,621,587)	(1,630,400)
FOREIGN, COMMONWEALTH AND DEVELOPMENT OFFICE	310,126	-	-	(310,126)	(1,867,666)
GOVERNMENT OF ETHIOPIA	-	5,000	-	(5,000)	(5,000)
AID FOR AFRICA	-	-	-	-	(752)
EARMARKED FUNDS	-	621,409	-	621,409	655,000
<b>TOTAL - CORE FUNDS</b>	<b>310,126</b>	<b>4,524,584</b>	<b>-</b>	<b>(3,591,892)</b>	<b>(4,977,091)</b>
<b>RESTRICTED</b>					
<b>ABERYSTWYTH UNIVERSITY</b>					
Physiologically inspired optimisation of control devices for biting fly pests of livestock	(439)	1,442	154	(849)	(12,917)
<b>AFRICAN ACADEMY OF SCIENCE</b>					
Dialogues in the wilderness: camels, science and the girl child	12,721	2,514	-	(15,235)	(9,722)
Science Based Conversation, Knowledge and Skill Transfer to Students in Selected Secondary Schools in Western Kenya	-	-	-	-	(19,291)
<b>African Technology Policy Studies Network</b>					
Managing Organization (Hub) for Responsible Artificial Intelligence for Agriculture and Food Systems Innovation Research Network in Africa	-	22,611	22,611	-	-
<b>AFRICAN UNION COMMISSION</b>					
Promote sustainable management of Tuta absoluta, an invasive pest of Solanaceous vegetables for food and nutritional security in East Africa	111,258	-	(60,943)	(172,201)	(207,007)
<b>BAYER AG</b>					
Integrating stingless bees for horticulture and plantantion crop pollination to sustain livelihood among smallholder Agriculture farmers in Africa	6,018	-	(54,391)	(60,408)	(79,954)
<b>BERTHA FOUNDATION</b>					
Push- Pull Farming Technology	-	-	-	-	(19,966)

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward 01.01.2021 US \$	Receipts/ Transfers 2021 US \$	Balance Carried Forward 31.12.2021 US \$	Income For The Year 2021 US \$	Income For The Year 2020 US \$
<b>BILL &amp; MELINDA GATES FOUNDATION</b>					
Achieving Sustainable Striga Control for Poor Farmers in Africa					
A Crowd-Sourcing Approach to Large Scale Monitoring of Pests	-	-	-		(65,635)
Modelling crop yield loss to insect pests in a warming climate	190,276	-	25,869	(164,407)	(9,724)
SymbioVector Project - Symbiont-based Malaria Transmission Blocking: To evaluate a microsporidia symbiont as a potential novel malaria control intervention	-	902,876	706,412	(196,464)	-
<b>BIOTECHNOLOGY AND BIOLOGICAL SCIENCES RESEARCH COUNCIL</b>					
Seeding quantitative genetics analysis of phenotypic variation in the <i>icipe</i> cricket	-	27,080	-	(27,080)	-
<b>BIOVISION AFRICA TRUST</b>					
Knowledge Center for Organic Agriculture in Africa	5,002	11,550	9,239	(7,313)	(8,836)
<b>BIOVISION FOUNDATION FOR ECOLOGICAL DEVELOPMENT</b>					
Up-scaling integrated control of tsetse and trypanosomiasis among agro-pastoralists in Kenya through community partnerships, training and engagement	-	-	-	-	(39,448)
Upscaling the eco-management of tsetse flies through the integration of repellent technologies and optimised trap deployment	(22,313)	22,313	-	-	(67,313)
Improving ecological and economic performance of push-pull technology through comprehensive management of Napier stunt disease, mycotoxins and fodder commercialization	-	-	-	-	(51,954)
Intensification of push pull technology for improved food security, nutrition and incomes	32,617	171,189	2,119	(201,687)	(127,383)
Upscaling and institutionalizing of fruit fly IPM technology among smallholder fruit growers in East Africa (Phase V)	19,997	121,000	75,228	(65,769)	(62,576)
Scaling Push-Pull technology for enhanced food security and adaptive capacity of smallholder farmers in Ethiopia-Phase III	-	-	-	-	12
Combating the invasive tomato leafminer, Tuta absoluta through the Implementation of eco-friendly IPM approach on tomato in East Africa (Tuta IPM)	46,743	60,000	25,112	(81,631)	(127,390)
Piloting local seed production for push pull technology companion plants in Ethiopia: Funding IKEA Foundation (The Netherlands) via Biovision Foundation	-	-	-	-	(10,000)
Scaling-up of agroecological approaches by farmers, entrepreneurs and policymakers by creating a role model through the Push-Pull approach which demonstrates that agroecology can be scaled up.	21,327	129,460	51,026	(99,761)	(46,989)

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward 01.01.2021 US \$	Receipts/ Transfers 2021 US \$	Balance Carried Forward 31.12.2021 US \$	Income For The Year 2021 US \$	Income For The Year 2020 US \$
Three diseases, one Health, A one health participatory approach to combating a complex of zoonotic diseases in Northern Kenya	1,535	-	1,535	-	1,535
Piloting novel, biorational, cattle-targeted interventions for sustainable control of arthropod vectors of malaria and other diseases of humans and livestock through multi-sectoral stakeholder engagement and community partnership	(20,195)	220,000	(8,162)	(207,967)	(167,928)
Piloting managed beekeeping technology to enhance youth livelihoods, resilience and environmental rehabilitation in Wag Himra Zone, Ethiopia	22,429	4,676	-	(27,104)	(94,214)
Participatory beekeeping for ecological protection of Mangrove forests in Zanzibar (ZanBee)	21,458	50,000	(27,618)	(99,077)	(48,542)
An integrated ecological approach to mango production in Arba Minch District, Ethiopia.	-	98,000	8,151	(89,849)	-
Developing a Mosquito-repellent Biofuel Product for Better Health and Environment	-	15,000	1,731	(13,269)	-
Scaling up successful beekeeping enterprises for improving livelihood and resilience of especially women in degraded natural habitats in Wag Himra Zone, Ethiopia	-	163,000	114,748	(48,252)	-
<b>CENTRE FOR AGRICULTURE AND BIOSCIENCE INTERNATIONAL</b>					
Commissioning of a consultant by <i>icipe</i> to develop an invasive species strategy for Africa	12,727	(7,992)	4,735	-	(5,265)
Global Burden of Crop Loss summer studentship programme	6,749	-	-	(6,749)	(5,991)
<b>CHARITE - UNIVERSITY OF MEDIZIN BERLIN</b>					
Identification of virus transmission networks to control key arboviral diseases in Kenya-MK	(4,720)	40,872	(13,843)	(49,995)	(34,872)
Identification of virus transmission networks to control key arboviral diseases in Kenya-RS	(40,337)	111,997	(27,872)	(99,532)	(104,439)
Identification of virus transmission networks to control key arboviral diseases in Kenya-DT	(3,434)	8,911	(523)	(6,000)	(16,485)
Identification of virus transmission networks to control key arboviral diseases in Kenya-BT	(28,626)	55,213	2,876	(23,711)	(56,883)
<b>CIRAD-AGRICULTURAL RESEARCH FOR DEVELOPMENT</b>					
Semiochemical Compounds: Service Agreement Collaboration between CIRAD and <i>icipe</i>	18,455	6,330	16,628	(8,157)	(1,717)
Pest Free Fruit: Service Agreement Collaboration between CIRAD and <i>icipe</i>	3,904	4,240	6,426	(1,718)	(3,013)
IMPRESS: netting technology (ex-post IMPRESS analysis)	-	17,705	7,882	(9,823)	-
Coffee IPM	-	4,960	937	(4,023)	-

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward 01.01.2021 US \$	Receipts/ Transfers 2021 US \$	Balance Carried Forward 31.12.2021 US \$	Income For The Year 2021 US \$	Income For The Year 2020 US \$
<b>CODE FOR SCIENCE &amp; SOCIETY</b>					
Empowering researchers with skills and tools in Open Science and Bioinformatics	-	18,779	15,452	(3,327)	-
<b>CROP HEALTH AND PROTECTION</b>					
Diagnostic Tool for the Identification and Quantification of Potato Cyst Nematode (PCN)	(12,978)	24,106	(5,132)	(16,261)	(34,332)
<b>EARMARKED CORE</b>					
Core Earmarked Activities	1,374,144	(163,877)	843,311	(366,957)	(487,240)
<b>ETH ZURICH DEPARTMENT OF HEALTH SCIENCES AND TECHNOLOGY</b>					
Welfare, Nutritional, and Human Health Impacts of Post-Harvest Loss Prevention: A Large-Scale Field Experiment in Kenya (IMPACT)	245	-	245	-	-
<b>ETHIOPIAN CATHOLIC CHURCH</b>					
The Sustainable Integrated Livelihood Vulnerability Reduction Project	9,362	-	9,362	-	(2,175)
<b>EUROPEAN UNION</b>					
Integrated Biological Control Applied Research Programme (IBCARP)	(715,911)	715,911	-	-	(767)
Microbial Uptakes for Sustainable management of major banana pests and diseases – MUSA	4,582	25,815	(25,544)	(55,941)	(46,541)
Integrated pest management strategy to counter the threat of invasive fall armyworm to food security in eastern Africa (FAW-IPM)	741,955	1,444,191	816,689	(1,369,457)	(1,417,177)
Nematology Education in Sub-Sahara Africa (NEMEDUSSA) - Erasmus+ Programme Capacity building projects in the field of Higher Education (E+CBHE)	-	29,146	23,840	(5,306)	-
Earth observation and environmental sensing for climate-smart sustainable agropastoral ecosystem transformation in East Africa - ESSA	-	161,370	112,975	(48,394)	-
Accelerating inclusive green growth through agri-based digital innovation in West Africa (AGriDI)	-	2,052,425	1,970,727	(81,698)	-
Training next level scientists and researchers to develop highly selective and safe insecticides (CypTox)	-	33,304	32,080	(1,224)	-
<b>FARMTRACK CONSULTING LTD</b>					
AEDES-SIT Exploring the prospect of applying the Sterile Insect Technique (SIT) to control Aedes mosquitoes, vectors of arboviruses, in the Indian Ocean context	-	49,603	16,514	(33,088)	-



Project Name	Balance Brought Forward	Receipts/ Transfers	Balance Carried Forward	Income For The Year	Income For The Year
	01.01.2021 US \$	2021 US \$	31.12.2021 US \$	2021 US \$	2020 US \$
<b>FOOD AND AGRICULTURE ORGANIZATION</b>					
Elucidation of the science and effectiveness of Local Innovations for Managing Fall armyworm in Africa	(14,985)	14,985	-	-	(78,086)
Training and Technical support for the NENA region on Fall Armyworm (FAW) natural enemies, Preservation, release and assessment	2,228	(2,228)	-	-	(27,272)
Capacity Building Services for Youth in Kiambu on Black Soldier Fly (BSF) Farming	-	39,294	9,050	(30,244)	-
Capacity building on the use of biological control agents and biopesticides for control of Fall Armyworm in Eastern Africa	-	10,500	10,500	-	-
<b>FOREIGN, COMMONWEALTH AND DEVELOPMENT OFFICE</b>					
Building Resilience Around Camels, Sheep and Goats (BRACeS): Sustainable livestock productivity in arid and semi-arid lands in northern Kenya	150,146	-	47,907	(102,239)	(40,354)
Developing, commercializing and upscaling of biopesticides for integrated Fall Armyworm management to improve the livelihoods of smallholder farmers	335,275	-	65,363	(269,912)	(222,700)
<b>GERMANY ACADEMIC EXCHANGE SERVICE</b>					
PHD training DAAD	317,132	100,872	194,931	(223,074)	(295,407)
<b>GERMANY AGENCY FOR INTERNATIONAL COOPERATION/GERMAN FEDERAL MINISTRY FOR ECONOMIC COOPERATION AND DEVELOPMENT</b>					
Developing a new strategy for trypanosome transmission blocking by enhancing trapping of trypanosome-infected tsetse flies	(5,732)	5,732	-	-	(38,372)
Improving Food and Nutritional Security Through Integrated Control of Tsetse and Tick-Borne Livestock Diseases (ICTLD)	(108,056)	332,979	(263,188)	(488,111)	(348,411)
Acoustic Early Warning System for Insects and Rodents	24	(24)	-	-	-
Reduction of Post-Harvest Losses and Value Addition in East Africa Food Value Chains (Reload)	-	-	-	-	62
Development and implementation of insect-based products to enhance food and nutritional security in sub-Saharan Africa ( EntoNUTRI)	9,955	-	9,955	-	(52,258)
Integrated pest and pollinators management (IPPM) to enhance productivity of avocado and cucurbits among smallholder growers in East Africa	(107,979)	450,630	180,311	(162,341)	(476,801)
SCLAMP-EA: Scaling-up Climate-Smart pest management Approaches for Enhanced Maize and Tomato Systems Productivity in Eastern Africa	54,041	239,281	(69,781)	(363,104)	(173,036)
Combating major Tuta Absoluta and other Agricultural crop diseases	30,296	-	30,296	-	(12,319)

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward	Receipts/ Transfers	Balance Carried Forward	Income For The Year	Income For The Year
	01.01.2021 US \$	2021 US \$	31.12.2021 US \$	2021 US \$	2020 US \$
<b>GERMANY RESEARCH FOUNDATION</b>					
Freshwater pollution and the links to the distribution of Schistosoma host snails in Western Kenya	22,705	-	6,882	(15,823)	(36,965)
Freshwater pollution and the links to the distribution of Schistosoma host snails in Western Kenya	4,198	-	2,009	(2,189)	(10,739)
Tungiasis in East Africa- an interdisciplinary approach to understand the interactions between parasite and hosts	96,003	-	(14,758)	(110,761)	(164,842)
Antibody Clearance and Trans-sialylation as Virulence factors in African Trypanosomiasis	2,361	20,310	(4,120)	(26,791)	(66,069)
<b>GHENT UNIVERSITY</b>					
Hosting Courses for International Master Programmes (ICP) students and Basic Nematology Crash Course	21,607	21,694	21,581	(21,720)	(3,144)
<b>GOOD VENTURE FOUNDATION</b>					
Development and implementation of a transformative and sustainable strategy for malaria control in Africa using symbiont-based transmission blocking - Study of microsporidian MB and its potential to limit malaria transmission	2,178,002	-	1,597,891	(580,111)	(21,643)
<b>INSTITUTE OF RESEARCH FOR DEVELOPMENT</b>					
Collaborative research work between The Institute of Research For Development (IRD) and The International Centre of Insect Physiology and Ecology ( <i>icipe</i> )	25,203	17,947	19,936	(23,215)	(15,954)
<b>INSECTIPRO LTD</b>					
Insects for Food and Feed - jointly with InsectiPro Ltd, a Company whose goal is to create sustainable, nutritious and profitable systems in Africa to positively change the current food and value chains through the use of avant-garde insect science and technology	-	150,000	148,768	(1,232)	-
<b>INTERNATIONAL CENTRE FOR AGRICULTURAL RESEARCH IN THE DRY AREAS (ICARDA)</b>					
Field Work and Research Activities - AI-Driven Climate Smart Beekeeping for Women, in Ethiopia	-	4,950	1,527	(3,423)	-
<b>INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE</b>					

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward	Receipts/ Transfers	Balance Carried Forward	Income For The Year	Income For The Year
	01.01.2021	2021	31.12.2021	2021	2020
	US \$	US \$	US \$	US \$	US \$
Invasive species strategy development.	-	7,992	7,992	-	-
<b>JOHANN WOLFGANG GOETHE - UNIVERSITY FRANKFURT AM MAIN</b>					
Freshwater pollution and the links to the distribution of Schistosoma host snails in Western Kenya - SENTINEL II (H03330- 12/2)	-	14,286	4,510	(9,776)	-
<b>GOVERNMENT OF KENYA</b>					
Upscaling Insect-Based Protein-Rich Feeds for Enhanced Nutrition and Health of Fish in Kenya	1,179	15,733	3,783	(13,129)	(4,748)
<b>IMPAXIO GMBH</b>					
Ethiopia Post Harvest Loss Study Project Agreement	30,000	6,410	5,098	(31,312)	-
<b>IN2CARE BV COMPANY</b>					
Semi-field evaluation of eave tubes with electrostatic netting treated with mosquito control agents	163	-	163	-	-
<b>INTERNATIONAL ATOMIC ENERGY AGENCY</b>					
Semiochemicals for Pre Release Treatment of Bactrocera dorsalis and relative response to Male Lures in semi Field conditions	44,413	(3,321)	29,017	(12,075)	(15,663)
Diversity of Endosymbionts and Entomopathogens of Dipteran Pests and their Impacts on Dipteran Mass Rearing for SIT Applications	12,441	6,681	12,800	(6,323)	(7,449)
<b>INTERNATIONAL DEVELOPMENT RESEARCH CENTRE</b>					
Insect feed for poultry, pigs and fish production in Sub-Saharan Africa	60,436	328,820	-	(389,256)	(322,554)
Alien invasive fruit flies in Southern Africa: Implementation of a sustainable IPM programme to combat their menaces (CULTIAF-2)	670,298	546,999	787,738	(429,560)	(264,784)
<b>INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT</b>					
Alternative Livelihoods for Food and Income Security in four Indian Ocean Island Nations (Mauritius, Seychelles, Comoros and Madagascar) and in Zanzibar (United Republic of Tanzania)-Phase 2	58,090	630,000	268,312	(419,778)	(328,134)
<b>JRS BIODIVERSITY FOUNDATION</b>					

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward 01.01.2021 US \$	Receipts/ Transfers 2021 US \$	Balance Carried Forward 31.12.2021 US \$	Income For The Year 2021 US \$	Income For The Year 2020 US \$
Integrative pollinator -plant Interaction Assessment of ecosystem Service Diversity in Sub-saharanAfrica	(11,616)	64,751	3,040	(50,095)	(118,147)
<b>KENYA AGRICULTURAL AND LIVESTOCK RESEARCH ORGANIZATION</b>					
Development of Technologies for Improving Productivity of Apiculture in ASALS of Kenya	(454)	15,821	(2,341)	(17,707)	(17,393)
Development of Technologies for Improving Productivity of Apiculture in ASALS of Kenya	-	4,118	-	(4,118)	-
<b>KENYA BIOLOGICS LIMITED</b>					
Establishing Nematology at <i>icipe</i>					(60)
<b>KUNGLIGA TEKNISKA HOGSKOLAN</b>					
Identification of novel oviposition attractants for malaria mosquitos	(955)	-	(955)	-	(6,811)
<b>LONDON SCHOOL OF HYGIENE &amp; TROPICAL MEDICINE</b>					
An interdisciplinary approach to understanding the contribution of household flooring on disease burden in rural Kenya	-	81,121	42,104	(39,018)	-
<b>MAKERERE UNIVERSITY-THRIVE 2 SECREATARIAT</b>					
THRIVE to Research Excellence (THRIVE 2)	16,904	26,466	8,370	(35,000)	(40,386)
The role of biting flies (genus hipobosca in transmission of camel trypanasomiasis in northern Kenya	5,062	-	5,062	-	-
Thrive II Internship and Msc Students Training	1,167	-	30	(1,137)	-
PhD Fellowship for Trizah Koyi	6,449	22,222	187	(28,484)	(30,008)
Understanding tick-borne zoonotic disease epidemiologywithin the nomadic pastoral systems in Isiolo, Tana river, West Pokot and Garissa counties of Kenya	19,004	-	53	(18,951)	(17,749)
Investigating the role of sandflies in the circulation of arboviruses in selected ecologies of Kenya	886	0	-	(886)	(5,243)
Identification of Sex pheromone in selected Afrotropical sand flies for improved leishmaniasis surveillance and control	2,531	1	-	(2,532)	(9,773)
Using a participatory approach to identify novel approaches to control malaria	6,655	-	6,655	-	(829)
Awareness on tickborne zoonotic disease transmission and preventive methods among nomadic pastoral systems	-	-	-	-	(3,999)

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward	Receipts/ Transfers	Balance Carried Forward	Income For The Year	Income For The Year
	01.01.2021	2021	31.12.2021	2021	2020
	US \$	US \$	US \$	US \$	US \$
THRIVE Research Enrichment for Community and Public Engagement (RECPE) Award - For PostDoc project entitled "Improvement of livestock and human health through better understanding of vector-borne zoonotic disease transmission".	16,894	-	1,377	(15,518)	(287)
<b>MASTER CARD FOUNDATION</b>					
Beekeeping and Silk Farming	804,266	60	(23)	(804,349)	(1,339,547)
More Young Entrepreneurs in Silk and Honey	(2,162,941)	26,905,598	14,933,390	(9,809,268)	(6,358,109)
<b>MAX-PLANCK-GESELLSCHAFT</b>					
Agreement to Establish a Partner Group of MPI for Chemical Ecology	7,269	23,960	13,560	(17,669)	(27,614)
<b>MCKNIGHT FOUNDATION</b>					
Saving the Smallholder Dairy Industry in East Africa: Validation and Implementation of Integrated Management Approach for Napier Stunt Disease	5,141	-	5,141	-	-
<b>MINISTRY FOR FOREIGN AFFAIRS OF FINLAND</b>					
Adaptation for Food Security and Ecosystem Resilience in Africa	17,579	-	17,579	-	-
<b>NATIONAL ACADEMY OF SCIENCES</b>					
End of the Road for of Illegal Bushmeat Trade in East Africa: Establishing Transboundary Surveillance by High Resolution Melting Analysis of Vertebrate Molecular Barcodes	40,485	-	32,521	(7,964)	(14,891)
<b>NATIONAL GEOGRAPHIC SOCIETY</b>					
Landscape Setup and Honeybee Colony Integrity	-	-	-		(116)
<b>NATIONAL INSTITUTES OF HEALTH</b>					
Epidemiological Assessment of Risk of Yellow Fever and Dengue Outbreaks in Kenya	6,727	-	6,727	-	60
Eastern Africa Network for Bioinformatics Training - (EANBIT)	163,515	249,908	113,692	(299,731)	(233,342)
<b>NATIONAL RESEARCH FUND</b>					
Magnitude and dynamics of Visceral and Cutaneous Leishmaniasis transmission in Baringo, Nyandarua and Nakuru Counties in Kenya	23,154	-	8,557	(14,597)	(14,348)
Sustainable Intensification of Fruit Production Systems Through Innovative Pest Biocontrol Technologies	2,907	25,157	7,801	(20,263)	(12,085)

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward	Receipts/ Transfers	Balance Carried Forward	Income For The Year	Income For The Year
	01.01.2021 US \$	2021 US \$	31.12.2021 US \$	2021 US \$	2020 US \$
<b>NORWEGIAN AGENCY FOR DEVELOPMENT COOPERATION</b>					
Combating Arthropod Pest for Better Health, Food and Resilience to Climate Change (CAP-Africa)	204,782	688,271	396,008	(497,045)	(729,341)
Addendum Number 1 - To Agreement Between NORAD and <i>icipe</i> Concerning "Combating Arthropod Pests For Better Health, Food And Resilience To Climate Change (CAP-AFRICA)" - RAF-3058 KEN-18/0005	640,911	4,394	(0)	(645,305)	(77,268)
<b>ODUM SCHOOL OF ECOLOGY</b>					
Role of chemical attractants in shaping tick and tick-borne diseases infection patterns of Grants gazelle	-		-		(570)
<b>PROGRAM FOR APPROPRIATE TECHNOLOGY</b>					
Leveraging Mosquito feed assay capacity in endemic site to understand intra and inter lab assay variability and bridge standard Membrane Feeding Assay (SMFA) and direct membrane Feeding Assay (DMFA)	9,945	-	9,945	-	-
<b>PURDUE UNIVERSITY</b>					
<b>RESEARCH EXECUTIVE AGENCY-EU</b>					
Upscaling the Benefits of Push-pull Technology for Sustainable Agricultural Intensification in East Africa- (UPSCALE)	428,927	-	249,868	(179,059)	(374)
Controlling and progressively Minimising the Burden of Animal Trypanosomosis (COMBAT)	-	140,923	131,954	(8,969)	-
A Cross-Disciplinary Alliance to Identify, Predict and prePARE for Emerging Vector-Borne Diseases (PREPARE4VBD)	-	218,202	199,768	(18,434)	-
<b>RESEARCH INSTITUTE OF ORGANIC AGRICULTURE</b>					
Long Term Farming Systems Comparisons In the Tropics- What is the Contribution of Organic Farming to sustainable Development? (PHASE IV)	14,417	177,441	19,550	(172,308)	(157,332)
Long Term Farming Systems Comparisons In the Tropics- What is the Contribution of Organic Farming to sustainable Development? (PHASE IV)	682	107,133	682	(107,133)	(98,116)
Productivity and Profitability of Organic and Conventional Farming Systems (ProEcoOrganicAfrica)	10,116	(91)	949	(9,076)	(2,251)
<b>ROCKEFELLER FOUNDATION</b>					

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward 01.01.2021 US \$	Receipts/ Transfers 2021 US \$	Balance Carried Forward 31.12.2021 US \$	Income For The Year 2021 US \$	Income For The Year 2020 US \$
Testing business models for scaling insect-based protein feed for use in poultry farming and aquaculture in Kenya	150,970	-	23,692	(127,278)	(271,885)
Waste to Value: Accelerating Economic Viability of Insect-Based Value Chain in East Africa (WAVE-IN)	-	300,000	300,000	-	-
<b>ROTHAMSTED RESEARCH</b>					
Smart Army Worm Surveillance	(8,499)	-	(8,499)	-	(16,999)
<b>RSS - REMOTE SENSING SOLUTIONS GMBH</b>					
Dense Satellite Time Series for Agricultural Monitoring (DESTSAM) Project.	-	10,956	(1,519)	(12,475)	-
<b>SECRETARIAT OF THE BASEL, ROTTERDAM &amp; STOCKHOLM CONVENTIONS</b>					
Regional Meeting for the Africa Region for the preparation of the 2019 meetings of the conferences of the Parties to Basel, Rotterdam and Stockholm (BRS) Conventions	13,736	-	13,736	-	-
Small Scale Funding Agreement	5,905	-	1,353	(4,552)	(7,800)
<b>SUNDRY GRANTS</b>					
Sundry grants	68,372	214,505	145,361	(137,516)	(123,938)
<b>SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY</b>					
Equipment Grant from Sida - Amendment no 3 to core contribution Agreement between Sida and <i>icipe</i> for the period January 2016 - December 2022	-	2,520,247	2,520,247	-	-
Agreement on Research Cooperation between Sida and <i>ICIPE</i> , BIO-INNOVATE Phase II	3,169,672	2,167,391	819,501	(4,517,562)	(3,048,239)
Promote smallholder access to fungal biopesticides through public private partnership in East Africa	5,329	88,019	5,329	(88,019)	(155,119)
Insect-based agribiziness for sustainable grasshopper and cricket production and processing for food in Kenya and Uganda.	-	52,436	-	(52,436)	(178,343)
Promotion of post harvest disinfestation treatment in Kenya and Uganda: Facilitation of market access for mango,avocado,french bean and bell pepper	965	187,054	965	(187,054)	(168,067)
Harnessing data science to estimate the risk factors for the impacts of COVID-19 on health, welfare and food system in East African countries	-	78,030	-	(78,030)	(3,815)
<b>SWEDISH UNIVERSITY OF AGRICULTURAL SCIENCES</b>					
Towards sustainable maize production in East Africa: Cropping system resilience under climate change	17,544	34,734	6,294	(45,984)	(51,635)

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward	Receipts/ Transfers	Balance Carried Forward	Income For The Year	Income For The Year
	01.01.2021	2021	31.12.2021	2021	2020
	US \$	US \$	US \$	US \$	US \$
DSS CropSAT pilot Study	16,544	(17,144)	-	600	(600)
<b>SWISS AGENCY FOR DEVELOPMENT AND COOPERATION</b>					
Promoting trypanosomosis management technologies with pastoral and agro pastoral communities in Borana, Ethiopia	108,300	-	11,021	(97,279)	-
WORKSHOP IN February 2018: Elaboration of an efficient strategic framework on Invasive Species	-	-	-	-	(14,735)
Swiss contribution to <i>ICIPE</i> for the years 2017 - 2020 (4 years): Amendment to Agreement for an additional restricted contribution for <i>ICIPE</i> s 50th Anniversary in 2020	13,711	-	13,711	-	(25,089)
AgriPath- Empowering smallholder farmers' transition to sustainable agriculture through effective and efficient digital pathways	-	144,760	86,467	(58,293)	-
Greening of <i>icipe</i>	-	-	-	-	26,467
<b>SWISS NATIONAL SCIENCE FOUNDATION</b>					
Evolutionary dynamics of the gut microbiome across honey bees	-	42,297	35,296	(7,001)	-
<b>SWISS TROPICAL AND PUBLIC HEALTH INSTITUTE</b>					
(Service Agreement) Evaluating effectiveness of the push-pull strategy for control of outdoor-biting malaria	-	-	-	-	1,219
<b>TEL AVIV UNIVERSITY</b>					
Collaboration in Scientific Research, Knowledge exchange, capacity and institutional Development	6,088	-	6,088	-	(1,395)
<b>THE ROYAL SOCIETY</b>					
Evaluating attractive fabric panels impregnated with <i>Metarhizium anisopliae</i> against vectors of sleeping sickness.	(678)	-	(678)	-	(6,419)
Plant-Vectored viruses as a bio-pesticide against insect and insect-transmitted plant viruses	105,739	49,966	58,483	(97,222)	(147,986)
Improved surveillance of Yellow fever vectors using odor-bait technology	24	24	24	(24)	(5,964)
<b>UMEA UNIVERSITY</b>					
Prediction and preparedness against Outbreaks with Devastating Economic Impact Collaborative Agreement between Umea University and <i>ICIPE</i> Financed by Sida	1,622	-	1,622	-	-
<b>UNITED NATIONS OFFICE FOR PROJECT SERVICES</b>					



The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward	Receipts/ Transfers	Balance Carried Forward	Income For The Year	Income For The Year
	01.01.2021	2021	31.12.2021	2021	2020
	US \$	US \$	US \$	US \$	US \$
Centre for Bee Disease and Pest Management	0	(0)	-	-	-
Scaling up quality honey production and fair trade in Ethiopia within the enhanced integrated framework Phase Two	363,368	449,975	393,943	(419,400)	(326,428)
<b>UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT</b>					
Reinforcing and Expanding the Community-Based Fall Armyworm Spodoptera frugiperda (Smith) Monitoring, Forecasting for Early Warning and Timely Management to Protect Food Security and Improve Livelihoods of Vulnerable Communities - CBFAMFEW II	(3,460)	210,330	46,442	(160,428)	(3,460)
<b>UNITED STATES DEPARTMENT OF AGRICULTURE</b>					
USDA-Mosquito Surveillance for Rift Valley Fever	2,201	-	2,201	-	-
Identification of Melon fly pheromones that can be exploited in management programs for the Citrus industry	1,414	-	1,414	-	-
Identifications of Semiochemicals for Regulation of Potentially Invasive Pests or Beneficial Organisms for the Control of Invasive Pests to the U.S	19,210	50,000	11,602	(57,607)	(56,083)
<b>UNIVERSIT, LIBRE DE BRUXELLES</b>					
Analysis of stingless bee and bee honey samples - Collaboration based on MoU signed between <i>icipe</i> and University of Libre De Bruxelles (ULB, Belgium) signed 18 July 2019 ( <i>icipe</i> ) and 26 Sept 2019 (ULB)	2,878	-	542	(2,335)	(7,862)
<b>UNIVERSITY OF CAMBRIDGE</b>					
Transmission of infectious disease causing zoonotic pathogens by camel hippoboscids in Northern Kenya	5,517	-	-	(5,517)	3,136
The burden of livestock trypanosomiasis on the marginalised pastoralist communities in arid regions of northern Kenya	2,665	-	-	(2,665)	(933)
Common bean as a reservoir for viruses that infect bees and aphids - A study in Kenya	6,152	-	6,152	-	(3)
Arbovirus metagenomic surveillance in sand flies and ticks	-	4,282	2,302	(1,980)	-
<b>UNIVERSITY OF CAPE TOWN</b>					
H3ABioNet: Informatics solutions for H3Africa -2019	(33,600)	81,073	(30,154)	(77,627)	(58,626)
<b>UNIVERSITY OF COPENHAGEN</b>					
HEALTHYNSECT - Insect Farming for Health and Livelihoods	-	15,162	12,803	(2,359)	-

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward 01.01.2021 US \$	Receipts/ Transfers 2021 US \$	Balance Carried Forward 31.12.2021 US \$	Income For The Year 2021 US \$	Income For The Year 2020 US \$
<b>UNIVERSITY OF DURHAM</b>					
Designing low-cost house floors to control tungiasis	3,932	4,023	5,243	(2,711)	(55,654)
<b>UNIVERSITY OF GLASGOW</b>					
Should the testse symbiontS.glossinidius be engineered to control African Trypanosomiasis	(15,821)	-	(31,071)	(15,250)	(14,831)
Dr Jeremy Keith Herren Fellowship with University of Glasgow	-	-	-	-	(261)
A Novel Malaria Transmission Blocking Strategy: Microsporidian Symbionts of Anopheles Mosquitoes	(87,914)	-	(91,734)	(3,820)	(42,879)
Roles of Insect-Specific Flaviviruses and Immune Priming in Arbovirus Transmission Blocking in Mosquitoes	(55,281)	-	(74,602)	(19,321)	(34,351)
Determining Heritable Microbe Incidence, Prevalence and Impact in Sandfly Vector Species	(36,325)	-	(50,194)	(13,869)	(21,867)
Investigation of a potential protective effect for the Anopheles symbiont Microsporidia MB against Metarhizium anisopliae	-	13,113	(574)	(13,687)	-
<b>UNIVERSITY OF KEELE</b>					
Developing a pheromone alternative to insecticides for control of thrips on legumes in Kenya	56	(56)	-	-	(359)
Enhancing crop diversity and ecosystem services to promote biological control of fall armyworm in smallholder cropping systems	54,545	264,661	(325)	(319,531)	(290,118)
Development of a phone App to communicate with farmers.	-	6,775	6,683	(92)	-
<b>UNIVERSITY OF LEEDS</b>					
Scaling up biocontrol innovations in Africa	-	24,881	150	(24,731)	-
<b>UNIVERSITY OF LIVERPOOL</b>					
Development of microbe-based strategies for improved bee health	11,074	-	11,074	-	-
<b>UNIVERSITY OF PENNSYLVANIA</b>					
Eukaryotic Pathogen Database (EuPathDB) & Clinical Epidemiology (ClinEpiDB) Data Resources Workshop	-	-	-	-	14,830
<b>VIRGINIA POLYTECHNIC</b>					

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward	Receipts/ Transfers	Balance Carried Forward	Income For The Year	Income For The Year
	01.01.2021	2021	31.12.2021	2021	2020
	US \$	US \$	US \$	US \$	US \$
IPM for Rice, Maize and Chickpea in East Africa	(36,938)	173,989	(45,243)	(182,294)	(244,897)
<b>WAGENINGEN UNIVERSITY</b>					
IVCC - Evaluating effectiveness of the push-pull strategy for control of outdoor-biting malaria vectors	-		-		(9,110)
Push-Pull /C/PE Technology-PhD Candidate Wageningen University	(18,068)	-	(31,979)	(13,911)	(19,184)
<b>WELLCOME TRUST</b>					
A real-time genome sequencing approach to the role of wildlife in transmission of animal trypanosomiasis	(5,473)	32,832	(29,680)	(57,039)	(23,411)
Training Fellowship in Public Health and Tropical Medicine , "Understanding the risks and benefits of newly developed irrigation schemes in Western Kenya in the Context of Malaria elimination"	(58,622)	117,028	(34,773)	(93,178)	(149,455)
'Investigating mechanisms for disseminating the Plasmodium-inhibiting Microsporidia MB symbiont in Anopheles arabiensis' - Wellcome International Master's Fellowship	(42,979)	76,429	(798)	(34,248)	(42,979)
Investigations into how Anopheles-specific flaviviruses affect arbovirus and Plasmodium transmission. Wellcome International Master's Fellowship	(45,436)	63,890	(7,000)	(25,454)	(45,436)
Epidemiological factors associated with cutaneous leishmaniasis transmission in Gilgil, Nakuru County, Kenya	3,877	-	3,877	-	3,902
Visceral Leishmaniasis: Proof of principle to reduce vectors and human-sandfly contact'	55	-	55	-	(8,011)
Understanding the risks and benefits of newly developed irrigation schemes in western Kenya in the context of malaria elimination', Research Enrichment, Public Engagement"	-	5,904	(19,770)	(25,674)	-
- Dr. Oscar Mbare Public Engagement Fellowship					
Ecological and genetic drivers of persistent Plasmodium transmission by Anopheles funestus, a major malaria vector in Kenya	-	60,879	34,999	(25,881)	-
<b>WORLD BANK</b>					
Africa Regional Scholarship and Innovation Fund for Applied Sciences, Engineering and Technology-Subcomponent 1.1: Building the capacity of RCU to engage in innovative fund-raising strategies, design, operationalize and enhance a general and a permanent endowment fund (Regional Scholarship and Innovation Fund or RSIF), to finance scholarships, research and innovation grants in Sub-Saharan Africa on a sustainable basis.	1,641,924	(922,641)	355,678	(363,604)	(527,659)
Africa Regional Scholarship and Innovation Fund for Applied Sciences, Engineering and Technology - Subcomponent 1.2 Developing the capacity of the RCU for the operation	-	516,969	-	(516,969)	(343,385)

The International Centre of Insect Physiology and Ecology (*icipe*)  
Notes to the Financial Statements (continued)  
For the Year Ended 31 December 2021

Project Name	Balance Brought Forward	Receipts/ Transfers	Balance Carried Forward	Income For The Year	Income For The Year
	01.01.2021 US \$	2021 US \$	31.12.2021 US \$	2021 US \$	2020 US \$
and management of doctoral training in selected African Universities, and Research Grants.					
Africa Regional Scholarship and Innovation Fund for Applied Sciences, Engineering and Technology - Subcomponent 1.3: Building the capacity of the host universities and the RCU to improve the quality of PhD programs and research in ASET fields.	(108)	892,158	-	(892,049)	(617,578)
Africa Regional Scholarship and Innovation Fund for Applied Sciences, Engineering and Technology - Subcomponent 1.4: Building the capacity of the RCU for management and administration of innovation grants.	-	192,131	-	(192,131)	(182,430)
Africa Regional Scholarship and Innovation Fund for Applied Sciences, Engineering and Technology - Sub-component 2.1 - Provision of scholarships for 3-4year PhD training programs on competitive selection basis in priority areas for citizens of Sub-Saharan countries at the African host universities	(231,570)	2,819,187	1,502,554	(1,085,063)	(636,646)
Africa Regional Scholarship and Innovation Fund for Applied Sciences, Engineering and Technology - Sub-component 3.1 - Doctoral training in ASET fields in selected SSA host Universities and international partner universities countries at the African host universities	4,081,060	4,459,792	7,237,315	(1,303,536)	(1,020,011)
<b>WORLD HEALTH ORGANISATION</b>					
Regional training workshop in integrated vector management at the International Centre of Insect Physiology and Ecology in Nairobi, 26 June - 8 July 2016	7,549	-	7,549	-	-
AFRO-II - Evaluating the feasibility and impact on malaria transmission of winter larviciding or house screening as additional vector control tools in southern African countries committed to malaria elimination	453,105	-	97,366	(355,739)	(312,598)
<b>WORLD VEGETABLE CENTER</b>					
Design / Adapt management options to control Tuta absoluta on tomato	-	-	-	-	(5,810)
<b>WOTRO SCIENCE FOR GLOBAL DEVELOPMENT</b>					
Improving livelihood by increasing livestock production in Africa: An agribusiness model to commercially produce high quality insect-based protein ingredients for chicken, fish and pig industries	-		-		(11,345)
<b>Sub Total - Restricted Projects</b>	15,648,739	53,857,738	37,356,854	(32,149,623)	(25,127,842)
<b>GRAND TOTAL</b>	15,958,865	58,382,322	37,356,854	(35,741,515)	(30,104,933)