



**African Centre for Technology Studies (ACTS)**

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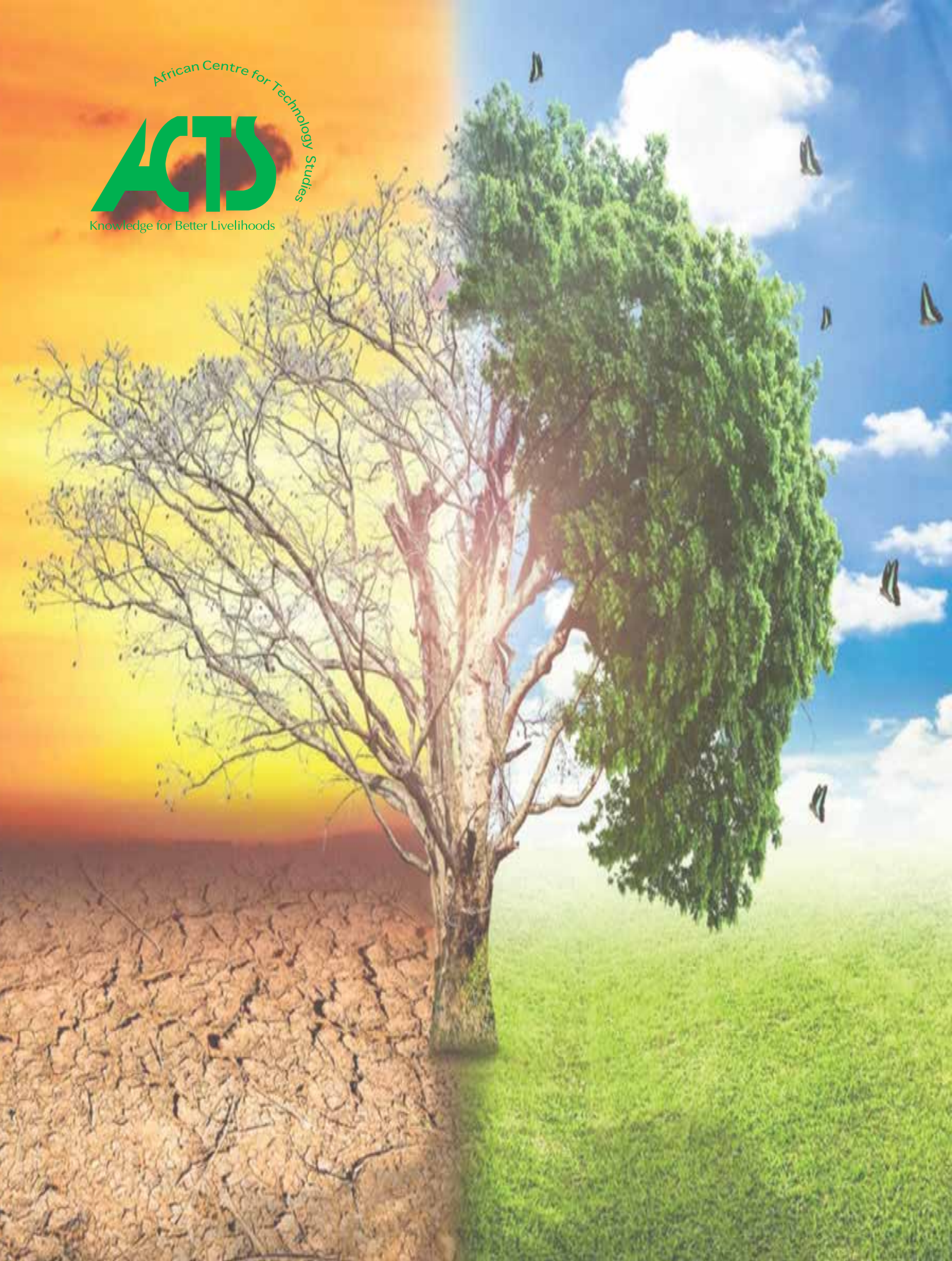
**STRATEGIC PLAN**

**2019 - 2021**

African Centre for Technology Studies

**ACTS**

Knowledge for Better Livelihoods



For more information contact:  
Prof. Tom Peter Migun Ogada  
Executive Director  
African Centre for Technology Studies (ACTS)  
ICIPE, Duduville Campus, Kasarani  
P.O. Box 45917 - 00100, Nairobi - Kenya  
Email: [T.Ogada@acts-net.org](mailto:T.Ogada@acts-net.org)  
Tel: +254 710 607210

Website: [www.acts-net.org](http://www.acts-net.org)

Twitter: [@ACTSNET](https://twitter.com/ACTSNET)

Facebook: <https://www.facebook.com/ACTSNET/>

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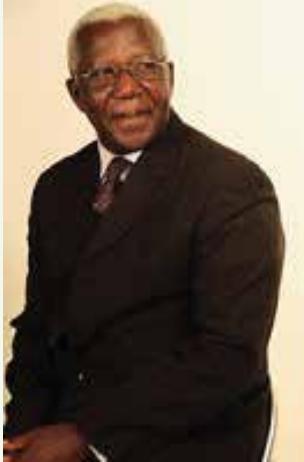
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## ACRONYMS

ACTS	African Centre for Technology Studies
AfricaLics	African Network for Economics of Learning, Innovation & Competence Building Systems
AGNES	African Group of Climate Change Negotiators Experts
ANSCA	Africa Non-States Climate Action
ARIPO	African Regional Intellectual Property Organization
ASH	Africa Sustainability Hub
AU	African Union
AUSTRC	African Union Scientific Technical & Research Commission
CAADP	Comprehensive Africa Agriculture Development Programme
CB4ICTD	Capacity Building for Computing Research & Development
CB4Profs	Capacity Building for African Professionals on Innovation & Development Research
CRE	Climate Resilient Economies
COMESA	Common Market for Eastern & Southern Africa
DFID	Department for International Development
DANIDA	Danish International Development Agency
EACIN	East African Climate Innovation Networks
EBA	Ecosystem Based Adaptation
EBAFOSA	Ecosystem Based Adaptation for Food Security Assembly
EGM	Expert Group Meeting
FAO	Food & Agriculture Organization
GCF	Green Climate Fund
GDP	Gross Domestic Product
HKS	Harvard Kennedy School
ICT	Information Communication & Technology
IDRC	International Development Research Centre
INCCETT	International Network of Climate Change Centers of Excellence & Think Tank
IREK	Innovation in Renewable Energy in Kenya
ISO	International Organization for Standardization
IPP	Intellectual Property Policy
IP&TT	Intellectual Property & Technology Transfer
KS	Knowledge Systems
M&E	Monitoring and Evaluation
MoUs	Memorandum of Understandings
MSc	Master of Science
NEPAD	New Partnership for Africa's Development

NDC	Nationally Determined Contributions
NGOs	Non-Governmental Organizations
NORAD	Norwegian Agency for Development Cooperation
PISCES	Policy Innovations System for Clean Energy Security
PhD	Postgraduate Doctoral
PhL	Post-harvest Losses
PPP	Private Public Partnerships
R&D	Research & Development
RE	Renewable Energy
RMS	Resource Mobilization Strategy
3R	Robust Reliable and Resilient
SADC	Southern African Development Community
SE4ALL	Sustainable Energy for All Initiative
SDGs	Sustainable Development Goals
SGCs	Science Granting Councils
SGCI	Science Granting Council Initiative
SIDA	Swedish International Development Cooperation Agency
SMEs	Small & Medium Enterprises
STEM	Science, Technology, Engineering & Mathematics
STI	Science Technology & Innovation
STI Eval	Science Technology Innovation Evaluation & Roadmaps
STIKS	Science Technology Innovation & Knowledge & Society
STISA	Science Technology & Innovation Strategy for Africa
SP	Strategic Plan
SSA	Sub-Saharan Africa
T&CB	Training & Capacity Building
TFM	Technology Facilitation Mechanisms
UK	United Kingdom
UN	United Nations
UNEP	United Nations Environmental Programme
UNDP	United Nations Development Programme
USA	United States of America
USD	United States Dollars
UNFCCC	United Nations Framework Convention on Climate Change
UNIATT	United Nations Inter-Agency Task Team
WIPO	World Intellectual Property Organization

## MESSAGE FROM THE CHAIRMAN OF THE GOVERNING COUNCIL



**Prof. Alfred A. Oteng-Yeboah**

It is with great pleasure that I present to you the African Centre for Technology Studies (ACTS)'s Sixth Strategic Plan (2019 - 2021), which will guide our research activities for the next three years (2019-2021). Unlike the previous strategic plans, which were all five - year plans, this strategic plan is for a shorter duration because of the deliberate decision of the Governing Council (GC) to use the plan to build the foundation for the immortalization of ACTS' founder, Prof. Calestous Juma (1953 - 2017). He founded the Centre in 1988 and also became its Executive Director until 1995, and this remains one of his lasting legacies. Prof. Juma was an internationally recognized authority in the application of science and technology for sustainable development.

This strategic plan has been built on successes and experiences accumulated by ACTS over the last 30 years. Today, the Centre is a well

recognised African Science, Technology and Innovation (STI) policy Think Tank, with a strong network of partners; collaborators and funders; qualified and dynamic staff; and a focused management. Based on the global, regional and national aspirations, the mapping of the priority landscape of the key partners and the Centre's areas of competence, this Strategic Plan (2019 - 2021) is centred on three programmatic areas: Agriculture, Food and Nutrition Security; Climate Resilient Economy and STI Knowledge and Society. Each programmatic area has strong components of youth and gender, as cross - cutting themes.

To enhance the Centre's efficiency, effectiveness and impact, the GC has put in place new governance and management structures. In addition, the Council has developed and adopted a new Resource Mobilization Strategy that will guide the Centre's fundraising efforts for the Strategy period. Therefore, I am confident that ACTS will deliver on its core mandates more impactfully.

On behalf of the Board of Directors of ACTS, I would like to thank all those who contributed to the development of this Strategic Plan. The GC sincerely counts on your continued support to enable ACTS to realize its mandate of supporting African countries to harness STIs for sustainable development.

**Prof. Alfred A. Oteng-Yeboah**  
**Chairman ACTS Governing Council**

## MESSAGE FROM THE EXECUTIVE DIRECTOR



### **Prof. Tom Peter Migun Ogada**

On behalf of the staff of ACTS, I am delighted to share with you the 2019-2021 Strategic Plan. This Strategic Plan expresses our aspirations and commitments to support African countries and institutions to tap into the enormous potential of STI for sustainable socio-economic development. The Plan addresses real challenges facing African countries, through the Centre's three programmatic areas namely, Agriculture, Food and Nutrition Security (AFNS); Climate Resilient Economy (CRE) and STI, Knowledge and the Society (STIKS).

Under AFNS, ACTS will contribute towards realizing a food and nutrition security, through research, policy advocacy, capacity building and knowledge brokerage. It will also guide investments, programmes and interventions aimed at harnessing STI for accelerating sustainable agriculture and food security. The programme also focuses on addressing high levels of post-harvest losses, as well as promoting value addition, agro-processing and manufacturing.

Under CRE, ACTS will provide policy choices that support generation, uptake and utilisation of climate change-related STI for sustainable

and diversified livelihoods in Africa. The CRE programme will, inter alia, focus on the following areas climate change mitigation, adaptation and negotiation; access to climate finance; green growth and clean and affordable energy.

Through STIKS, the Centre will advance research and analysis of the interplay between STI, knowledge and society. The Centre will support development of a cadre of Africa-centred researchers, analysts and policy makers on STI, knowledge and society. STI capacity building, knowledge utilization, technology transfer, intellectual property, STI roadmaps for SDGs, and evaluation of the impact of STI to socio-economic development of African countries, will also be prioritised.

Finally, I wish to sincerely thank all the Centre's funders, development partners and stakeholders for their continued, invaluable support during the implementation of this Strategic Plan.

**Prof. Tom P. M. Ogada**  
**Executive Director, ACTS**



## CHAPTER ONE

### 1. CONTEXT OF THIS STRATEGIC PLAN

#### 1.1 Dedication of the Strategic Plan to ACTS' Founder, Prof. Calestous Juma



**Prof. Calestous Juma**

This Strategic Plan is dedicated to the late Prof. Calestous Juma, the founder of ACTS. Prof. Juma (1953-2017) was an internationally recognised authority in the application of science and technology for sustainable development. At the time of his demise, he was serving as a Professor of the Practice of International Development and Director of the Science, Technology and Globalization Project, at the Harvard Kennedy School, USA. He was also the Director of the Schools' Agricultural Innovation in Africa and a member of many global and African initiatives. He was the co-chair of the High-Level Panel of Prominent African and Diaspora Scientists that developed the Science, Technology and Innovation Strategy for Africa (STISA-2024). Prof Juma was the pioneer head of the UN Convention on Biological Diversity and an advisor to many governments, the AU, COMESA and SADC. His publications and technical advice resulted in elaboration of policies on biodiversity, climate change, STI as well as the establishment of a number of relevant national institutions in Africa. His tributes have come from all over the world, including global leaders, UN bodies, development practitioners, regional blocs, heads of institutions, scholars, researchers, colleagues and students. All the tributes emphasized the need to honour his legacy.

#### 1.2 ACTS: The lasting legacy for Prof Calestous Juma

Prof. Juma founded ACTS in 1988 and became the Executive Director until 1995 when he was appointed Executive Secretary of United Nation Convention on Biodiversity. ACTS is an African Intergovernmental STI Think Tank, non - partisan, non - profit organisation. Its core mandate is to pursue policy-oriented research to strengthen the capacity of African countries and institutions to harness STI for sustainable development. In pursuit of this mission, the Centre has been instrumental in enlarging the range of policy choices for sustainable development in Africa through high quality research. For example, the Centre's work influenced Kenya's industrial property legislation and policy; and environmental impact assessment standards in Eastern and Southern Africa. The Centre was also instrumental in the formulation of bio-energy and biofuels policy in Eastern and West Africa. The Centre's policy footprints are evident in most African countries agricultural, bio-diplomacy, biotechnology, biosafety and climate change policies. ACTS was the first to organize an international conference to discuss options that African countries could adopt to mitigate the impacts of climate change. It also played a major role in the negotiation for the Convention on Biological Diversity (CBD). The Centre recently published and launched two major books on climate change, namely; "Enhancing Community Based Adaptation" and "Climate and Environmental Justice in Africa." Due to the Centre's excellent work, ACTS has earned top ratings among the Environment Think Tanks in Africa and the world. In 2016, ACTS was rated among the top three most influential Think Tanks in Climate Change globally, and number one in Africa.

### 1.3 The focus and the foundation of the Strategic Plan

This Strategic Plan lays out the foundation for immortalising Prof. Juma. In this regard, the Centre has stayed true to Prof. Juma's original vision and attention to STI policy research and its application for sustainable development. The Plan focuses on the core thematic areas that were always seen as the most important by Prof. Juma. These include agriculture and food security; climate change and energy and the role of STI in addressing the challenges affecting these sectors. This Strategic Plan builds on the following strengths, opportunities, experiences and competencies developed by the Centre in the last 15 years.

- a. As it celebrates its 30th Anniversary this year (2018), ACTS has become an experienced regional leader in coordination and networking with African institutions. The Centre is currently a Climate Change Centre of Excellence, representing Sub Sahara Africa, and is also hosting the Africa Sustainability Hub and the African Group of Negotiators Support (AGNES) Project on climate change. Since 2015, the Centre has been providing the Secretariat for Ecosystem Based Adaptation for Food Security Assembly as well as the African Network for the Economics of Learning, Innovation and Competence Building Systems (AfricaLics). It is also working with Science Granting Councils (SGCs) in 13 African countries, through the Science Granting Council Initiative (SGCI) Project. The strong network of partnerships and experience with funders, have been very beneficial to ACTS.
- b. At the regional level, ACTS has branded itself as a regional knowledge broker between institutions in developed countries and those in Africa and will therefore make available this unique expertise in Africa to existing and new partners.
- c. The Centre's programmes resonate well with current global and regional challenges. These include Sustainable Development Goals (SDGs), Sustainable Energy for All (SE4ALL) Initiative, the Paris Agreement, AU Agenda - 2063, STISA - 2024, Malabo Declaration, African Regional Nutrition Strategy (2015-2025) and the Comprehensive Africa Agriculture Development Programme (CAADP), a NEPAD's Capacity Initiative.
- d. ACTS has built considerable competence in the areas of agriculture and food security, energy, climate change and STI. Over the last 15 years, ACTS has undertaken over 40 projects in the four areas and has in the process built reasonably adequate staff competence.
- e. ACTS will continue to enhance the inclusivity agenda through work on women, youth, pro-poor and the disadvantaged persons. In addition, the Centre will strengthen knowledge brokerage between STI producers and users, support packaging of STI into businesses targeting youth and small and medium enterprises (SMEs).
- f. The current programmes implemented by the Centre are also in line with the priority sectors of many key development partners. The Centre has currently a portfolio of 20 funders supporting its activities. There are 14 projects that are transiting into the new Strategic Plan. These include seven projects in CRE programme (energy and climate change); four in AFNS programme; and three in STIKS programme.

## CHAPTER TWO

### 2. STRATEGIC DIRECTION, OBJECTIVES AND PROGRAMMES FOR 2019-2021

#### 2.1 Strategic Objective of ACTS

The strategic direction of ACTS during the 2019-2021 period shall be guided by the following vision, mission, goal, value proposition, strategic objectives and programmes as represented in Figure 1.

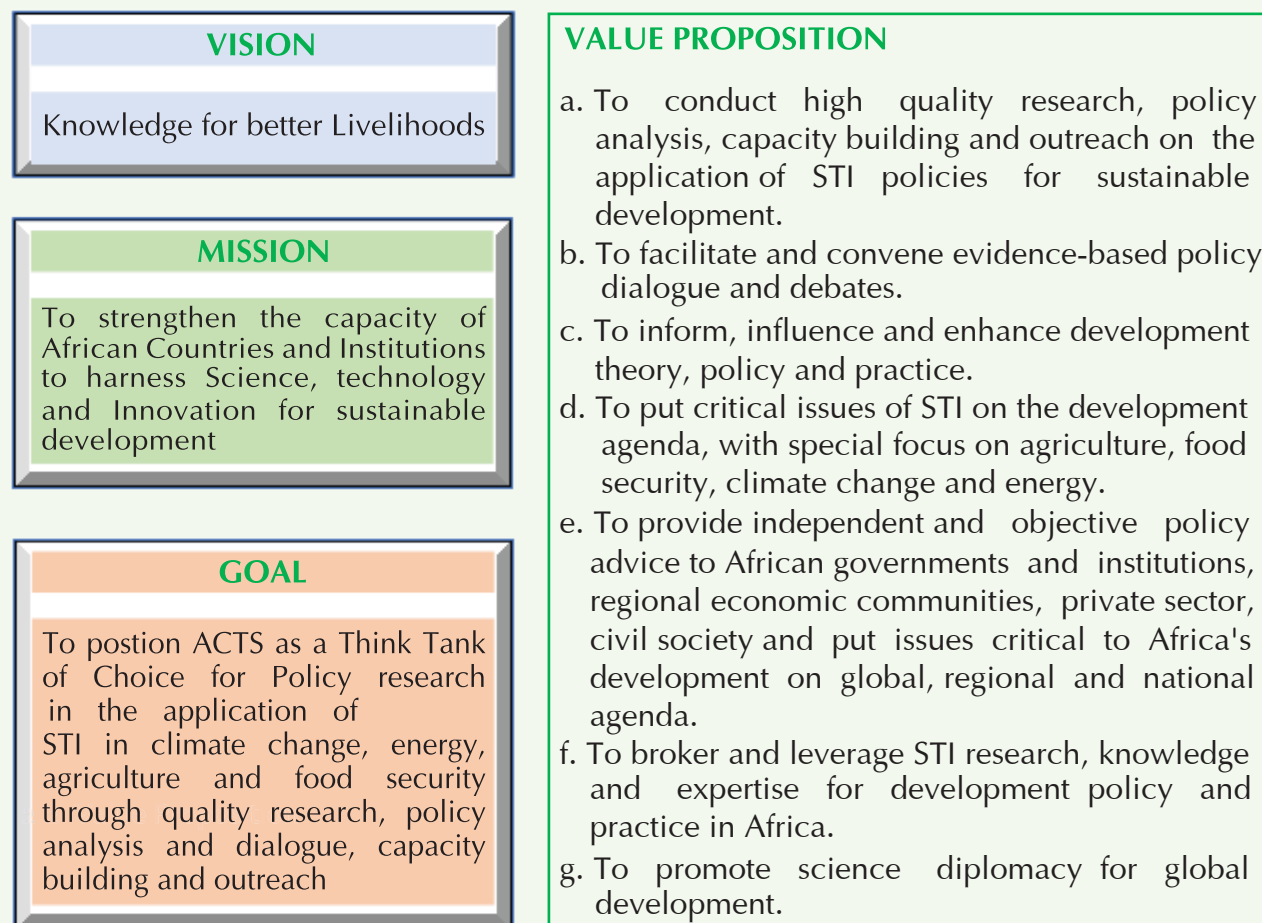


Figure 1: Vision, Mission, Goal, Value proposition and Strategic objectives of ACTS

#### 2.2 Strategic Objectives

ACTS will pursue the following three strategic objectives during 2019-2021:

- To strengthen the Centre's capacity to sustain its recognition as a centre of excellence in policy research and development in the areas of STI, climate change, energy and agriculture. This will be achieved by attracting, retaining and mentoring quality staff and undertaking quality research.

- b. To enhance the Centre’s influence and impact through policy advocacy, improved communication, capacity building, knowledge transfer and re-establishment of ACTS Press.
- c. To build a strong funding base for ACTS by developing and implementing an effective Resource Mobilization Strategy.

### 2.3 Programmatic Priorities

During the 2019 - 2021 period, the Centre will pursue three programmes graphically represented in Figure 2. Each of the three programmes will have strong components of gender and youth; knowledge brokerage; and management and commercialization; as cross-cutting themes.

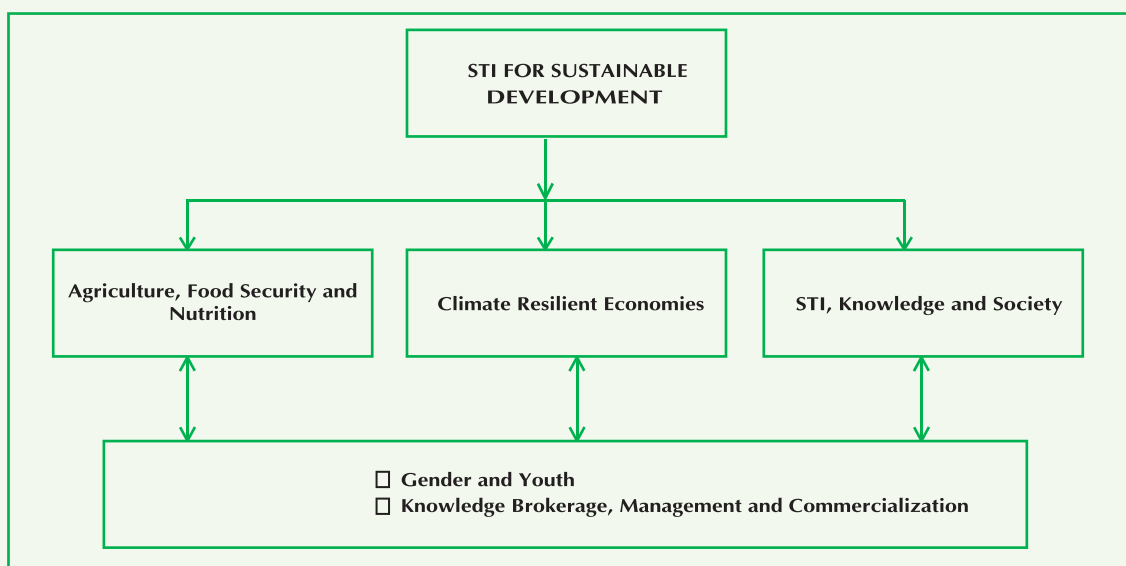


Figure 2: Programmatic areas of ACTS (2019-2021)

#### 2.3.1 Agriculture, Food and Nutrition Security

<b>Programme Vision</b>	To contribute towards realising a food and nutrition-secure Africa.
<b>Programme Mission</b>	To contribute to the efforts of the African Union (AU), member states and its partners and the SDGS2-to enhance food and nutrition security by conducting research, providing policy choices, capacity building and knowledge brokerage that support sustainable agri-food systems.
<b>Programme Goal</b>	To support African countries and institutions to develop enabling policies and investments guidelines, programmes and interventions to harness STI for accelerating sustainable agriculture and food security through evidence-based policy research.

## Programme Motivation

This programme is motivated by the following factors:

- a. **Food insecurity and undernourishment:** First, in 2017, there were about 821 million people globally, facing food insecurity and various forms of undernourishment, out of which, Africa accounted for 256 million. Whereas the proportion of undernourished people has been declining globally, in Sub-Saharan Africa (SSA), the number has been increasing. Secondly, in 2014, SSA had 57.3 million stunted children (attributed to undernourishment), who were at a greater risk of dying from common infections. Thirdly, due to nutrition deficient diets, many people in Africa face malnutrition.
- b. **Impacts of Climate change on agri-food systems and livelihoods:** Climate variability and extremes on the continent continue to undermine agricultural production and pose vulnerability risks to many people whose livelihoods are dependent on agriculture. This is a key driver to the increased prevalence of undernutrition in the region.
- c. **High level of post-harvest losses:** Post - harvest losses estimated to be around 37% in SSA, is a major threat to Africa's food and nutrition security. The threat is related to the volumes of food lost as well as quality and safety of food.
- d. **Value addition and agro-processing:** Access to food can be improved by value addition, agro - processing and manufacturing. This presents the most promising prospect for Africa and, with the right policies and enabling environment, has the potential to increase the Gross Domestic Product (GDP), create employment opportunities, increase incomes and strengthen food security.

## Programme relevancy

This programme is responding to global aspirations, particularly the SDG 2 that commits the global community to, amongst others, end all forms of malnutrition by 2030, including achieving by 2025 the internationally agreed targets on stunting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons. At the regional level, this programme will contribute to the following aspirations:

- **Africa Union Agenda 2063:** Which is for a prosperous Africa, where increased production, productivity and value addition in its modern agricultural sector contributes to Africa's collective food security.
- **STISA-2024:** Priority 1 of eradication of hunger and achieving food security.
- **Malabo Declaration:** in which the African heads of state recommitted their countries to end hunger and halve poverty by 2025.
- **African Regional Nutrition Strategy 2015-2025:** Which proposes a series of institutional provisions for ending child hunger and malnutrition by 2025.

## Programme focus for 2019-2021

During the 2019-2021 period, the Centre will build on the experiences and lessons learned from its diverse portfolio of agricultural projects undertaken during the 2009-2018 period, and pursue projects and activities in the following three areas:

- a. Sustainable innovation-driven agri-food systems development;
- b. Climate smart agri-food systems;
- c. Sustainable commercialization of agri-food systems.

### Sustainable innovation driven agri-food systems development

Under this area, ACTS will pursue the following three objectives during the planning period (2019-2021):

- a. Promote development and uptake of inclusive agricultural technologies. Building on its previous work on livelihoods of persons with disability and their opportunities in urban agriculture, ACTS will package lessons learned for focused dissemination and policy engagements. It will also develop new projects around disability, poverty and inequality and access to inclusive agricultural technologies.
- b. Promote innovative gender sensitive approach to extension services. ACTS will build on on-going project - innovative approach to extension services that takes into consideration the unique needs of women - for dissemination and policy dialogue. It will use the identified gaps in gender extension - advisory services to inform new gender studies and projects.
- c. Embedding gender in agricultural value chains. ACTS will build on the work-embedding gender in horticultural value chains, document lessons learned and best practices for dissemination and policy dialogue and develop new projects targeting other value chains.

### Climate smart agri-food systems

Under this area, ACTS will strive to achieve the following four objectives:

- a. Promote research and capacity building in climate finance for enhancing sustainable and innovation driven agricultural systems: The Centre will continue to undertake research and policy engagement to help policy makers integrate climate funding streams to the agriculture sector and maximize on the benefits of mitigation and adaptation.
- b. Strengthen Ecosystem Based Adaptation for Food Security Assembly (EBAFOSA): This project, which is spearheaded by UNEP and ACTS since 2018, is the first inclusive pan-African policy framework and implementation platform that brings together key stakeholders and actors along the entire EBA-driven agriculture value chain. It addresses the gaps in fostering partnerships, such as in financing, commercialization, technology transfer and techniques, among others. ACTS, together with UNEP and other partners, will develop and implement a three - year plan to expand and strengthen EBAFOSA and use it as a framework for sustainable industrialization in Africa.

- c. Enhance the resilience of smallholder farmers in food security and nutrition in Africa: ACTS will continue implementing the SALSA project, which aims to contribute to alleviating hunger in the face of climate change, by generating evidence on lessons and opportunities that can be shared across regions in order to enhance the role of smallholder farmers in food and nutrition security. In addition, ACTS will prepare new (spinoff) projects on strengthening the role of the smallholder farmers in food and nutrition security.
- d. Promote low carbon emission technologies in agriculture: ACTS will use lessons learned from the on-going project on Low Carbon Emissions in the Dairy Sector, ending in 2019, to develop new projects and research activities.

### Sustainable commercialization of agri-food systems

Under this area, ACTS will contribute towards the agenda of agri-food sector transformation of the continent through sustainable commercialization and agri-industrial development. During the 2019-2021 period, ACTS will pursue the following three objectives:

- a. Promote inclusive commercialization of agri-food sector: This sub-objective will build on the project - Resilient, Reliable and Robust Agriculture (2016-2019) - whose objective is to promote market-led approaches in dairy, horticulture and aquaculture sectors and to generate broader insights on how best to transform them into sustainable agri-food sectors. Upon completion of this project, ACTS will package the key findings for focused dissemination and policy engagement. The Centre will also develop new projects based on lessons learned.
- b. Promote inputs and advisory system for transition to market-oriented agri-business: This will build on the project - Assess and Support Input and Advisory Service Systems for Resilient Market-oriented Smallholder Dairy System (2016-2018) - which looks at how new configurations in dairy input and advisory service supply contribute to the innovations that embody the transition process to more market-oriented farming. ACTS focused on the policy aspects and will package and disseminate the findings to improve compliance in the input and service supply chain in the Kenyan dairy sector.
- c. Revisiting policies on Green Revolution: This will build on the project - African Sustainable hub: Pathways in and out of Poverty (2017-2019) - which aims to generate lessons on India's Green Revolution that Kenya can learn from. It builds on the fact that the Green Revolution in South Asia has relatively been successful, resulting in massive poverty reduction and improved food security, while attempts to replicate the same in SSA have not helped to eradicate extreme poverty. ACTS will use the results of this project to enhance private sector participation and promote agribusiness and entrepreneurship along the agro-value chains.

### 2.3.2 Climate Resilient Economies Programme

<b>Programme Vision</b>	Inclusive, pro poor and thriving climate change resilient economies for economic, social and environmental sustainability in Africa.
<b>Programme Mission</b>	To provide policy choices that support the generation, uptake and harnessing of climate change related STI for sustainable and diversified livelihoods, socio-economic development and biodiversity conservation in Africa.
<b>Programme Goal</b>	To support the development of enabling policies, organizations and institutions for harnessing applications of climate change related STI for energy access and security, water quality and security, biodiversity and natural resource management in Africa.

#### Programme motivation

Globally, climate change remains a big challenge to humanity and its impacts are vast, interlinked and widely documented. These impacts vary across regions, with developing countries bearing the heaviest brunt. Africa is particularly vulnerable to climate change due to a combination of factors, including:

- a. Heavy dependence of livelihoods and economic activities on rain-fed agriculture;
- b. Natural fragility of its ecosystems (degradation and desertification accounts for 67 per cent of Africa’s surface area);
- c. Poorly developed infrastructure (especially water, energy, ICT and transport) that can hardly survive extreme weather events such as floods and drought;
- d. Weak economies, relatively lacking in financial and technological resources for climate adaptation and mitigation.

#### Programme relevance

- a. **The Paris Agreement** commits the international community to: an ambitious collective goal to hold global warming well below 2 degrees with effort to limit warming to 1.5 degrees; an aim for greenhouse gas emissions to peak as soon as possible and achieve a net zero emission in the second half of the century; and a requirement for mitigation measures of individual countries to be expressed in nationally determined contributions (NDCs). The 24th conference of parties (COB24) in Katowice reinforced these commitments.
- b. The **Sustainable Development Goal 13** commits the international community to take urgent action to combat climate change.
- c. Similarly, **The AU Agenda-2063** requires African government to act with a sense of urgency on climate change and environment. This commitment has been taken up by STISA-2024 under priorities 4 “protection of our space” and 5 “living together-build the society” and provide opportunities for enhanced application of STI.



## Programme Focus

Building on the achievements of the Centre over the last 10 years under the Programme and considering the projects that are transiting to the 2019-2021 period, this programme focuses on supporting African countries and institutions to tap into global and regional opportunities in climate discourse. Specifically, during the 2019 - 2021 period, the programme will build capacity of African countries and institutions in the following areas:

- Climate change mitigation, adaptation and negotiation;
- Access climate finance;
- Green growth;
- African sustainability hub;
- African regional climate innovation network;
- Clean and affordable energy.

### Climate change mitigation, adaptation and negotiation

Capacity building of African countries and institutions on climate change mitigation, adaptation and negotiation has been a key area of interest for ACTS over the last 15 years. However, much still needs to be done in line with the recently adopted Paris Agreement. During the 2019-2021 period, ACTS will continue to undertake activities in this area, by pursuing the following projects:

- a. Strengthening and operationalising ACTS Climate Change Centre of Excellence:** In 2016, ACTS was nominated as one of the Climate Change Centres of Excellence to represent SSA under the International Network of Climate Change Centres of Excellence and Think Tanks. In this role, ACTS is expected to use its experience and knowledge in climate change mitigation and adaptation actions to promote information sharing among African countries and institutions. Consequently, ACTS will develop and implement a plan to operationalise the Centre of Excellence in Climate Change for SSA.
- b. Supporting Africa Group of Climate Change Negotiators and Experts:** Since 2016, ACTS coordinates capacity building activities to strengthen the African Group of Negotiators and Experts to unpack, consolidate and package scientific information (evidence) to enable effective participation in international, regional and national climate change policy processes and decision-making. These activities have led to a five - year project (2018 - 2022), whose specific objectives are to strengthen scientific evidence and its use by African negotiators to inform African positions on climate change; build capacities of African climate change scientists and share best practices and expertise to stimulate climate actions across the regions and sectors. ACTS and its partners will use the experience and lessons learned to develop spinoff projects and activities to ensure future sustainability.

## Access climate finance

African countries have committed to the global climate actions through the Nationally Determined Contributions (NDCs). However, past experience under the Kyoto Protocol indicates that the continent's ability to tap into the mitigation and adaptation resources remains limited due to weak institutional and technical capacity. For instance, Africa only managed to attract about 2% of the global climate funding and associated technologies under the Clean Development Mechanisms. Furthermore, in spite of the universal emphasis on infrastructure development in Africa, few African countries have explicit climate resilient infrastructure strategies and policies. During the period 2014-2018, ACTS pursued two projects to intervene. First, ACTS initiated the process of getting Accreditation by the Green Climate Fund, in order to provide proposal development and grant management services to African countries and institutions. During the 2019 - 2021 period, this process will be completed and operationalized.

Secondly, ACTS in collaboration with other partners, such as the AU, held several capacity building training workshops on procedures for Green Climate Fund (GCF) and proposal development to participants from African countries and institutions. In the next three years, 2019-2021, ACTS will strengthen and expand the capacity building activities on GCF procedures and participate in the development of regional readiness programme for African Member States.

## Green Growth

During the Strategic period, the Centre will double efforts towards generation of empirical evidence on knowledge brokerage for green innovation and sustainability through: generating research evidence on climate resilience technologies and deepening understanding of knowledge systems and their linkages with climate resilience and sustainability. The Centre will also promote the use of NDCs explorer, which was developed by ACTS in 2017, in partnership with the German Development Institute, the Stockholm Environment Institute, and the UNFCCC secretariat; and develop models of innovative climate governance frameworks.

## African Sustainability Hub

The Hub, hosted by ACTS, is a consortium of leading think tanks in Africa and the UK. It is designed to contribute to the Sustainable Development challenges, through research and capacity building. The Hub was launched in 2015 during a Low Carbon Development Conference, held in Nairobi. It uses institutional strengths of its partners

to harness research and policy on sustainable technologies and innovations, to inform Africa's actions in the post-2015 SDGs. During the period 2019-2021, ACTS will develop and implement a five-year strategic plan for the Hub, which will include undertaking the following activities: establishing memorandum of understanding (MoUs) with leading research think tanks in Africa; undertake sustainability research; focusing on key African sectors; promoting STI and sustainability dialogues; and nurturing talent for Africa in STI and application of sustainability through mentorship.

### **Africa Climate Innovation Network**

During the period 2012-2013, ACTS undertook a project which led to the establishment of the East African Climate Innovation Network (EACIN). The Network brought together technology institutions, entrepreneurs, business incubators and other partners within the East African Community to support the development of businesses and market for climate technologies. The goals of the Network were to (a) support institutions in East Africa to provide cutting-edge work on technologies for adaptation to climate change; (b) broker South-South technology transfer from suppliers in Asia to East African SMEs; and (c) develop details for scaling up its activities. Whereas the first two goals were successfully realized, the scaling up of the activities has not been pursued. During 2019-2021, ACTS together with other partners, will explore the possibility of relaunching, strengthening and expanding the Network to better serve SSA.

### **Clean and affordable energy for climate resilience**

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*“The role of energy in the current climate change policies and actions is important. Energy remains a major target in reducing greenhouse gasses and enhancing enterprise development resilience. More specifically, Renewable Energy is earmarked in the Paris Agreement, and SDG No 7 and the Nationally Determined Contributions of most African Countries. It is also emphasized by the International Community's commitment to massively increase access to clean energy as enshrined in the UN's Sustainable Energy for All (SE4ALL) Initiative.”*

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Building on the experiences gained from 10 energy-related projects undertaken during the last 10 years, this programme focuses on clean cooking and lighting technologies, energy efficiencies; bioenergy as well as public private partnerships. Specifically, ACTS will undertake the following activities:

**a. Strengthen the county energy hub in Kenya:**

During the last two years, ACTS has been building capacity of county governments on formulating energy plans within the framework of county integrated development plans. During the 2019-2021 period, ACTS will develop a county renewable energy platform for learning, knowledge sharing and resource mobilization.

**b. Review and strengthen bioenergy policies:**

During 2007-2013, ACTS implemented a project – Policy Innovations System for Clean Energy Security (PISCES). The results of this study provided policy makers with information and approaches to unlock the potential of bio-energy to improve energy access and livelihoods and has been used to spearhead policy process for sustainable bio-fuels in Africa. These include the preparation of the bioenergy policy in Tanzania and Kenya. In the 2019-2021 period, ACTS will review the implementation of these bioenergy policies and use the results to develop new research areas to promote utilization of bioenergy in Africa.

**c. Promoting local technological capacity building from externally supported projects:**

Since 2015, ACTS is implementing a five-year project - Innovation for Rural Electrification in Kenya – to understand the relative benefits from Asian and European solar photovoltaic (PV) and wind energy electrification in Kenya, specifically the degree of technological capacity building that takes place from the projects that received external assistance. The project ends in 2019. ACTS will use the lessons learned to inform and develop new projects.

**d. Enhancing access to low cost energy efficient technologies for poor communities:**

the 2013-2018 period, ACTS implemented four projects aimed at enhancing access to low-cost lighting and cooking energy technologies by poor communities. The projects focused on technologies, business models for mass production and innovative financing models. During the 2019-2021 period, ACTS will package lessons learned and best practices for dissemination and policy dialogue across Africa and to develop new projects.

**e. Public Private Partnership (PPP) in renewable energy:**

Many African countries are increasingly getting interested in adopting policies to promote PPPs in several sectors, such as energy. During the 2019-2021 period, the Centre will support the provision of evidence-based information to improve knowledge on existing policy gaps on PPPs in the energy sector; generate information on investment opportunities for PPPs in the energy sector; explore effective ways and approaches of increasing engagement of private sector in PPPs and provide information that can be used for tracking, monitoring and reporting on the progress of public service development and uptake of PPPs.

### 2.3.3 STI, Knowledge and Society (STIKS)

<b>Programme Vision</b>	An African continent that effectively creates and utilizes research findings on the interplay between STI, knowledge and society to formulate development strategies, policies and practice.
<b>Programme Mission</b>	To advance key research and analysis of the interplay between STI, knowledge and African society.
<b>Programme Goal</b>	To undertake key STI research and support the development of a cadre of researchers, analysts and policy makers in Africa on the interplay of STI, knowledge and society specifically related to the African context.

#### Programme motivation

STIKS motivations arise from past achievements of ACTS on STI policy research and training as well as three on-going multi-year projects. These are SGCI project (2016-2020), which seeks to strengthen the capacities of SGCs in SSA; AfricaLics (2012-2021) that focuses on understanding innovation and learning in the context of Africa, both from theoretical and practical perspectives; and Understanding the Knowledge Systems in East Africa (2018-2019) which aims to provide insights into strategic sectors, capabilities and institutional arrangements necessary for building an effective national STI systems.

#### Programme Focus

This programme will focus on capacity building activities in the following six areas:

- a. Science Granting Councils in Africa;
- b. Intellectual Property and Technology Transfer;
- c. Evaluations of the Socio-economic Impact of STI;
- d. Development and implementation of STI Roadmaps for SDGs;
- e. African Innovation and Development research professionals;
- f. Executive STI Training of Policy makers.

## Capacity building of Science Granting Councils in Africa

ACTS is coordinating the implementation of a five-year project – SGCI in SSA, which started in 2017. It aims to strengthen the African SGCs to: manage research grants; design and monitor research programmes based on robust STI indicators; support knowledge exchange with the private sector; and establish partnership between Councils and other science system actors. The SGCI currently operates in 15 sub-Saharan African countries. During the 2019-2021 period, ACTS, building on the lessons learned during phase one of SGCI, will pursue research projects and capacity building activities that will further strengthen collaboration between research organizations and the private sector; and deepen partnerships and cooperation among the 15-member SGCs.

## Intellectual Property and Technology Transfer

A key area of attention for SGCs and others involved in STIKS activities in African countries, is the issue of Intellectual Property (IP). This is particularly the case in the light of the emphasis on strengthening research-academia partnership and uptake of research findings. In this regard, during 2019-2021, ACTS will pursue projects and activities that aim to facilitate the development and implementation of Institutional IP policies and Technology Transfer Offices by African SGCs, universities and other relevant organisations. This will cover all aspects of IP related to research, development and innovation, including genetic resources which was also very dear to the late Prof. Juma.

## Capacity building on evaluation of the impact of STI to socio-economic development

There is increasing recognition by African countries of the importance of STI to economic and social development. This is expressed through several national STI strategies, policies and initiatives. Furthermore, the East African Community is developing a regional STI and IP Rights policies. At the continental level, the AU has adopted the STISA - 2024. Whereas all these policies and strategies have recommended increased investment by African countries in Research & Development, very little progress has been made. Lack of tangible data on the impact of STI on the social and economic development has contributed to limited prioritization of investment by African countries on STI. There is also lack of understanding on where such investment should best be channeled (i.e. the division of resources between basic and applied science and between science, technology development and innovation or commercialization). Through the STIKS programme, ACTS will, in the next three years, support development of capacities of African Countries and Institutions to undertake evaluation of the impact of STI on socio economic development in order to generate evidence that can be used to lobby for increased investment in STI.

## Capacity building on formulating STI roadmaps for SDGs

The 2030 Agenda for Sustainable Development reaffirmed the importance of STI as exemplified by its inclusion in the SDGs, in particular SDG9 - build resilient infrastructure, promote sustainable industrialization and foster innovation. Important targets and mechanisms to support the implementation of the SDGs have been developed and they include the creation of “Technology Facilitation Mechanisms” (TFM) to support the 17 SDGs. The TFM is composed of the collaborative Multi-Stakeholder Forum on STI for the SDGs (STI Forums), which has identified, as a central topic, STI roadmaps and action plans to help the realization of SDGs. An Expert Group Meeting (EGM), has been established by the United Nations Inter-Agency Task Team on STI for SDGs dedicated to support the development and implementation of STI roadmaps for SDGs at sub-national, national and international levels. In collaboration with other partners, ACTS will use the guidebook to build the capacities of African countries and institutions to develop their STI Roadmaps for SDGs.

## Capacity building of African innovation and development research professionals

In the next three years, ACTS will continue building skills of the next generation of STI researchers in Africa, who can advise their governments and businesses on how to harness STI and knowledge for economic and societal transformation by implementing the following existing projects:

### a. African Network for the Economic of Learning, Innovation and Competence Building System (AfricaLics):

This project, which started in 2012 and is currently in phase two (2017-2021), was motivated by the need to understand innovation and learning in the context of Africa. It was also driven by the need for capacity building in the specific research field of innovation and economic development in order to enable African countries to design STI policies suitable and responsive to their own needs. Achievements through AfricaLics include mapping of innovation and development researchers and research institutions in Africa; training of PhD supervisors; development of a PhD supervision handbook and training over 200 PhD students from 12 African countries. In the next three years, the Centre will pursue these capacity building activities and also use the lessons learned to develop spinoff projects.

### b. Supporting STEM research cultures in Africa: Build institutional capacity for computing research in Kenya:

ACTS is a partner in a three-year project (2018-2021) that focuses on building the research skills of computing engineers in Kenya and providing opportunities for them to remain research active. The project provides fellowships in form of stipends for PhD students studying computer science to complete their doctorate degrees and for industry placements for computing science researchers based at universities. The main aim is to increase the demand for academic-industry research alliances in the field of computing science. The project also investigates the bottlenecks to the development of a vibrant and sustainable research culture in computer science in order to produce better quality research that can strengthen local industry to help Kenya realise its Vision 2030 goals.

### c. Understanding the Knowledge Systems in East Africa:

This is a two-year project (2018-2019), which aims to provide insights into strategic sectors, capabilities and institutional arrangements necessary for building effective national STI systems. The experience gained will be used to prepare spinoff projects and expand research activities around knowledge systems that would include (i) STI social licensing, which will look into issues affecting uptake of STI outputs at the grassroots level to inform policies and strategies for enhanced STI uptake; (ii) STI governance and capability and (iii) STI for transformation and change.

#### Training and capacity building of STI policy makers

ACTS has been a premier capacity building institution in harnessing applications of STI policy for development in Africa. STI policy training was launched by the late Prof. Juma in 1994/95 and has continued since then. The key objectives have been to provide training courses on enhancing the capacity of policymakers and researchers to understand and implement STI strategies and policies. In addition, the training has been embedded in the innovation and development capacity building activities, involving MSc and PhD students as well as outreach and stakeholders' events. Over the three year period, (2019-2021), ACTS will set up the STIKS Executive Training Institute to provide the continent's first permanent training programme, to be based at the ACTS Secretariat, for senior policy makers and practitioners. ACTS will also launch the Professor Calestous Juma Memorial Conference to advance academic debate and relate it to the needs and challenges affecting policy, industry and civil society stakeholders.

#### Youth, Gender, Knowledge brokering, management and commercialization

Women and youth remain an important target group for ACTS. Women are the most affected group by the effects of climate change and food and nutrition insecurity and constitute the largest segment of the Africa's population. As a result, ACTS will continue with its work of nurturing and harnessing innovative capacity of African youth and women, particularly in the application of STI to development. In addition, ACTS will broker knowledge between STI producers and users, and support packaging of STI into businesses targeting the youth and SMEs. This is based on the Centre's belief that STI is only useful if it is taken up and used to solve sustainable development needs of African countries and institutions.



## CHAPTER THREE

### 3. IMPLEMENTATION STRATEGY

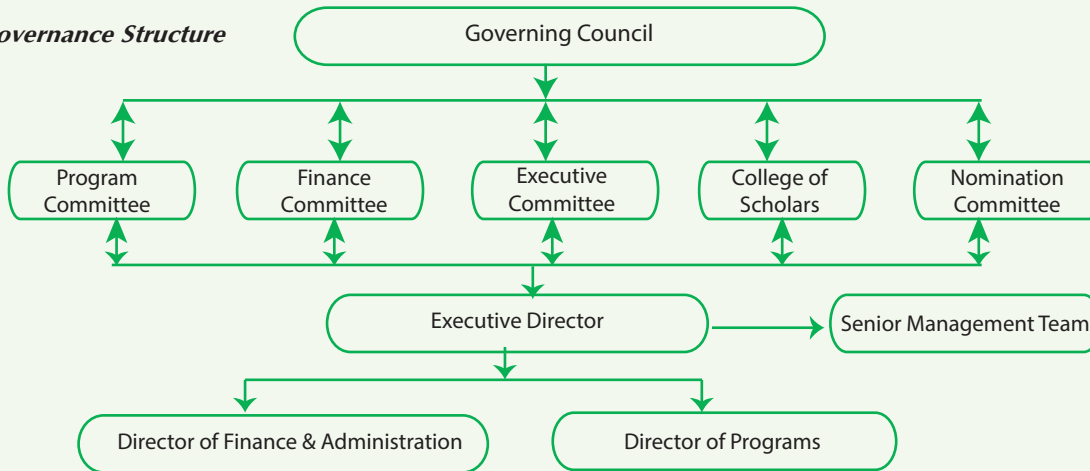
This chapter focuses on governance and management; resource mobilization; implementation mechanism; partnerships and networks; human resource management; and monitoring and evaluation that are necessary for effective implementation of this Strategic Plan.

#### 3.1 Governance and management

ACTS is committed to continuous improvement of its effectiveness, efficiency and impacts of its governance and management structures. Consequently, a new organizational structure (See Figure 3 below) has been developed, which takes care of the aspirations of the new Strategic Plan. During the 2019-2021 period, the advisory support given to the ACTS Secretariat by the various sub-committees of the Governing Council, will be enhanced through regular physical and virtual meetings. The College of Scholars, which will be operationalized in 2019, will advise the Programme Committee and the Secretariat on the necessary strategic research direction. The Finance Committee, apart from overseeing the financial performance of the organization, will spearhead implementation of the Resource Mobilization Strategy. The Programme Committee will be in charge of overseeing the implementation of the Strategic Plan, while the Executive Committee will continue providing oversight and coordination roles to the Secretariat on matters of implementation.

#### GOVERNANCE AND MANAGEMENT STRUCTURE

##### *The Governance Structure*



##### *The management structure*

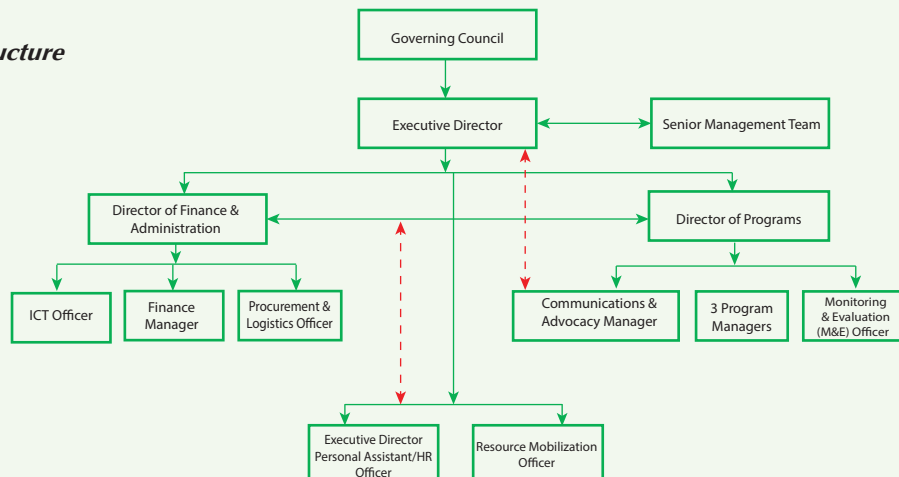


Figure 3: Governance and Management Structures

At the Secretariat level, the Executive Director, supported by the Director of Finance and Administration (DFA) and the Director of Programs (PD), will provide closer supervision and coordination of all matters related to finance, administration and programmes. The PD will be supported by three Programme Managers while the DFA will be supported by the ICT Officer, Finance Manager and Procurement and Logistics Officer. The Communication and Advocacy Manager will spearhead communication activities of the organization. A resource mobilization/grant manager will also be brought on board. The PD and DFA, together with heads of programmes and other senior research officers, will constitute Senior Management Team that will support the Executive Director in terms of day to day management of the organization.

### **3.2 Resource mobilization**

To implement this strategic plan, a Resource Mobilization Strategy (RMS) has been developed. The overall objective of the RMS is to ensure availability of adequate resources to finance the Strategic Plan and to transform ACTS into a more sustainable organisation by 2021. The total projected costs of implementing this Strategic Plan is about US\$ 11 million, whereas the available income from the projects that are transiting to 2019-2021 stands at US\$ 4.5 million. Therefore, the financial gap to be filled through resource mobilization is estimated at US\$ 6.5 million. 90 % of this will be mobilized mainly through project funding, whereas the remaining 10 % will be raised through non-project sources.

### **3.3 Implementation mechanisms**

Under this Strategic Plan, ACTS will continue deploying the three implementation mechanisms, namely:

- (a) High quality research;
- (b) Policy analysis and dialogues;
- (c) Capacity building and outreach.

The Centre's regular researchers shall remain key players supported by non-resident research fellows, ACTS partners and collaborators. The College of Scholars and the Program Committee will also play central roles in the implementation process. Key outputs will include books, journal papers, working papers, policy briefs, position papers and high-level policy dialogues.

### **3.4 Management of partnership and networks**

In the 30 years of its existence, the Centre has established and maintained a huge list of partners, ranging from development partners, universities, research organizations, international nongovernmental organisations (NGOs) as well as Community Based Organizations (CBOs). These organizations have been beneficial to ACTS through capacity building, fundraising and delivery of its mandate. The Centre will therefore develop and implement a plan to improve on the management of these partners, which will see strengthening of the existing ones and securing new strategic ones.

### 3.5 Human Resource Management

During the 2019-2021 period, special focus will be given to attracting, retaining and mentoring quality researchers. Thus, a career progression guideline has been developed and will be implemented. In addition, a staff development and mentorship programme will be developed and implemented. The staff force is projected to grow from 25 in 2018 to 32 in 2021. During this period, the research staff is projected to grow from 15 to 21, whereas the corporate staff will grow from 10 to 12. The Resource Mobilization and Grant Manager will be brought on board in 2019. The position of Advocacy and Communication Manager will be recruited by 2021.

### 3.6 Monitoring and evaluation

ACTS considers Monitoring and Evaluation (M&E) as key to enhancing its overall efficiency and effectiveness. Thus, a theory of change will be developed and implemented to ensure that ACTS research outputs and services contribute to the achievement of the desired outcomes and impacts. The key features of the M&E framework are:

- **Monitoring**

This will encompass tracking of the implementation of the research activities and outputs and measuring their contribution to outcomes. Monitoring of outcomes will help to determine the success of ACTS 's interventions. Information will be collected on a monthly basis by the programme managers.

- **Evaluation**

In the next three years, two major evaluations will be carried out. These will include the mid-term review to assess the level of realisation of the objectives of the Strategic Plan and suggest necessary adjustments. The final review will assess the overall success of the Plan. The mid-term review will be undertaken internally, whereas the final review will be done by an external consultant.

- **Reporting**

Quarterly, half-year and annual reports shall be prepared to capture the status of implementation of each annual plan. Monthly reports will enhance discussion with ACTS 's Senior Management Team while quarterly, half-year and annual reports will be for presentation to the Executive Committee; Finance Committee, Programme Committee, Governing Council and development partners. Other reports shall be prepared to respond to the specific requirements of development partners, including the financial audit report.



**African Centre for Technology Studies (ACTS)**

**ICIPE, Duduville Campus, Kasarani.**

**P.O. Box 45917-00100, Nairobi - Kenya.**

**Email: [info@acts-net.org](mailto:info@acts-net.org)**

**Tel: +254 710 607210**

**Website: [www.acts-net.org](http://www.acts-net.org)**

