AFRICAN TECHNOLOGY POLICY STUDIES NETWORK (ATPS)

PHASE VIII STRATEGIC PLAN 2017-2022

Strengthening Africa's Capabilities in Science, Technology and Innovation for Sustainable Development

The African Technology Policy Studies Network (ATPS) is a trans-disciplinary network of researchers, private sector actors and policy makers promoting the generation, dissemination, use and mastery of science, technology and innovation (ST&I) for African development, environmental sustainability and global inclusion. ATPS intends to achieve its mandate through research, capacity building and training, science communication/dissemination and sensitization, participatory multi-stakeholder dialogue, knowledge brokerage, and policy advocacy.

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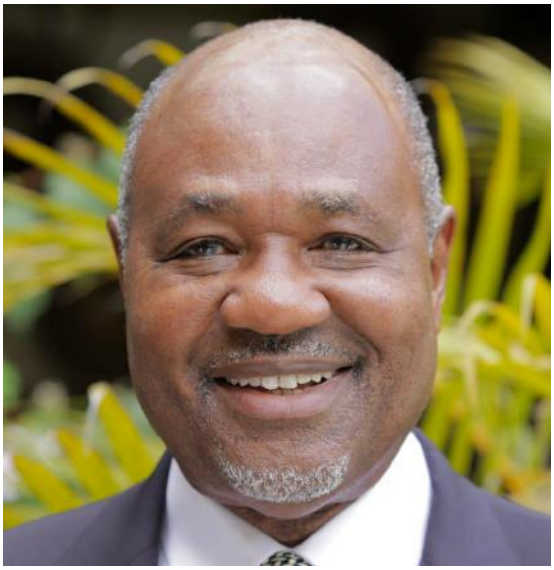
LIST OF ACRONYMS AND ABBREVIATIONS

ACPC	African Climate Policy Center
AfDB	African Development Bank
ATPS	African Technology Policy Studies Network
AU	African Union
AUC	African Union Commission
AWFST	African Women Forum for Science and Technology
AYFST	African Youth Forum for Science and Technology
CBOs	Community Based Organizations
CDSF	Climate Development Special Funds
CGIAR	Consultative Group on International Agricultural Research
CM&E	Continuous Monitoring and Evaluation System
CSOs	Civil Society Organizations
CSP	Climate Sense Program
DFID	UK Department for International Development
EAC	East African Community
EATPS	Eastern and Southern Africa Technology Policy Studies
ECOWAS	Economic Community of West African States
EU	European Union
GALVmed	Global Alliance for Livestock Veterinary Medicines
GHGs	Greenhouse Gases
GIS	Geographical Information Systems
ICTs	Information and Communication Technologies
IDRC	International Development Research Centre
IFAD	International Fund for Agricultural Development

IFPRI	International Food Policy Research Institute
IPR	Intellectual Property Rights
JICA	Japan International Cooperation Agency
M&E	Monitoring and Evaluation
MOU	Memoranda of Understanding
NEPAD	New Partnership for African Development
OFID	OPEC Fund for International Development
PAs	Partnership Agreements
PM&E	Participatory Monitoring and Evaluation System
PVs	Solar Photovoltaic system
R&D	Research and Development
RECs	African Regional Economic Communities
RBF	Results Based Framework
SADC	Southern African Development Community
SDGs	Sustainable Development Goals
SIDA	Swedish International Development Agency
SME	Small and Medium Enterprises
STC-EST	Specialized Technical Committee on Education, Science and Technology
STI	Science, Technology and Innovation
STISA	Science, Technology and Innovation Strategy for Africa
ToC	Theory of Change
UNEP	United Nations Environment Program
USAID	United States Agency for International Development
WATPS	Western Africa Technology Policy Studies

MESSAGE FROM THE CHAIRMAN



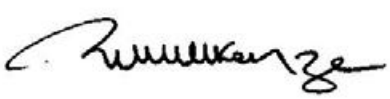
Mr. Chuma Ikenze

It is with great pleasure that I present to you the ATPS Phase VIII Strategic Plan. This plan will guide ATPS priorities and programmes from 2017-2022. With my two years in service as a member of ATPS Board of Directors, I have observed consistent progress and impacts in the work of the ATPS in Africa and beyond. These progress and impacts range from the development of technologies and innovations for solving societal challenges to the facilitation of policy changes at national and regional levels for ensuring socioeconomic developments on the continent.

The current plan seeks to amplify the long-standing gains already made by the ATPS as the premier science, technology and innovation (STI) policy research think tank on the continent. To a large extent, the plan has accommodated the interests and aspirations of ATPS's stakeholders including donors, development partners, policymakers, researchers, private sector actors, the civil society, and the media at national, regional and continental levels.

Based on the stakeholders' interests, needs, and aspirations, the ATPS will in the coming five years focus on **four thematic priority areas and five strategic programmatic objectives** in line with its mission, vision and objectives. The four thematic priority areas include: agriculture, food and nutrition; energy; climate change and environmental management; and health innovations. On the other hand, the five strategic programmatic objectives include: STI policy research, policymaking and advocacy; training, sensitization and capacity building; youth and gender empowerment; knowledge brokerage, management and commercialization; and intra-Africa and global collaboration and partnerships. I am convinced that with the caliber of the new ATPS structure and network system, there will be even more significant impacts in the coming years in STI development in Africa based on the interventions in the current ATPS Strategic Plan 2017-2022.

On behalf of the Board of Directors of ATPS, I wish to thank all those who contributed in the development of this plan. We sincerely count on your supports to enable us realize our overall goals and objectives in strengthening Africa's capabilities in STI for sustainable development on the continent.



Mr. Chuma Ikenze
Chair, ATPS Board of Directors

MESSAGE FROM THE EXECUTIVE DIRECTOR

Dr. Nicholas Ozor

I am very excited to share the ATPS Phase VIII Strategic Plan for 2017-2022. My excitement derives from the timeliness and opportunities provided by the plan which will enable African countries and institutions attain transformative developments through science, technology and innovation (STI). The plan combines both sectoral and programmatic strategic objectives in addressing Africa's STI challenges identified through participatory and consultative processes with the ATPS stakeholders. Most importantly, the plan mirrors the current African Union's Agenda 2063 and particularly the Science, Technology and Innovation Strategy for Africa (STISA) 2024, and the global Sustainable Development Goals (SDGs). This is necessary as these development agendas and goals currently drive transformations and desired changes at national, regional, continental, and global levels.

During this strategic phase (2017-2022), the ATPS work will focus primarily on four thematic/sectoral priority areas including agriculture, food and nutrition; energy; climate change and environment; and health while the strategic programmatic objectives will focus on STI policy research, policymaking and advocacy; training, sensitization and capacity building; youth and gender empowerment; knowledge brokerage, management and commercialization; and intra-Africa and global collaboration and partnerships. The implementation of the programmatic objectives will be in such a way that it will cut across all the identified thematic priority areas. In order to achieve our objectives on the themes/sectors and programmes, we intend to work with like-minded institutions and partners in Africa and beyond. We will draw strengths and expertise from the ATPS Network spread across 30 countries (27 in Africa and 3 in the Diaspora – USA, UK and Australia) and from over 1500 network members spread across 51 countries and in 5 continents. This is the unique feature of the ATPS and we will capitalize on it to strengthen Africa's capabilities in STI for sustainable development.

I most humbly call on all our friends, donors, development partners, and the entire ATPS stakeholders to support our new strategic plan through core, thematic and programmatic supports to enable us make more impacts in STI research, policy and practice for sustainable development on the continent. We continually pledge to deliver the value for money on every initiative, programme or project entrusted unto us. This has been evident from the clean records and achievements of the new leadership at the ATPS. This leadership saw ATPS ranked for two consecutive years as the best Think Tank in Africa by the Global Go To Think Tank Index Report.

Dr. Nicholas Ozor
Executive Director ATPS

EXECUTIVE SUMMARY

The current ATPS Strategic Plan Phase VIII for 2017-2022 is born out of necessity to meet the dynamic nature of ATPS stakeholders' needs and aspirations as well as to realign the ATPS's strategic priorities and programmes with those of the continental and global development agendas. Through interactive, participatory and consultative processes, the needs and aspirations of the ATPS stakeholders from across its wide network were integrated into the plan. On July 29th 2016, the ATPS convened a Stakeholders' Forum in Nairobi, Kenya, to review inputs into the new strategic plan. This culminated to the stakeholders' dialogue and gave impetus to the harmonization of all inputs into one comprehensive plan.

Again, the current ATPS plan mirrors the African Union's Agenda 2063 that recognizes science, technology and Innovation (STI) as one of the major drivers and enablers for achieving development goals of the African Union and its Member States. To support the implementation of this Agenda, African countries have adopted a 10-year Science, Technology and Innovation Strategy for Africa (STISA-2024), which is part of the long-term people-centred African Union (AU) Agenda, underpinned by STI and necessary for achieving the continental sustainable development and economic transformations. The STISA-2024, which seeks to "*accelerate Africa's transition to innovation-led knowledge-based economies*", emphasizes the inevitability of Africa to build a credible knowledge-based economy by putting in place supportive technical and professional competencies, competitive research infrastructure base, flourishing innovations, and a conducive policy environment for STI. The Agenda further articulates that Africa's sustained growth, competitiveness and economic transformation will require sustained investment in new technologies and continuous innovation in areas such as agriculture, clean energy, education, health and bio-sciences. The current ATPS plan additionally mirrors the global Sustainable Development Goals (SDGs) that integrate economic, social and environmental aspects of development and recognize their interlinkages in achieving sustainable development in all its dimensions. These goals are crystalized into 17 interlinked goals with its accompanying targets and indicators.

Having duly considered the above, it is therefore our belief that the current ATPS Strategic Plan is 'smart', durable, and a forward looking plan with great potentials to impact on socioeconomic developments in Africa at individual, institutional, national, regional and continental levels. It is our hope that through the STI research, policy and practice interventions earmarked in the ATPS plan a series of outcomes will be achieved. These outcomes include but not limited to improved research and development (R&D) expenditures especially on the priority sectors identified in this plan (agriculture, energy, climate change/environment, and health); evidence-based research that informs policy and decision-making in STI; improved capacity in STI research, policy and practice at individual, institutional and systemic levels; increased technological advancements and innovations for solving societal challenges of hunger, unemployment, poverty, climate change, diseases, energy access, social inequities, political instability and depleting natural resources; more youth and women empowered to sustain themselves; increased interactions and knowledge exchange between and amongst various stakeholders in the innovation system; more start-ups and entrepreneurs; and increased

integration, collaboration and partnerships between and amongst STI institutions and African countries in general.

ATPS will work with like-minded institutions and partners in the implementation of its Phase VIII Strategic Plan. Already, the ATPS has signed various Memoranda of Understanding (MOU) and Partnership Agreements (PAs) with many institutions in Africa and beyond for collaboration in the implementation of thematic priorities, programmes and projects. We will continue to forge more partnerships that add value to our work as we implement the ATPS Phase VIII Strategic Plan for 2017-2022.

ATPS Sector Priority Areas

The ATPS Phase VIII Strategic Plan for 2017-2022 has identified four strategic priority areas of focus during the period. These are: agriculture, food and nutrition; energy; climate change and environment; and health

Sector Priority 1: Agriculture, Food and Nutrition

Sector Priority 2: Energy

Sector Priority 3: Climate Change and Environment

Sector Priority 4: Health

Sector Priority 1: Agriculture, Food and Nutrition

ATPS plans to identify and promote appropriate technologies and innovations for improving productivity and resilience, reducing waste and improving value addition along the agricultural value chain from farm to table. This is in line with STISA priorities 1, 4 and 6 and will also aid in achieving SDGs 1, 2, 3 and 12. The focus of attention will include innovations in the fields of farming systems and technologies, biotechnology (i.e. seed and livestock technology/genetics), yield enhancement and loss control (i.e. fertilizers and pest control), as well as social innovations such as farm information management systems and the use of Information and Communication Technologies (ICTs) such as smart mobile telephones and satellite data, Geographical Information Systems (GIS), etc. Already, the ATPS is out-scaling an award winning *LandInfo* mobile app technology developed in partnership with partners under the leadership of the USDA-ARS. The app enables farmers determine the potential of any given piece of soil through the climatic and soil information that the app provides instantly. In the new strategic plan, ATPS hopes to continue its work in out-scaling the *LandInfo* mobile app across Africa by building the capacity of extension agents and farmers on the use of the technology to support farm decision-making on productivity, land-use management and resilience. Food, nutrition and health outcomes will also form a critical and major focus for the ATPS in the coming years under the current strategy.

Sector Priority 2: Energy

ATPS plans to promote renewable energy access and development on the continent. Lack of access to modern energy services (e.g. electricity and clean cooking facilities) and massive dependence on fossil fuels have hampered sustainable socioeconomic development even as the access to modern and reliable energy services is a critical human development priority. These plans are in line with the SDGs 3, 7, 11 and 13. Incidentally, the resource potentials of hydro, solar, wind and geothermal energy resources in Africa present huge supply side market opportunities for low carbon technology development and technology

transfer. Available evidence shows that Africa has significant comparative resource advantage to take a lead in the global renewable energy markets if necessary policy environments and the right incentives are provided. ATPS will champion this course of scaling up energy infrastructure to strengthen energy security and climate resilience on the continent by providing necessary incentive structures, capabilities and enabling policy environment for it to happen.

Sector Priority 3: Climate Change and Environment

ATPS plans to strengthen its longstanding efforts in building climate change resilient capacities at individual, institutional and systemic levels on the continent as expressed in SDGs 11, 12, 13, 14 and 15 and as strategized by the AU in STISA's priority goal 4. We will continue to promote our Climate Sense Program (CSP) launched in 2008 in partnership with the United Nations Environment Program (UNEP). CSP aims to:

- Make Sense of Climate Science through effective science communication;
- Make Sense of Climate Economics through policy analyses and translation of complex climate economics in ways that promote dialogue at all levels of African society;
- Make Sense of Climate Innovation through investment portfolio analyses and supporting the development of technologies and innovations for climate change adaptation, mitigation and resilience; and
- Make Sense of Climate Change Politics and Policymaking through scenario analyses, training and policies that support the development of sustainable technologies and innovations for adaptation such as the renewable energy carriers and efficient stoves.

Sector Priority 4: Health

Under the **health sector**, ATPS plans to integrate research programs on innovations and policies for sustainable health delivery and health risk prevention, including health technology policy studies, and social innovations for advancing health and wellbeing in communities. SDGs 3 and 6 clearly cover these while SDG 9 emphasizes on the use of technology to make the realization of the targets of this sector. ATPS will pay specific attention on the use of Information and Communication Technologies (ICTs) and social innovations for health delivery, risk prevention and mitigation. Potential projects include: Telemedicine, e-medicine using mobile telephone platforms and social networking sites, indigenous approaches to nutrition for health and wellness; mobile health diagnostics systems, etc. We intend to support research and development on emerging diseases on the continent. The organization will advocate for regulatory harmonization of registration of pharmaceuticals and vaccines across regional blocs on the continent to ensure easy access and free trade across borders.

ATPS Programmatic Strategic Objectives

The ATPS Phase VIII Strategic Plan 2017-2022 has identified five strategic objectives for implementation under its programmatic objectives. These objectives cut across all the identified thematic priority areas of work. They are as follows:

Strategic Objective 1: STI policy research, policymaking and advocacy

Strategic Objective 2: Training, sensitization and capacity building

Strategic Objective 3: Youth and gender empowerment

Strategic Objective 4: Knowledge brokerage, management and commercialization

Strategic Objective 5: Intra-Africa and global collaboration and partnerships

Strategic Objective 1: STI Policy Research, Policymaking and Advocacy

Under this strategic objective, we plan to build capabilities, structures, and conditions for the co-production of scientific knowledge, technologies, innovations, and policies across the identified priority sectors for sustainable development in Africa. The concept of co-production of knowledge (transdisciplinarity) is strongly emphasized in the work of the ATPS to ensure proper contextualization and socialization of STI in the society for effective development, deployment, diffusion, commercialization and upscaling of innovations. AU also employs use of STI in addressing/implementing its priority areas as contained in STISA. We recognize that an STI-led development is a political endeavor and hence will work closely with the political class and policymakers to attract their goodwill towards STI issues on the continent.

Strategic Objective 2: Training, Sensitization and Capacity Building

Under this strategic objective, we plan to enhance the skills and capacities of individuals and organizations in STI policy research, policymaking and policy implementation for sustainable development on the continent. Themes for training and capacity building/strengthening have been identified with the stakeholders comprising of researchers, policymakers, private sectors, civil society and the media. These themes will be continuously reviewed according to evolving needs and demands by the stakeholders. Such themes may include but not limited to STI policymaking/policy formulation processes, STI policy research methodologies, STI indicators and policy instruments, effective research-policy-practice linkages, effective science communication skills, entrepreneurship development, intellectual property issue, business development, green growth concepts and best practices, etc. ATPS has also developed standard manuals for conducting its capacity building trainings for its stakeholders on demand basis.

Strategic Objective 3: Youth and Gender Empowerment

Under this strategic objective, we plan to nurture and harness the innovative potentials of African youth and women, since they constitute the largest segment of the African population. Investing in African youth and women (SDG 5) will definitely create wealth and ensure socio-political stability on the continent. In recognition of the powerful potentials of youth and women in the society, the ATPS has created platforms to empower the youth and women to attain their aspirations and potentials. These platforms include the African Youth Forum for Science and Technology (AYFST) and the African Women Forum for Science and Technology (AWFST).

Strategic Objective 4: Knowledge Brokerage, Management and Commercialization

Under this strategic objective, we plan to broker the adoption, commercialization and sharing of locally developed scientific knowledge, technologies and innovations that could transform African society into innovation-led, knowledge-based economy. Scientific knowledge will only be useful if it is translated into technologies and innovations useful for addressing societal needs. These are captured in SDGs 9, 10 and 11 as well as in STISA's priority 3. We will act as independent knowledge brokers to foster effective policies and incentives for technology cooperation between and among

institutions and countries for socio-economic development. We will recognize both modern and indigenous technologies and innovations and promote its acceptability, deployment and use.

Strategic Objective 5: Intra-Africa and Global Collaboration and Partnerships

Under this strategic objective, we plan to develop new forms of intra-Africa and global partnerships within and amongst stakeholders interested in achieving the continental STI Agenda (AU's Agenda 2063) and the SDGs especially SDG 17. We will facilitate the culture of networking and mutual collaborations amongst STI stakeholders in Africa and internationally so as to foster rapid deployment of technologies and technology transfer systems. We will support the harmonization of policies across regional blocs in Africa so as to foster integration and free trade within the blocs and the entire continent at large. To achieve this objective, we will work closely with like-minded institutions, develop MOUs and PAs that will build trusts and achieve enduring results.

Performance Monitoring and Evaluation

All the strategic objectives of the ATPS Phase VIII Strategic Plan for 2017-2022 including the implementation activities, expected outputs and outcomes, along with the performance indicators will be continuously monitored for effectiveness and efficiency throughout the period. Formal monitoring and evaluation (M&E) systems will be put in place to track all planned projects. Such M&E systems will comprise of regular monitoring, periodic oversights, mid-term evaluation, up to end of project or plan evaluations. All M&E activities will aim at ensuring that planned activities are timely for the desired outputs and outcomes. Early changes are expected to be made to ensure that work schedules and outcomes align with designed and desired impacts and plan.

Resource Requirements

We recognize that this plan will require enormous funding supports to accomplish it. We will therefore heighten our efforts to mobilize resources from our traditional donors and new development partners including endogenous supports from African governments and the private sector. In all, we will ensure value for money for every amount received.

The estimated amount to facilitate the implementation of the ATPS Phase VIII Strategy is about US$30 million over the next five years.

1. OVERVIEW OF THE ATPS

Our Vision

To use Science, Technology and Innovation (STI) as a means for achieving sustainable development in Africa

Our Mission

To improve the quality of science, technology and innovation (STI) systems research, policy and practice by strengthening capacity for STI knowledge generation, dissemination, and use for sustainable development in Africa

Our Overall Objective

To build Africa's capabilities in science, technology and innovation for sustainable development

Our History

In the 1980s, two distinct networks emerged in Africa: the Eastern and Southern Africa Technology Policy Studies (EATPS) and the Western Africa Technology Policy Studies (WATPS). In 1994, ATPS was established as a secretariat within the East and Southern Africa Regional Office of the International Development Research Centre (IDRC). In 2001 ATPS became an autonomous international organization with diplomatic status in Kenya and working on transdisciplinary STI themes for African development. Whilst retaining the STI focus, ATPS has moved towards a *"knowledge for development"* network for Africa. We implement our programs through members in National Chapters established in 30 countries (27 in Africa and 3 Diaspora Chapters in Australia, United States of America and the United Kingdom). The ATPS is unique in many ways: It is not only the premier STI institution in Africa; it is unique in the composition of its membership, institutional structures and implementation activities. Today ATPS is made up of over 1500 members spread across 51 countries in 5 continents. As the premier STI institution in Africa, it has successfully mainstreamed STI in African development policy dialogues and assisted many African countries to formulate STI policies as well as develop strategies for its implementation.

Our Value Proposition

We execute our vision and mission statements by offerings the following key services to our clients and partners, in both the public and private sectors:

STI Policy Research, Policymaking and Advocacy

- Conduct sponsored studies to identify the STI policy environment of national, sub-regional and regional governments;
- Undertake collaborative STI policy research that addresses specific policy gaps in selected countries and sectors (e.g. agriculture, food and nutrition; energy; climate change and environment; and health);
- Facilitate the STI policy development process as well as the removal of policy barriers that prevent the uptake of innovations in African countries;
- Prepare bi-annual report on the status of STI capacity and policies in African countries; and
- Develop programs and train policymakers on the best practices and techniques for conducting effective policy research to gather and analyze data and evidence used as the basis for policymaking.
- Influence STI policy decisions at local, national, and regional levels through advanced policy influence techniques and approaches. The training also addresses how to identify and resolve conflicting policies as well as communicating science and technology to Parliamentarians and writing STI policy briefs.

Training, Sensitization and Capacity Building

Undertake training on broad range of STI subjects identified with stakeholders including:

- STI policy research methodologies, policymaking/policy formulation processes, indicators, instruments, and linkages;
- Policy influencing approaches including how to write policy briefs
- Effective science communication skills;
- Support for science, technology, engineering and mathematics education in institutions of higher learning in Africa and through exchange programmes in other institutions abroad;
- SME business start-up development and Social entrepreneurship;
- Technology transfer and extension service systems;
- Intellectual property rights, access and benefit sharing; and
- Climate change adaptation, mitigation and green growth concepts and best practices; etc.

Youth and Gender Empowerment

Through participation in ATPS's

- Youth and Women Innovation Challenge Program designed to identify STI initiatives by Africa's Youth and Women with potential for having commercial or social impacts, and are in need of support, financial and otherwise;
- Youth and Women Social Entrepreneurship Program designed to mobilize and build social entrepreneurship skills and support small social business start-ups in liaison with social entrepreneurship initiatives;
- Youth and Women Internship and Mentorship Program designed to facilitate and encourage graduates from Africa and the rest of the world to gain valuable international development work experience in STI;
- Youth and Women Post-Doctoral Fellowships and Staff Exchange Programs designed to support youth and women in their early careers to sharpen their skills in STI policy research and development work in Africa;
- Youth Social Innovation Camps designed to enhance peer-to-peer innovation and entrepreneurship skills among young School leavers preparing them to become entrepreneurs and employers of labor rather than Job Seekers; and
- African Youth and Women in STI Congress designed to convene African youth and women to chart a proactive way of harnessing their potentials for sustainable development.

Knowledge Brokerage, Management and Commercialization

- Convene international forums that brings together knowledge developers and knowledge users to interact, share, network, and jointly design sustainable solutions to Africa's key challenges through STI;
- Conduct sponsored studies on countries' readiness for client specified innovations and technologies;
- Facilitate the creation of enabling policy environments for the thriving of entrepreneurship development and promote the adoption of innovative technologies for solving Africa's key challenges;
- Liaise with other development partners to support local STI initiatives through innovation incubation programs, start-ups, and upscaling of innovations;
- Advocate for cooperation to enhance effective technology transfer between African countries and other developed economies.

Intra-Africa and Global Collaboration and Partnerships

- Joint participatory Dialogues with science experts, policymakers, private sector actors and civil society on selected STI issues;
- STI skills mobility programs to encourage staff sharing and short term sabbaticals for leading STI experts in African universities and in partner institutions globally;
- Professorial Chair in selected universities, government ministries and private sector institutions for enhanced public-private sector partnerships to put research findings into use;
- International conferences/workshops/policy round tables for effective peer review, deployment and up-scaling of STI policy research outputs and policy recommendations; and
- Public-Private Sector Partnerships Programs for linking STI policy research with industry actors and policymakers.

Our Customers/Partners:

Some of the partners with whom we have worked include African Union Commission (AUC), the African Development Bank (AfDB), New Partnership for African Development (NEPAD), African Regional Economic Communities (RECs), national governments, Universities and Higher Education Institutions; Private Sector Actors and Practitioners at the grassroots including youths and women, extension agents, farmers and community based organizations, as well as the media. We continue to provide services and value for money for our development partners and donors some of whom are listed below in **Table 1.**

Table 1: Scope of services offered to our customers and partners

Customer Segments	Service offering	Nature of relationship
Governments Regional, sub-Regional, National and Local Governments such as the AUC, AfDB, NEPAD, ECOWAS, SADC, EAC, National governments and Local/County authorities, etc.	**Policy advocacy** – work with existing institutions to facilitate the development of STI policies and the formulation of integrated and coordinated policies for the adoption of technologies and innovations that leads to socio-economic transformations. The focus is on advocating for effective translation of STI knowledge into suitable policies, governance conditions and institutions to enhance responsible innovation development and implementation. **Knowledge brokerage** – bridge the gaps between and amongst the actors in the STI valorization chain: scientists, policymakers, private sectors, civil society, local communities, and the media. The aim is to encourage effective knowledge and technology sharing as well as provide independent assessment of country's policy status and readiness for innovative technology adoption, deployment and upscaling. **Capacity building** – upskilling at individual, institutional, and systemic levels for better understanding and deployment of STI at various levels in order to achieve sustainable development.	Client/ Partner
Private sector Companies and businesses that are looking to establish or expand into Africa such as GALVmed, Dangote Group, etc.	**Market scoping study** - to identify a country's policy environment, that could enable or constrain proposed business operations, **Provide Status reports** - on policies in the respective African countries for a proposed business, **Policy advocates** - to advocate for laws/policies that will facilitate a proposed business in selected country(s), **Country Ranking** - for availability and sourcing of raw materials and the appropriate infrastructure, including manpower, required by a proposed business, **Training and Sensitization (T&S) -** to enhance individual and organizational skills for the effective assimilation and adoption of the technology and innovations associated with an identified business, **Youth and gender empowerment –** liaise with partners to support youth and gender development programs that lead to the creation of jobs, wealth and self-sufficiency.	Client
Multi-lateral and International Agencies such as the UN Agencies, IFPRI, IFAD, CGIAR, OFID, etc.	**Collaboration and Partnerships –** Support and collaborate with multilateral and international agencies in identifying and fostering developmental initiatives in selected STI priority sectors including agriculture, food and nutrition; energy; climate change and environment; and health innovations.	Partner/ Client
Development Partners and Donor Agencies/Organizations such as IDRC, Ford Foundation, Rockefeller Foundation,	**Investments in STI Research, Policy and Practice for Greater Impacts –** implement funded programs from development partners and donors for greater impacts in research, policy and practice in the selected priority areas including agriculture, food and nutrition; energy; climate change	Partner/ Client

B&MGF, Tony Elumelu Foundation, Carnegie Foundation, USAID, DFID, European Union, SIDA, JICA, Danida, Chinese Government, GIZ, etc.	and environment; and health innovations. Such programs will be designed for mutual benefits of the donor and Africa and aimed towards achieving the Sustainable Development on the continent.	

Our Approach:

Our approach in the implementation of our strategy is to work together with our stakeholders and clients in identifying and designing sustainable solutions to Africa's key challenges using science, technology and innovation interventions. In essence, we plan to work with the researchers, policymakers, private sector, civil society, media, and our development partners to co-produce knowledge that addresses Africa's problems using STI (transdisciplinarity). We will ensure that all our programs and interventions are:

- Fully embedded into Africa's social, economic and political realities
- Effectively engage all relevant actors in the innovation system
- Implemented to achieve value for money at least cost administration ratios
- Achieving desired products and impacts on target beneficiaries and society at large
- Influencing and informing public policies based on cutting edge STI interventions
- Increasing the capacity of ATPS stakeholders to perform their roles in STI developments
- Leading to the deployment of technological knowledge to address societal needs
- Brokering the sharing of knowledge and technology transfers within and outside Africa

Our Achievements:

Since our establishment in 1994 as the premier STI policy research network in Africa, the ATPS has continually impacted on Africa's STI development in many fronts.

Facilitating the development of STI policies of regional and national governments in Africa: through series of policy research and advocacy actions, the ATPS has facilitated the development of STI policies and strategies in many African countries including Nigeria, Ghana, Kenya, Benin Republic, Lesotho, Uganda, Tanzania, Malawi, Ethiopia, Cameroon, Liberia, Swaziland, and Zimbabwe among others. The ATPS contributed inputs towards the development and implementation of the Consolidated Plan of Action (CPA) of the African Union. As an accredited institutional member of the African Union Commission (AUC) the ATPS provides inputs to the Specialized Technical Committee on Education, Science and Technology (STC-EST) of the AUC. The ATPS also developed the first ever *African Manifesto for Science, Technology and Innovation*[1] that provided a roadmap for attaining socio-economic development in African through investments in science, technology and innovation.

Policy research, capacity building and outreach: the ATPS has supported the conduct of policy research endeavours in

[1] Available online at: http://www.atpsnet.org/Files/the_african_manifesto_for_st&i.pdf

over 30 countries in Africa in the areas of agriculture, energy, climate change and environment, health, intellectual property rights, etc. These research interventions have generated tremendous knowledge products for decision-making in those countries. The ATPS capacity building program has trained researchers, policymakers, private sector actors, the civil society, extension agents, farmers, the media and many more and enabled them to accomplish desired goals and objectives for sustainable development in Africa. We have commissioned and completed over 120 STI research projects; published over 500 research papers and reports including some global and regional reports; developed three training manuals on different areas of STI including STI policy manual, entrepreneurship training manual and Intellectual Property training manual; trained over 1000 different stakeholders of the ATPS; engaged over 3000 ATPS stakeholders in various events in Africa and beyond; conducted over 50 training workshops; signed over 25 MOUs; developed new project partnerships with other like-minded institutions across Africa and beyond; and launched 2 youth and gender programs - The Youth Innovation Challenge (Y I CAN) and Women Innovation Challenge (WE CAN) programs with 24 innovation challenge grants awarded among many others

Ranked as the Best Think Tank in Africa: for many years now, the ATPS has consecutively been ranked by the Global Go To Think Tank Index Report as the best think tank in Africa (getting the highest number of rankings as well as ranking first in more categories). The 2015 Report released in 2016 ranks the ATPS among its peers in Africa as the:

- Best Think Tank Network (14th globally);
- Best managed Think Tank (18th globally);
- Best Think Tank with the most Significant Impact on Public Policy in Africa (28th globally);
- Think Tanks with the best use of the Internet (26th globally);
- Best Transdisplinary Research Think Tank (11th globally);
- Best institutional Collaboration involving Two or more Think Tanks (7th globally);
- Best Policy Study/Report Produced by a Think Tank. ATPS Policy Paper titled "*Mainstreaming Gender in the National Science, Technology and Innovation (STI) Policy of Kenya*" (2nd globally);
- Second Best Science and Technology Think Tank;
- Top Think Tank with the Most Innovative Policy Ideas/Proposals (30th globally);
- Top Think Tank with Annual Operating Budgets of Less Than $5 Million USD (8th globally);
- Best Advocacy Campaign Think Tank (18th globally); and
- Top International Development Think Tank (4th in Africa and 44th globally) among many other rankings.

Positive Evaluation Assessment: The latest external evaluation assessment of core funding support to the ATPS by the Ministry of Foreign Affairs, the Netherlands and published in 2012 scored the ATPS an "**AAA Grade**" on the average. The score was based on ATPS's effectiveness and efficiency in all its programs. Responses were received from ATPS stakeholders in Africa and globally. Our annual audits have shown positive financial responsibility and continuous ability of the ATPS to meet its financial obligations.

2. ATPS PHASE VIII STRATEGIC PLAN FOR 2017-2022

The ATPS Phase VIII Strategic Plan, 2017-2022 will continue to build upon the numerous gains and achievements recorded during the previous years. We will continue to sustain our integrity and expertise in science, technology and innovation (STI) policy research, policymaking and implementation as well as capacity building, knowledge brokerage, youth and gender empowerment, and intra-Africa and global collaborations. These roles have earned us our position as the premier STI policy research network in Africa.

During this strategic phase, ATPS's interventions will be implemented through a two-pronged approach:

I: Four Thematic/Sectoral Priority Areas including:

1. Agriculture, Food and Nutrition
2. Energy
3. Climate Change and Environment
4. Health

II: Five Programmatic Strategic Objectives. These include:

1. STI policy research, policymaking and advocacy
2. Training, sensitization and capacity building
3. Youth and gender empowerment
4. knowledge brokerage, management and commercialization
5. Intra-Africa and global collaboration and partnerships

Notwithstanding these priority thematic areas and strategic objectives of focus, ATPS will entertain and, where feasible and necessary, accommodate client-sponsored endeavors outside of the above listed areas and objectives. Such endeavor must however be within the STI mandate of the ATPS as stipulated in our vision and mission statements. A brief description of the thematic and programmatic objectives as well as their specific objectives, strategies of accomplishment and outcomes is presented below:

I. THEMATIC/SECTORAL PRIORITY AREAS

Priority Sector 1: Agriculture, Food and Nutrition

There is no argument that Africa, in particular, is dealing with a worsening food security crisis. The new Sustainable Development Goal number two aims to "end hunger, achieve food security and improved nutrition, and promote sustainable agriculture". To achieve this, it is critical to strengthen the link between agricultural productivity and improved nutrition in order to ensure that all people have access to sufficient and safe food all year round. African governments cannot continue to supplement with huge imports or depend on foreign food aid. With about 600 million hectares of uncultivated arable land (roughly 60 percent of the global total) Africa's path out of food crisis must first be through increased agricultural output and then intensification of production and value chain. Some of the challenges facing Africa's agricultural productivity include high cost of investment in equipment, input materials and infrastructure, all of which lead to higher cost of production and less competitive price, especially for products that can be imported. Other challenges leading to food insecurity include post-harvest losses and lack of value addition. All these challenges require STI

intervention in order to achieve SDG 2 as well as SDGs 1, 9 and 12.

The AU's priority number one as provided in its STISA 2024 is to eradicate hunger and achieve food security. In January 2013, the Heads of State and Government of African Union, together with representatives of international organizations, civil society organizations, private sector, cooperatives, farmers, youths, academia and other partners, unanimously adopted a Declaration to end hunger in Africa by 2025. ATPS will therefore play an important role in contributing to the achievement of this goal. The participatory strategies employed by ATPS activities also align well with AU's strategies in ensuring that everybody plays their role. This is also in line with SDG 17 which recognizes the importance of working together. The AU also notes that processing, conservation and distribution of agricultural products goes far beyond the framework of rural and agricultural development sectors and requires a concerted intervention of STI which is identified in the ATPS strategy.

ATPS' plan is to identify or facilitate the development of appropriate innovations for improving productivity and resilience, reducing waste and environmental pollution, and improving value addition along the agricultural value chain from farm to table. Thus, the focus of attention will include innovations in the fields of farming systems and technologies, biotechnology (i.e. seed and livestock technology/genetics), and yield enhancement and loss control (i.e. fertilizers and pest control), as well as social innovations such as farm information management systems and the use of Information and Communication Technologies (ICTs) (i.e. smart mobile telephones and satellite data, Geographical Information Systems (GIS), etc.). This aligns well with the 2030 SDG 2 targets of ending hunger and malnutrition, increasing access to food amongst the poor and indigenous people, doubling agricultural productivity and income as well as ensuring sustainable food production systems and implement resilient agricultural practices.

Already, ATPS is currently promoting the wide scale adoption of the *LandInfo* mobile app technology in Africa. The technology is a community driven app that enables users to instantaneously access climatic and soil information and interpret them in the context of local conditions and values, including crop preferences. Users are able to target investments on land for specific purposes such as specific crop choices for specific soils. With knowledge on annual average rainfall and temperature, aridity index, soil types, among others, farmers are able to plan their farming enterprises adequately to avoid losses due to climate variability and hence improve agricultural productivity and climate change resilience. See detailed description of the *LandInfo* in **ANNEX 1**. ATPS is also promoting another flagship project on "Linking Agriculture and Nutrition Value Chain for Improved Health Outcomes (LANHO)" and seeks supports for its implementation **(ANNEX 2)**. **Table 2** shows the specific objectives, strategies for implementation and the expected outcomes from the implementation of the agriculture, food and nutrition thematic priority.

Table 2: Specific objectives and outcomes under the agriculture, food and nutrition thematic priority

Specific Objectives	Strategies	Expected Outcomes
1. Undertake and support transdisciplinary research to generate new technologies and innovations for agriculture, food and nutrition	• Commission transdisciplinary research studies in the selected fields	• More available and accessible technologies and innovations for enhancing productivity and nutrition
2. Identify and deploy new disruptive technologies and innovations for increasing agricultural productivity and value addition	• Research and scoping studies • Sensitization and Capacity building • Policy advocacy	• Improved food production, processing and utilization • Favourable policy environment for investment

Priority Sector 2: Energy

In 2010 the McKinsey Global Institute (MGI) described the potential and progress of African economies as "lions on the move". Today, despite the collapse of global commodity prices and political shocks that have slowed growth in North Africa, Africa's economic lions are still moving forward. Overall, the continent achieved average real annual GDP growth of 5.4% between 2000 and 2010, adding $78 billion annually to GDP (in 2015 prices) (MGI, 2016). Despite these projections of growth, energy supply has been below average across the continent. Africa faces high level of energy poverty with about 587 million of the population not having access to electricity while 657 million people rely on traditional biomass for cooking (IEA/UNDP/UNIDO, 2010). Lack of access to modern energy services (e.g. electricity and clean cooking facilities) and massive dependence on fossil fuels hamper sustainable socioeconomic development. Access to modern and reliable energy services is a critical human development priority and ensuring access to clean and sustainable energy is one of the major energy challenges in developing countries including African countries. In 2009, only about 31% of the Sub-Saharan African (SSA) population and 42% of the entire African population had access to electricity. Based on projections, about 57% of the Sub-Saharan African and African populations will have access to electricity by 2030 (IEA/UNDP/UNIDO, 2010).

These figures indicate that about two-third of Africans do not have access to electricity, and the poor living in rural/peri-urban areas form the greatest percentage of these people because they do not have access to the national grid and have been termed "off-grid" communities. School children often cannot read after dusk, businesses cannot grow, clinics cannot refrigerate medicine or vaccines, and industries are idled hampering economic growth, jobs, and livelihoods. According to the AU, every year millions of Africans die of communicable and non-communicable diseases that are preventable and treatable as a result of weak and fragmented health systems and limited access to health services and technologies (particularly in rural areas) largely because of inadequate energy and energy infrastructure. This energy poverty and insecurity can be reduced or solved by promoting and providing low carbon energy to these areas thereby promoting "off-grid" electrification. Renewable energy such as solar photovoltaic system (PVs) can be used to accelerate "off-grid" rural electrification (targeting the poor) as well as to facilitate rural development, reduce GHGs emission

and improve energy access in the entire region.

In this plan, we will deliberately promote the generation, dissemination and use of renewable energy resources in form of solar, biomass, geothermal, wind, and hydro in order to increase energy access, reduce energy poverty, reduce greenhouse gases (GHGs) emission, thereby attaining the Sustainable Development Goals (especially Goals 4, 7, 9, 12, 13) for the region. ATPS has developed a flagship project on "Promoting Pro-Poor Low Carbon Energy Access and Development in Sub-Saharan Africa (PLoCEAD)" and seeks supports for its implementation **(ANNEX 3)**. Solving this energy crisis especially in rural areas would significantly help achieve STISA priorities 2, 3, and 6 aimed at preventing and controlling diseases, communication and wealth creation respectively. **Table 3** shows the specific objectives, strategy for implementation and the expected outcomes from the implementation of the energy thematic priority.

Table 3: Specific objectives and outcomes under the energy thematic priority

Specific Objectives	Strategies	Expected Outcomes
1. Undertake and support transdisciplinary research to generate new technologies and innovations on renewable energy	• Commission transdisciplinary research studies in the selected field	• More available and accessible technologies and innovations for enhancing energy options and access
2. Identify and deploy new disruptive technologies and innovations for increasing low carbon energy access in Africa	• Research and scoping studies • Sensitization and Capacity building • Policy advocacy	• Increased awareness and access to energy options • Enabling policy environment for investment in renewable energy

Priority Sector 3: Climate Change and Environment

Climate change now presents the most serious environmental threat to mankind especially on African continent that depends mainly on agriculture for their livelihood, income and employment. Agriculture receives the major share of the catastrophic consequences of climate change in the continent because of lack of resilience to manage climate change risks among relevant stakeholders. Uncertainties in weather patterns, rainfall, drought and flooding events have meant that rural farmers who implement their regular annual farm business plans risks total crop failure due to climate change impacts. Consequently, the low crop yield will lead to unavoidable shocks to the already fragile economies in African countries. Food prices are expected to rise, worsening the food insecurity and poor nutritional health conditions in the continent. The implication of this scenario for the attainment of the Sustainable Development Goals (SDGs) is obvious, especially in African countries where systems resilience is low. By resilience here, we mean the capacity over time of a system, organization, community, or individual to create, alter, and implement multiple adaptive actions. SDG 13 requires that every country takes action to combat climate change and its impacts. It is still possible, with political will and technological measures, to limit the increase in global mean temperature to two degrees Celsius above pre-industrial levels— and thus avoid the worst effects of climate change.

The AU through STISA 2024 strategically targets this sector under priority 4,

"protection of our space" and 5, "living together-build the society". It provides a platform for Member States to cooperate and share the enabling infrastructure and data and jointly manage programmes of mutual interest such as disease outbreaks (tackled under health in this document); natural resources and the environment; hazards and disasters; weather forecasting; climate change mitigation and adaptation; marine and coastal areas, agriculture and food security; peacekeeping missions and conflicts.

ATPS endeavours to develop interventions that will jointly boost the resilience capacities of vulnerable people at local, regional and international levels to the impacts of climate change. We will also engage in research programs on integrated management of natural resources (land, water, biodiversity, minerals, and ecosystem services) and fostering transitions to inclusive green growth in Africa.

During this strategic phase for 2017-2022, we will continue to promote our Climate Sense Program (CSP) launched in 2008 in partnership with the United Nations Environment Program (UNEP). CSP aims to:

- Make Sense of Climate Science through effective science communication: We will find new ways to communicate the science of climate change better to African communities, using their own starting point as a basis for multi-lateral global dialogues. This will involve series of science communications workshops and activities with key partners using participatory dialogue models.
- Make Sense of Climate Economics through policy analyses and translation of complex climate economics in ways that promote dialogue at all levels of African society: We will conduct a baseline studies on the African Perspectives on climate change economics, costs and benefits of adaptation, opportunities for decoupling growth from environmental degradation through clean technologies, green growth concepts and carbon markets etc.
- Make Sense of Climate Innovation through investment portfolio analyses and supporting the development of technologies and innovations for climate change adaptation, mitigation and resilience: We will support strategic research and innovations to harness the abundant natural resource potentials in Africa such as wind, hydropower, solar power and geothermal energy at both local and global markets that will reduce emissions and build adaptation and mitigation capacities on the continent. We will work with key partners to support Climate Innovation Incubation Centres, identify and support indigenous capacities through Climate Innovation Challenge Awards, Policy Advocacy for North-South and South- South technology sharing, etc. Attention will be paid to types of innovations and technologies that are culturally competent, economically adaptable and scientifically robust for use in Africa.
- Make Sense of Climate Change Politics and Policymaking through scenario analyses, training and policies that support the development of sustainable technologies and innovations for adaptation such as the renewable energy carriers and efficient stoves: We will train policy makers on climate change politics and policymaking and also equip them with necessary skills for negotiations at the global climate platforms.

ATPS is currently promoting a flagship project on "Bridging climate information gap to strengthen capacities for climate informed decision making in Africa" and seeks further supports and collaborations **(ANNEX IV).** AU notes that, there is a need to address the huge gap in terms of the requisite infrastructure and critical human resources

at all levels to fully realize the potential benefits that would accrue from the sustainable use and conservation of Natural resources. Already the African Development Bank (AfDB) has committed to supporting this project under their Climate Development Special Funds (CDSF) initiative which is in partnership with the African Climate Policy Center (ACPC) and the African Union Commission (AUC). **Table 4** shows the specific objectives, strategy for implementation and the expected outcomes from the implementation of the climate change and environment thematic priority.

Table 4: Specific objectives and outcomes under the climate change and environment thematic priority

Specific Objectives	Strategies	Expected Outcomes
1. Undertake and support transdisciplinary research to generate new technologies and innovations for climate change adaptation, mitigation and resilience	• Commission transdisciplinary research studies in the selected field	• More available and accessible technologies and innovations for building climate change resilience in Africa
2. Identify and deploy new disruptive technologies and innovations for building climate change adaptation and resilience capacity	• Research and scoping studies • Sensitization and capacity building • Policy advocacy	• Increased awareness and capacity to adapt to the impacts of climate change • Appropriate climate change policies at national and regional levels
3. Promote the ATPS Climate Sense Program (CSP)	• Undertake research, policy and practice interventions	• More climate informed individuals and institutions capable of adapting to climate change impacts • Desired policies that boosts adaptation and resilience

Priority Sector 4: Health

The recent outbreaks of diseases such as Ebola puts into focus the prevalence of infectious diseases in Africa. About 69% of deaths in sub-Saharan Africa are attributable to infectious diseases such as malaria, HIV/AIDS, and tuberculosis. There is a persistent weak healthcare system in most of the countries in Africa which has led to the failures in meeting the health care needs of the people on the continent.

To ensure healthy lives and promote well-being for all at all ages (SDG 3) there is need to focus on building better healthcare infrastructure and human capacity in line with SDG 8 and 9. It is known that Africa bears one-quarter of the global disease burden and yet has only 2% of the world's doctors. This is unacceptable, hence the need to take urgent steps to address the inadequate healthcare infrastructure and human capacity. The 2013 Abuja Special Summit on HIV/AIDS, Tuberculosis, and Malaria highlighted the need to utilize and build on our research capacities to produce new and effective medicines, diagnostic tools, vector control tools and vaccines, and to promote research, invention and innovation in traditional medicine and strengthening local health ecosystems, taking into account the socio-cultural and environmental situation of the people.

In addition, STISA reckons that establishing greater coordination both among health stakeholders and other related sectors contributing to the development of science and technology and building governance

structures to promote ethics and research integrity, increases public trust in research. This will require a collaborative effort (SDG 17) among various actors to promote and implement key policies and programmes on primary health care, as well as disease prevention and control.

During this strategic phase for 2017-2022, the ATPS shall focus mainly on leveraging digital technologies to support the health systems; improving knowledge, skills and resources; and creating collaboration and consensus among key stakeholders. We shall engage in research programs on innovations and policies for sustainable healthcare delivery and health risk prevention. Mobile phones have been particularly beneficial where infrastructure is limited in delivering better healthcare to the society. In Uganda for instance, it is reported that around 27,000 government health workers use a mobile health system called mTRAC to report on medicine stocks across the country. Other similar initiatives exist to ensure easy delivery of medicines in remote areas using technologies and drones. Our focus will also be deployed on training healthcare professionals to ensure that they possess the requisite knowledge and skills for healthcare delivery. We will also promote effective partnerships between public and private sectors (SDG 17) in joint delivery of efficient healthcare systems. Above all, we shall engage with the policymakers to influence decisions that will lead to increased investment in the healthcare systems in Africa.

The threat posed by animal diseases to animal production and the indirect effects on human health is also of our strategic interest during this phase. According to the World Organisation for Animal Health (OIE), more than 90% of the diseases recorded occur in Africa, the treatment and control of which invariably involves, in part, the administration of veterinary medicines. The use of these veterinary medicines for the control and management of animal diseases in Africa is, however, constrained by issues relating to veterinary drug misuse, the presence of substandard and counterfeit veterinary drugs in the market, and inadequate policies and its implementation among others.

ATPS is currently promoting a flagship project on “Harmonization of Registration Requirements for Veterinary Products for Mutual Recognition among East African Community Partner States” which is being supported by the Global Alliance for Livestock Veterinary Medicines (GALVmed). We seek supports to undertake such policy studies in other regions in Africa. Table 5 shows the specific objectives, strategy for implementation and the expected outcomes from the implementation of the health innovations thematic priority.

Table 5: Specific objectives and outcomes under health thematic priority

Specific Objectives	Strategies	Expected Outcomes
1. Undertake and support transdisciplinary research to generate new technologies and innovations for efficient healthcare delivery system	• Commission transdisciplinary research studies in the selected field	• More available and accessible technologies and innovations for improved healthcare delivery system in Africa
2. Identify and deploy new disruptive technologies and innovations for	• Research and scoping studies • Sensitization and capacity building	• Increased awareness and capacity to access and use innovations and technologies for improved healthcare system in Africa

improving healthcare system in Africa	• Policy advocacy	• Adequate infrastructure for achieving healthcare improvement in Africa • Appropriate healthcare policies at national and regional levels for efficient healthcare system in Africa

II. PROGRAMMATIC STRATEGIC OBJECTIVES

Programmatic Objective 1: STI Policy Research, Policymaking and Advocacy

"Building capabilities, structures, and conditions for the co-production of scientific knowledge, technologies, innovations, and policies across the identified priority sectors for sustainable development in Africa"

The ATPS STI policy research, policymaking and advocacy will focus on generating knowledge to inform and influence policy decisions in the selected and allied sectors. If scientific research is to have any meaningful impact in terms of guaranteeing development gains in Africa, the results must inform and shape policies and programmes as well as contribute towards solving practical societal problems. However, the process of realizing this goal is complex involving multiple actors that often have different world views. Their values and ways of processing and using evidence are very different. For instance, the language of the researcher and that of the policymaker or practitioner are so different that unless decoded might not make much sense to one another. As a result, research-based evidence is often only a minor factor when policies for development are formulated and practices are shaped. On the other hand, the research sector believes that it is only when the products and processes of research efforts are applied that sustainable development can be achieved. Likewise, tacit knowledge from the practitioners rarely reaches the researchers or those that make decisions. This lack of agreement and poor communication between the development actors has created wide gaps between them hence limiting the realization of development gains. The AU through its STISA 2024 has therefore made communication (Physical & Intellectual Mobility) priority number 3. According to the AU implementation of major infrastructure projects must incorporate sustainable knowledge management systems design as well as requisite human skills and competencies. While most of this knowledge has traditionally come from outside the continent, African institutions must take responsibility for integrating robust and sustainable knowledge production systems in major physical and digital infrastructure programmes.

ATPS has over two decades of experience working with relevant stakeholders in the co-production of knowledge that informs policies and decision-making as well as contributing in solving societal problems at various levels. During this strategic phase, we will continue to facilitate the development of relevant policies and decision-making across the selected and allied sectors using research evidence and work with the relevant stakeholders to design frameworks/strategies for implementation, monitoring, evaluation and reporting. Table 6 shows the specific objectives, strategy and expected outcomes from the implementation of the STI Policy research, policymaking and advocacy programmatic objective.

Table 6: Specific objectives and outcomes under the STI Policy research, policymaking and advocacy programmatic objective

Specific Objectives	Strategies	Expected Outcomes
1. Undertake STI policy research and capacity building in selected sectors to generate evidence-based knowledge for policy and decision-making	• Commission STI policy research studies in selected and allied sectors • Collaborate with other institutions to generate more research evidence • Strengthen capacities of stakeholders to undertake policy research, policymaking and policy implementation activities	• More available research evidence to inform policies and decision-making at various levels • Improved capacity of relevant stakeholders to conduct, formulate and implement policies for sustainable development in the selected sectors
2. Influence policies and policymaking at various levels	• Undertake policy advocacy campaigns	• More policies formulated to support sustainable development in selected sectors

Programmatic Objective 2: Training, Sensitization and Capacity Building

"Strengthening individual and institutional STI skills and knowledge for achieving sustainable development"

The training, sensitization and capacity building programme is designed to improve and share the knowledge and skills of relevant stakeholders at individual and organizational levels in different aspects of STI policy research, policymaking and implementation. Compared to the rest of the world, Africa's capabilities to generate, deploy and use STI for development opportunities remain very low. The consequence of this is the persistent low production of scientific outputs such as publications, patents, and other scientometrics. One of AU's strategic objective under STISA 2024 is to protect knowledge production (including inventions, and indigenous knowledge) by strengthening Intellectual Property Rights (IPR) and regulatory regimes at all levels. It is also AU's strategic objective to improve technical competencies and institutional capacity for STI development. There is need therefore to upskill these stakeholders including researchers, policymakers, private sector, civil society, and the media to enable them utilize the new STI knowledge for enhancing their socioeconomic conditions and livelihoods.

During this phase, the ATPS will undertake broad range of training, sensitization and capacity building interventions based on demand and needs of our stakeholders. This will include but not limited to STI policymaking/policy formulation processes, STI policy research methodologies, STI indicators and policy instruments, effective research-policy-practice linkages, effective science communication skills, writing STI policy briefs, STI journalism and writing for the fourth estate, entrepreneurship development, intellectual property rights issue, social entrepreneurship, technology transfer system, business development, climate change, and green growth concepts and best practices among many others. Our target trainees range from school children to

parliamentarians and senior policymakers in Africa. **Table 7** shows the specific objectives, strategy and expected outcomes from the implementation of the training, sensitization and capacity building programmatic objective under the current ATPS strategy.

Table 7: Specific objectives and outcomes under the training, sensitization and capacity building programmatic objective

Specific Objectives	Strategies	Expected Outcomes
1. Develop series of STI training manuals	• Identify hotspots for training interventions through scoping studies • Collaborate with partners to develop training manuals as may be necessary	• Readily available and accessible training manuals to aid sustained STI capacity building in Africa • Increased collaborations with other STI actors within and outside Africa
2. Undertake training, sensitization and capacity building for relevant stakeholders on STI related issues	• Undertake capacity needs assessments prior to mounting STI training programs • Collaborate with like-minded institutions to implement STI training programs • Monitor and evaluate all training programs	• More suitable training interventions that meet the needs of stakeholders accomplished • More stakeholders become aware and improve their capacity to deploy STI knowledge and skills for socioeconomic development • Increased ability to meet stakeholders' STI needs through training and capacity building

Programmatic Objective 3: Youth and Gender Empowerment

"Nurturing and harnessing the innovative potentials of African youth and women"

The youth and gender empowerment programme aims to provide platforms for investing in African youth and women to be able to effectively harness their enormous potentials, create wealth and maintain socioeconomic and political stability on the continent. The Africa youth bulge and the concomitant high rate of unemployment coupled with the irking gender disparities have continued to pose serious challenges that needs to be urgently addressed in Africa as outlined by SDG 5. Over 35% of African population is between the ages of 15 and 35 years thereby making Africa the most youthful continent. About 10 million young African youth arrive each year on the labour market where unemployment has risen up to 50% in many countries with dire consequences for social insecurity, crime rates, and political unrests. It therefore becomes imperative to empower the African youth and women, if we are to bring lasting peace and socioeconomic developments on the continent.

Under this programme, the ATPS will support investments in African youth and women to enable them reach their full potentials and not only contribute

meaningfully to socioeconomic development on the continent but also reduce social and political ills usually being propagated by them. In pursuance of this objective, the ATPS initiated two platforms in 2005 and 2007 respectively to target the youth and women in Africa by empowering them with skills, knowledge, capital and linkages required to enable them be adequately self-reliant and contribute to the society. It is AU's priority number 6 under STISA 2024 to create wealth to accelerate Africa's transition to an Innovation-led, Knowledge-based Economy, our Human Resources must be empowered with the necessary skills. It is necessary to promote creativity and innovative technologies to locally process the continent's abundant natural resources, and to create more wealth and jobs for the youth and women on the continent. The programmes called the African Youth Forum for Science and Technology (AYFST) and the African Women Forum for Science and Technology (AWFST) seek to provide a vehicle through which young people and women can express their ideas, contribute their expertise, and collectively participate in policy and decision-making processes as well as harness the opportunities presented by agriculture, science and technology to address their own challenges. We will continue to solicit for supports from development partners to sustain and improve on these programmes as they have already generated tremendous outcomes and impacts since their inceptions. **Table 8** shows the specific objectives, strategy and expected outcomes from the implementation of the youth and gender empowerment programmatic objective.

Table 8: Specific objectives and outcomes under the youth and gender empowerment programmatic objective

Specific Objectives	Strategies	Expected Outcomes
1. Promote the African Youth Forum for Science and Technology (AYFST) and the African Women Forum for Science and Technology (AWFST) programmes	• Mobilize youth and women and empower them to harness opportunities in agriculture, energy, environment and health for development • Support regional knowledge sharing and cooperation among youth and women • Provide targeted training and capacity building programmes in specialized STI areas • Offer fellowships, internships and mentoring services • Reward and celebrate African youth and women inventors and innovators	• Increased youth and women participation in STI with improved capacity to undertake research, policy and practice for sustainable development • Increased opportunity for knowledge sharing, networking and collaboration among African youth and women • Increased ability of African youth and women to innovate and solve societal challenges
2. Support African youth and women in science, technology, engineering and mathematics (STEM) education, research and investment	• Offer a number of scholarships annually to African youth and women in STEM education and research • Offer supports to youth and women with innovative ideas to start up business ventures • Provide supports for innovation incubation programmes and links to venture capital	• Production of quality STEM graduates to support industrial growth • More jobs created to absorb young graduates • Increased capacity to manage businesses

Programmatic Objective 4: Knowledge Brokerage, Management and Commercialization

"Brokering the commercialization and sharing of scientific knowledge, technologies and innovations for sustainable development"

This programme aims to ensure that there is effective and efficient process of identification, sharing, deployment and diffusion of appropriate scientific knowledge, technologies and innovations to improve the well-being of the African people. This is in line with SDGs 8, 9, 10 and 11 targets of sustained, inclusive and sustainable economic growth, promote inclusive and sustainable industrialization and foster innovation, reducing inequality within and among countries and making cities and human settlements inclusive, safe, resilient and sustainable. It is designed to bridge the gap between the STI valorization chain – the scientists, policymakers, private sector actors, civil society actors, and the local communities. The proactive engagement of all stakeholders in the research, policy and practice arenas ensures effective targeting of efforts, ownership of results and enhanced valorization. By valorization here, we mean the translation of scientific outputs into tangible social designs, institutional designs, technologies, and products to aid poverty alleviation and sustainable development. Scientific knowledge will mean little for sustainable development unless they are translated into appropriate technologies and inclusive innovations that could be commercialized and scaled up.

The ATPS will continue to play its longstanding role as the independent STI knowledge broker, manager and advocate in Africa. We will bring together knowledge producers and knowledge users and create conducive environment for dialogue that will foster effective policies and incentives for cooperation between and amongst individuals, institutions and countries from across the public, private, and civil society actors. Table 9 shows the specific objectives, strategy and expected outcomes from the implementation of the knowledge brokerage, management and commercialization programmatic objective.

Table 9: Specific objectives and outcomes under the knowledge brokerage, management and commercialization programmatic objective

Specific Objectives	Strategies	Expected Outcomes
1. Create platforms to increase and strengthen collaboration and networking between and among STI actors for development	• Organize annual stakeholders' meetings, roundtables, fora and dialogue on topical STI issues of national and regional interests • Develop innovation incubation and start-up programmes in the selected sectors including agriculture, energy, environment and health	• Increasingly networked science system actors that could translate STI knowledge into products and services • Opportunities for the creation of more jobs and wealth on the continent
2. Produce knowledge products to enhance knowledge sharing among actors	• Publication and dissemination knowledge products such as journal articles, policy briefs, research papers, working papers, issue papers and newspapers customized to the different stakeholder categories • Training on how to produce quality STI knowledge products	• Well-informed African society that is capable of utilizing new knowledge products to better their living conditions
3. Offer technology cooperation services	• Undertake scoping studies on specific client needs to inform investment decisions	• A mutually beneficial technical cooperation

between international investors and Africa countries and institutions	• Facilitate bilateral agreements for technology transfer and cooperation between African countries and international investors • Conduct trainings for personnel working in the interface of technology management	between African countries and international investors

Programmatic Objective 5: Intra-Africa and Global Collaboration and Partnerships

"Developing new forms of intra-Africa and global partnerships within and amongst stakeholders for achieving Sustainable Development Goals (SDGs) in Africa"

This programme aims to facilitate the culture of networking, symbiotic collaboration and partnership within and amongst STI stakeholders in Africa and internationally in order to foster innovation, technology development and deployment, and innovation diffusion in Africa. The program also aims to broker partnerships within and between government ministries and policymakers, academic disciplines and institutions, civil society organizations (CSOs), community based organizations (CBOs), private sector actors, and science experts within and between African countries, cultures, languages, regions, and internationally. The ultimate goal of this program is to encourage a more coordinated effort rather than the current *ad hoc* and sometimes conflicting interventions towards STI research, policy and practice in Africa. The Sustainable Development Goal (SDG) Goal 17 identifies the need to revitalize the global partnerships for sustainable development. These partnerships should be inclusive and built upon principles and values, a shared vision, and shared goals that place people and the planet at the center.

Under this programme, the ATPS will continue to foster partnerships with leading local, national and international agencies and institutions. We will seek to harness the transformative power private resources in delivering on sustainable development objectives. We will ensure that each partnership brings in comparative advantages required to achieve targeted objectives. Such partnerships will be guided by consortium agreements, memorandums of understanding, and or contracts depending on the nature of the partnerships established. Already, ATPS has established national chapters in 27 African countries and three chapters in the diaspora including USA, UK and Australia. Our aim is to influence STI capacity building in research, policy, and practice in these countries at least cost and as well create a platform for Africans and friends of Africa in the diaspora to contribute to STI development on the continent. We also aim to cover the entire continent and other strategic regions in the world by 2030. Other key strategic partnership exists between the ATPS and other regional, continental and global organizations such as the Regional Economic Communities (RECs), African Union Commission (AUC), NEPAD, AfDB, AFREXIMBANK, and the UN bodies among others. **Table 10** shows the specific objectives, strategy and expected outcomes from the implementation of the Intra-Africa and Global Collaboration and Partnerships programmatic objective.

Table 10: Specific objectives and outcomes under the Intra-Africa and Global Collaboration and Partnerships programmatic objective

Specific Objectives	Strategies	Expected Outcomes
1. Revitalize the ATPS national chapters in 27 African countries and 3 diaspora chapters to effectively promote STI research, policy and practice in their respective countries	• Secure core funding supports from development partners to support the ATPS National Chapters • Continually engage the ATPS National Chapters in the programmes of the ATPS and in forums at national, regional and continental levels	• Increased visibility and impacts of the ATPS at the national, regional and continental levels • Better engagement of the national chapters that will lead to more meaningful impacts at various levels
2. Mobilize financial resources to promote STI development in Africa	• Partner and collaborate with like-minded institutions and organizations in Africa and beyond to raise funds to implement programmes on STI development with particular interest in agriculture, food and nutrition security; energy; environment and climate change; and health innovations • Sign partnership agreements, and MOUs to promote partnerships and collaborations with other institutions	• Improved well-being of the African people through development interventions and supports • Increased partnerships and collaboration between and among like-minded institutions.
3. Support the implementation of the AU's Agenda 2063 and particularly the STISA 2024	• Create awareness on the STISA 2024 among relevant institutions and agencies in Africa and beyond • Partner with the AUC, its bodies and other pan-African STI organizations to develop and implement programs/projects focusing on the priority areas of STISA 2024 which aims to accelerate Africa's transition to an innovation-led, knowledge-based economy	• Achieve the Africa we all want - An integrated, prosperous and peaceful Africa driven and managed by its own citizens and representing a dynamic force in the international arena.

3. MONITORING AND EVALUATION (M&E)

ATPS will incorporate relevant M&E tools including the Results Based Framework (RBF), Theory of Change (ToC), LogFrame, Participatory Monitoring and Evaluation System (PM&E), and Continuous Monitoring and Evaluation System (CM&E) to track and monitor each project or program that it undertakes in order to ensure full compliance with grant agreements and ATPS's standing policies and procedures in attaining targeted objectives The application of each tool or a mixture of the tools depends on its effectiveness and efficiency for the project or program.

In addition to the overall regional coordination, monitoring and evaluation of all ATPS programs by the Secretariat, the National Chapter Coordinators will provide on-the-ground coordination, monitoring and evaluation of national activities. All thematic research programs will continually be coordinated by a team of dedicated international experts in the respective areas of focus. These Resource Persons provide external supervision and monitoring of the implementation and science quality of ATPS programs, delivery of required quality of STI outputs and policy outcomes. In addition, the ATPS International Responsible STI Advisory Committee will provide continuous peer review of the quality of outputs produced.

The ATPS Board, which provides strategic guidance on all ATPS activities, meets twice each year to monitor progress towards stated program objectives, and approves planned activities and budgets. The general membership of the network also meets biennially to review activities of the Network and prioritize programs based on perceived needs of African countries and STI policy stakeholders. For review of financial statements and expenditures, the ATPS engages internationally accredited audit firms to conduct its annual audit in accordance to International Standards of Auditing.

4. RESOURCE REQUIREMENTS

The ATPS Secretariat office is comprised of highly qualified international and local staff with expertise in STI related areas for effectively achieving the vision, mission and objectives of the ATPS. The Secretariat constantly reviews its staffing needs to keep up with growing demands and expectations in order to meet the forecasted objectives during any Strategic Phase period. In addition to the growing strength and expertise of the staff complement at the regional secretariat, the ATPS relies on over 1,500 STI experts in its active membership for program implementation spread across 51 countries in 5 continents. This devolved program implementation strategy reduced cost of program administration significantly. The ATPS Mid-Term Evaluation report[2] lauded the ability of the Network to consistently maintain its administrative costs at below 10% of total program costs for all its programs and still delivering effectively on its mandate.

For sustained impact, the ATPS needs to increase its funding portfolio to meet the growing demands and expectations by stakeholders. The ATPS invites development partners, donors, national/regional governments, and friends of Africa to support the ATPS Phase VIII Strategy through the provision of core funding, thematic or programmatic funding, and or collaborations and partnerships on our thematic and programmatic priorities. The estimated amount to facilitate the implementation of the ATPS Phase VIII Strategy is about US$30 million over the next five years. This includes the cost of implementing risk management activities and operations evaluations (such as monitoring and evaluation, feedback mechanisms, and contingency planning).

Financing Requirements

This section gives an overview of the financing requirements for the ATPS Phase VIII Strategic Plan 2017-2022. The funding required for this Plan is determined by the envisaged activities within the plan period. Costs for envisaged activities are derived from actual estimates based on 2017 values adjusted for projected inflation in Kenya. Each program activity with financial implications form budget units as specified in **Table 11**. **Table 12** also shows the summary of the proposed budget across the main thematic/sectoral priorities of the Plan.

[2] *Source: ATPS Mid-term Evaluation Report, available online at: http://www.atpsnet.org/media_centre/focus/evaluation-report/index.php*

ATPS Phase VIII Strategic Plan 2017-2022 *(Across Programmes – Scenario 1)*

PROGRAMMES ▼ / SECTORS ▶	Agriculture, Food and Nutrition	Energy	Climate Change and Environment	Health
1. STI Policy Research, Policymaking and Advocacy *Budget: USD 5,914,084.00*	1.1 Undertake STI policy research and capacity building in selected sectors 1.2 Influence policies and policymaking at various levels			
2. Training, Sensitization and Capacity Building *Budget: USD 2,789,142.00*	2.1 Develop series of STI training manuals 2.2 Undertake training, sensitization and capacity building for stakeholders			
3. Youth and Gender Empowerment *Budget: USD 5,804,186.00*	3.1 Promote AYFST and AWFST programmes 3.2 Support African Youth and Women in STEM education, research and investment			
4. Knowledge Brokerage, Management and Commercialization *Budget: USD 4,790,484.00*	4.1 Create platforms to increase and strengthen collaborations among STI actors 4.2 Produce knowledge products to enhance knowledge sharing among actors 4.3 Offer technology cooperation services			
5. Intra-Africa and Global Collaboration and Partnership *Budget: USD 5,509,004.00*	5.1 Revitalize the ATPS national chapters in 30 countries 5.2 Mobilize financial resources to promote STI development in Africa 5.3 Support the implementation of the AUC's Agenda 2063 and particularly STISA 2024			

Monitoring and Evaluation *Budget: USD 2,497,355.00*

Administration *Budget: USD 2,798,992.10*

Fig 1: Summary of Programmatic Priorities for the ATPS Phase VIII Strategic Plan 2017-2022

Table 11: Detailed budget for the implementation of ATPS Phase VIII Strategic Plan 2017-2022 (Across Programs – Scenario 1)

PROGRAMMES		(Figures in US Dollars)						
		2017	2018	2019	2020	2021	2022	Total
1	**STI Policy Research, Policymaking and Advocacy**							
	1.1 Undertake STI policy research and capacity building in selected sectors	200,000.00	550,000.00	645,000.00	644,500.00	698,950.00	341,113.00	3,079,563.00
	1.2 Influence policies and policymaking at various levels	70,000.00	560,000.00	594,000.00	642,400.00	684,750.00	283,371.00	2,834,521.00
	Subtotal	**270,000.00**	**1,110,000.00**	**1,239,000.00**	**1,286,900.00**	**1,383,700.00**	**624,484.00**	**5,914,084.00**
2	**Training, Sensitization and Capacity Building**							
	2.1 Develop series of STI training manuals	100,000.00	380,000.00	436,000.00	475,600.00	509,160.00	273,538.00	2,174,298.00
	2.2 Undertake training, sensitization and capacity building for stakeholders	45,000.00	100,000.00	133,000.00	141,800.00	126,480.00	68,564.00	614,844.00
	Subtotal	**145,000.00**	**480,000.00**	**569,000.00**	**617,400.00**	**635,640.00**	**342,102.00**	**2,789,142.00**
3	**Youth and Gender Empowerment**							
	3.1 Promote AYFST and AWFST programmes	100,000.00	660,000.00	716,000.00	777,600.00	579,160.00	322,128.00	3,154,888.00
	3.2 Support African Youth and Women in STEM education, research and investment	165,000.00	460,000.00	526,000.00	555,600.00	579,160.00	363,538.00	2,649,298.00
	Subtotal	**265,000.00**	**1,120,000.00**	**1,242,000.00**	**1,333,200.00**	**1,158,320.00**	**685,666.00**	**5,804,186.00**
4	**Knowledge Brokerage, Management and Commercialization**							
	4.1 Create platforms to increase and strengthen collaborations among STI actors	100,000.00	190,000.00	182,000.00	225,200.00	209,720.00	112,846.00	1,019,766.00
	4.2 Produce knowledge products to enhance knowledge sharing among actors	68,000.00	220,000.00	262,000.00	280,700.00	301,270.00	154,449.00	1,286,419.00
	4.3 Offer technology cooperation services	180,000.00	460,000.00	471,000.00	510,600.00	554,160.00	308,539.00	2,484,299.00
	Subtotal	**348,000.00**	**870,000.00**	**915,000.00**	**1,016,500.00**	**1,065,150.00**	**575,834.00**	**4,790,484.00**

5	**Intra-Africa and Global Collaboration and Partnerships**							
	5.1 Revitalize the ATPS national chapters in 30 countries	20,000.00	25,000.00	245,000.00	55,000.00	300,000.00	25,000.00	670,000.00
	5.2 Mobilize financial resources to promote STI development in Africa	70,000.00	670,000.00	600,000.00	650,550.00	705,605.00	383,083.00	3,079,238.00
	5.3 Support the implementation of the AUC's Agenda 2063 and particularly the STISA 2024	10,000.00	395,000.00	157,000.00	545,200.00	209,720.00	442,846.00	1,759,766.00
	Subtotal	**100,000.00**	**1,090,000.00**	**1,002,000.00**	**1,250,750.00**	**1,215,325.00**	**850,929.00**	**5,509,004.00**
6	**Monitoring and Evaluation**							
	6.1 Program Management Unit	80,000.00	182,000.00	199,000.00	213,700.00	236,270.00	129,449.00	1,040,419.00
	6.2 National Chapter Coordination	95,000.00	140,000.00	151,000.00	167,300.00	183,030.00	158,731.00	895,061.00
	6.3 Board meetings	56,000.00	79,000.00	107,900.00	96,440.00	101,184.00	51,851.00	492,375.00
	6.4 Audits	7,000.00	13,000.00	12,500.00	13,000.00	14,000.00	10,000.00	69,500.00
	Subtotal	**238,000.00**	**414,000.00**	**470,400.00**	**490,440.00**	**534,484.00**	**350,031.00**	**2,497,355.00**
	Total Programme budget	**1,366,000.00**	**5,084,000.00**	**5,437,400.00**	**5,995,190.00**	**5,992,619.00**	**4,114,712.00**	**27,304,255.00**
7	**Administration**							
	7.1 Administration – 10% of program costs	**136,600.00**	**508,400.00**	**543,740.00**	**599,519.00**	**599,261.90**	**411,471.20**	**2,798,992.10**
	TOTAL EXPENDITURES	**1,502,600.00**	**5,592,400.00**	**5,981,140.00**	**6,594,709.00**	**6,591,880.90**	**4,526,183.20**	**30,103,247.10**

ATPS Phase VIII Strategic Plan 2017-2022 *(Across Sectors - Scenario 2)*

SECTORS / PROGRAMMES	STI Policy Research, Policymaking and Advocacy	Training, Sensitization and Capacity Building	Youth and Gender Empowerment	Knowledge Brokerage, Management and Commercialization	Intra-Africa and Global Collaboration and Partnership
1. Agriculture, Food and Nutrition *Budget: USD 7,442,070.00*	1.1 Undertake and support transdisciplinary research to generate new technologies and innovations for agriculture, food and nutrition 1.2. Identify and deploy new disruptive technologies and innovations for increasing agricultural productivity and value addition				
2. Energy *Budget: USD 6,201,725.00*	2.1 Undertake and support transdisciplinary research to generate new technologies and innovations especially on renewable energy 2.2 Identify and deploy new disruptive technologies and innovations for increasing low carbon energy access in Africa				
3. Climate Change and Environment *Budget: USD 8,682,415.00*	3.1 Undertake and support transdisciplinary research to generate new technologies and innovations for climate change adaptation, mitigation and resilience 3.2 Identify and deploy new disruptive technologies and innovations for building climate change adaptation and resilience capacity 3.3 Promote the ATPS Climate Sense Program (CSP)				
4. Health *Budget: USD 2,480,690.00*	4.1 Undertake and support transdisciplinary research to generate new technologies and innovations for efficient healthcare 4.2 Identify and deploy new disruptive technologies and innovations for improving healthcare system in Africa				

Monitoring and Evaluation *Budget: USD 2,497,355.00*

Administration *Budget: USD 2,798,992.10*

Fig 2: Summary of Sector Priorities for the ATPS Phase VIII Strategic Plan 2017-2022

Table 12: Summary budget for the implementation of ATPS Phase VIII Strategic Plan 2017-2022 (Across Themes/Sectors – Scenario 2)

S/N	THEMES/SECTORS	(Figures in US Dollars)						
		2017	**2018**	2019	**2020**	**2021**	**2022**	**Subtotal**
1	**Agriculture, Food and Nutrition**							
	1.1 Undertake and support transdisciplinary research to generate new technologies and innovations for agriculture, food and nutrition	178,609.68	893,048.40	893,048.40	1,116,310.50	893,048.40	669,786.30	4,465,242.00
	1.2 Identify and deploy new disruptive technologies and innovations for increasing agricultural productivity and value addition	148,841.40	476,292.48	595,365.60	744,207.00	744,207.00	446,524.20	2,976,828.00
	Subtotal	**327,451.08**	**1,369,340.88**	**1,488,414.00**	**1,860,517.50**	**1,637,255.40**	**1,116,310.50**	**7,442,070.00**
2	**Energy**							
	2.1 Undertake and support transdisciplinary research to generate new technologies and innovations especially on renewable energy	186,051.75	558,155.25	744,207.00	930,258.75	744,207.00	558,155.25	3,721,035.00
	2.2 Identify and deploy new disruptive technologies and innovations for increasing low carbon energy access in Africa	99,227.60	421,717.30	545,170.07	496,138.00	620,172.50	372,103.50	2,480,690.00
	Subtotal	**285,279.35**	**979,872.55**	**1,289,377.07**	**1,426,396.75**	**1,364,379.50**	**930,258.75**	**6,201,725.00**
3	**Climate Change and Environment**							
	3.1 Undertake and support transdisciplinary research to generate new technologies and innovations for climate change adaptation, mitigation and resilience	217,060.38	868,241.50	824,829.43	868,241.50	824,829.43	651,181.13	4,341,207.50
	3.2 Identify and deploy new disruptive technologies and innovations for building climate change adaptation and resilience capacity	130,236.23	520,944.90	520,944.90	442,803.17	651,181.13	416,755.92	2,604,724.50
	3.3 Promote the ATPS Climate Sense Program (CSP)	69,459.32	364,661.43	347,296.60	434,120.75	399,391.09	243,107.62	1,736,483.00
	Subtotal	**416,755.92**	**1,753,847.83**	**1,693,070.93**	**1,745,165.42**	**1,875,401.64**	**1,311,044.67**	**8,682,415.00**
4	**Health**							

	4.1 Undertake and support transdisciplinary research to generate new technologies and innovations for efficient healthcare	37,210.35	272,875.90	297,682.80	260,472.45	320,626.01	210,858.65	1,240,345.00
	4.2 Identify and deploy new disruptive technologies and innovations for improving healthcare system in Africa	61,303.30	294,062.84	198,455.20	212,197.88	260,472.45	196,208.43	1,240,345.00
	Subtotal	**98,513.65**	**566,938.74**	**496,138.00**	**472,670.33**	**581,098.46**	**407,067.08**	**2,480,690.00**
5	**Monitoring and Evaluation**							
	6.1 Program Management Unit	80,000.00	182,000.00	199,000.00	213,700.00	236,270.00	129,449.00	1,040,419.00
	6.2 National Chapter Coordination	95,000.00	140,000.00	151,000.00	167,300.00	183,030.00	158,731.00	895,061.00
	6.3 Board meetings	56,000.00	79,000.00	107,900.00	96,440.00	101,184.00	51,851.00	492,375.00
	6.4 Audits	7,000.00	13,000.00	12,500.00	13,000.00	14,000.00	10,000.00	69,500.00
	Subtotal	**238,000.00**	**414,000.00**	**470,400.00**	**490,440.00**	**534,484.00**	**350,031.00**	**2,497,355.00**
6	**Administration**							
	6.1 Administration – 10% of program costs	**136,600.00**	**508,400.00**	**543,740.00**	**599,519.00**	**599,261.90**	**411,471.20**	**2,798,992.10**
	TOTAL EXPENDITURE	**1,502,600.00**	**5,592,400.00**	**5,981,140.00**	**6,594,709.00**	**6,591,880.90**	**4,526,183.20**	**30,103,247.10**

Funding Strategy

The ATPS funding strategy is broken down into four major components:

1. **Core funding to cover overhead and non-program costs**: This will include financial support that covers basic "**core**" organizational and administrative costs of ATPS, including salaries of full-time staff, facilities, equipment, communications, and the direct expenses of day-to-day work that will enable us achieve stated objectives. It can also include financial supports that will cover thematic/programmatic priorities that have been identified by the ATPS based on stakeholder needs and donor priorities as a result of our expertise and longstanding experience in deploying science, technology and innovation for Africa's sustainable development.

2. **Endowment Fund**: As ATPS is a non-profit organization, we will solicit from African governments, development partners and donors to invest and establish endowment funds for the ATPS. Such capital will enable ATPS fulfill its mission in a more sustainable way. The ATPS Board of Directors have committed its members to proactively participate in fundraising for ATPS activities, especially with regard to lobbying African governments for the establishment of an endowment fund for the ATPS during the Phase VIII implementation period. The ATPS hopes that the recent identification of the ATPS as a leading Think Tank and Resource for STI policy research and policy formulation and implementation by the African Union Commission will enhance the interest and commitments by African Member States in committing funding to ATPS activities.

3. **Funding support for specific programs**: ATPS will continue to request for funding supports for specific thematic or programmatic priority areas of the Phase VIII Plan from donors, development partners and governments. This will be in form of direct requests for funding submitted to donors or in response to calls for proposals made by donor agencies. In each case, ATPS will endeavor to work and collaborate with like-minded institutions and partners within and outside Africa in the submission of proposals and implementation of projects to draw synergy and ensure complementarity of actions towards sustained impacts.

4. **Client-sponsored sector specific projects:** ATPS will welcome client-sponsored sector specific projects and consultancies aimed at achieving high impact results from mostly private companies, selected donor agencies, and governments. Such projects and consultancies can include sponsored research and policy scoping studies aimed at introducing new products, investments, and technologies into African markets and business environments.

5. STRATEGIC PLAN ASSESSMENT

A SWOT analysis of the ATPS, based on the last evaluation report of the organization on the effectiveness and efficiency of its implementation activities was conducted in liaison with the Ministry of Foreign Affairs, the Netherlands. Results of some of the SWOT analysis are presented in **Table 13** below:

Table 13: SWOT analysis of the ATPS

STRENGTHS	WEAKNESS
Well Established Networking Structure: ATPS is the only African organization dealing with STI policy issues with well-established and visible networking structures in 27 African countries and 3 Chapters in the Diaspora (Australia, UK and USA). ***Institutional effectiveness****:* Adequate management frameworks in place and which are being used effectively and transparently. ***Programme Cost Effectiveness****: A*ble to achieve research and policy outputs, outcomes and impacts at least costs ***International Status and Good Profile***: Excellent institutional profile in Africa and beyond with full diplomatic status in Kenya ***Institutional Partnerships*****:** Excellent linkages and good partnerships with institutions in Africa, Europe, America and Asia allowing it access to knowledge communities in other continents for implementation and peer review of its research and policy intervention initiatives ***Strong Leadership and Selfless Commitment to STI Policy Research***: Strong leadership and selfless commitment by the ATPS Board, Secretariat and national chapter coordinators ***Trans-disciplinary and Multi-sector Membership***: Members have trans-disciplinary training and backgrounds including the academia, policy makers, private sectors, civil society, and the media ***Good Record of Achievements***: History of remarkable achievements in the area of STI knowledge generation, disseminating STI	***Coverage of sub-Saharan Africa***: ATPS is yet to establish national chapters in all the sub-Saharan African countries. Members want to see ATPS national in all SSA countries to help in influencing intra- and interregional cooperation in STI policy making and implementation on the continent ***Core Institutional Funding****:* There is lack of core institutional funding to support administrative costs at the Regional Secretariat and National Chapter levels ***Staff Work Load and Pro-Bono Work by National Chapter Coordinators****:* excessive work load at the Regional Secretariat and the pro-bono work done by National Chapter Coordinators. The current Secretariat Management staff are overworked ***Institutional and Systems Support to National Chapters***: Deriving from the lack of adequate core funding is inadequate institutional and systems support for the national chapters. This limits the ability of some national chapters to respond effectively to STI policy needs in their countries ***Program Funding***: Lack of adequate resources to fund programs to address STI policy needs of member countries identified by national chapters ***National Government Support***: Budget constraints in many African countries often hinder support to national chapters by national governments. The significant support received from the governments of the Federal republic of Nigeria and the Republic of Kenya remain very critical in building African ownership of the ATPS programs and activities. Other African

research outputs and influencing STI policy in Africa. Consistently ranks as the best think tank in Africa for many years. ***Stakeholder Engagement***: Able to convene diverse stakeholder engagements in STI research, policy and practice in Africa. ***Ability to Facilitate STI Policy Development***: Able to inform and facilitate STI policy changes at the pan-African level and in many member countries, e.g. Nigeria, Lesotho, Ghana, Uganda, Tanzania, Ethiopia; convene STI parliamentary committees in some countries, e.g. in Kenya. ***Ability to contribute to Global STI Debates***: Able to contribute to the development of global and regional reports and strategies such as the UNESCO Science reports, UNEP-IRP Water Decoupling Report; the AUC Climate Change Strategy; the AfDB Green Growth Strategy; Africa Capacity Report; and the OECD Green Growth Best Practices Report among others.	governments are encouraged to support the ATPS activities both regionally and locally.
OPPORTUNITIES ***Interest in STI*****:** There is increasing interest in STI policy research in developing countries ***Strengthening Funding Portfolio****:* Existing potential funding opportunities at the National Chapter levels not effectively harnessed due to low participation of national chapters in fundraising at the national levels. The ATPS is developing a strategy to build capacity of National Chapter Coordinators in fundraising from their national governments to support the impressive fundraising efforts of the Regional Secretariat Management. ***Awareness by African Governments***: The recent recognition of the ATPS as a leading Think Tank and Resource for STI policymaking and implementation in Africa by the African Union Commission is a positive step in this direction ***Potential to Expand the Network***: ATPS has the potential to expand to all countries in Africa ***Potential to Expand Donor Base***: There is potential to expand the funding base for ATPS to include other big donors from across the world	**THREATS** ***Funding Gaps***: The move towards thematic research funding by some Donors has led to diminishing core institutional funding. This is placing constraints on core STI policy advocacy work that ATPS can undertake ***Increased Competition for Funding***: There is a growing competitiveness in obtaining donor funding ***Research Granting Procedures***: The length of time it takes for some donors to approve research grants often limit ATPS' ability to respond to STI policy needs of member countries in a timely manner. ***Changes in Donor Priorities*****:** Some donor program priorities often change over time. As a result, ATPS' program priorities focus on Africa's development challenges may sometimes not be in alignment with the new program priorities of some former donors.

6. RISK MANAGEMENT STRATEGY

We recognize and anticipate both operational and strategic risks that may undermine the implementation of the ATPS Phase VIII Strategic Plan 2017-2022. Two key potential risks have been identified to include: resource mobilization and brand/reputational risks.

Resource mobilization risk emanates from the difficulty in mobilizing adequate resources to meet planned activities due to factors such as changes in donor program priorities and focus; donor fatigue and competition for donor funding. It will also include risks due to changes in governments that may affect the prioritization of STI and line ministries with whom ATPS works.

Mitigation:

- Diversification of funding sources whenever feasible, even for the same project. ATPS will continue to strengthen existing donor partnerships while exploring new ones. This will also include charging fees for training programs on STI policy research, policymaking and implementation at Africa-wide level;
- Donor focus analysis and competition profiling
- Strengthening of ATPS national chapters to raise funds at the national levels to sustain their operations;
- Liaising with national governments to finance ATPS work on STI capacity building; and
- Building the capacity of ATPS research team to develop bankable proposals for funding the thematic and programmatic areas of work in the current plan.

Brand/reputational risk emanates from low visibility of ATPS activities and failure to effectively manage ATPS image, reputation and relationship with its stakeholders such as donors, partners and clients.

Mitigation:

- Development and implementation of a comprehensive communication strategy that incorporates inclusive stakeholder engagement plan, public relations strategy as well as a robust media engagement plan.

Other operational risks will be managed through continuous monitoring and evaluation of all ATPS activities. The ATPS Board of Directors will continue to provide important oversight to the overall organization's risk management. In addition to an external annual audit of financial statements, ATPS will continue to review and audit its internal controls and processes to ensure that the internal policy framework is robust enough. This is necessary to provide reasonable assurance regarding the effectiveness and efficiency of operations while at the same time safeguarding the company's assets.

7. CONCLUSION

The new ATPS Phase VIII Strategic Plan 2017-2022 aims to "*Strengthen Africa's capabilities in science, technology and innovation for sustainable development"* and is born out of necessity to refocus and realign the ATPS priorities alongside key developmental goals (SDGs and Africa's Agenda 2063 including STISA 2024) in order to meet the growing needs and aspirations of Africans at individual, institutional, local, national, regional and continental levels. The Plan has identified four key sectors that will be of strategic priority in the next five years. These include: agriculture, food and nutrition security; energy; climate change and environment; and health. The Plan also identified five key programmatic priority areas that will be cross-cutting on the sectors to include: STI policy research, policymaking and advocacy; Training, sensitization and capacity building; Youth and gender empowerment; Knowledge brokerage, management and commercialization; and Intra-Africa and global collaboration and partnerships. The plan has also identified specific objectives, strategies for accomplishing it and expected outcomes under each of the thematic/programmatic priority areas.

Through this plan, ATPS has sought to articulate its vision for the continent, and its mission to contribute to poverty alleviation through science, technology and innovation research, policy and practice. The centre piece of the mission is the strong belief that in Africa's current predicament, bridging the knowledge, technological and innovation capacity gaps between Africa and the rest of the world is the foundation for inclusive growth and sustained economic prosperity.

The plan builds on the achievements and strengths of the ATPS Network and critical analyses of experiences gained in the implementation of the previous plans. In setting the strategic objectives and priorities for the Phase VIII Strategy, ATPS has taken a participatory approach recognizing the importance of the "strategic planning process" for ownership, buy-in and effective program implementation for achieving the desired outcomes. The operational management of the plan will remain dynamic and reflexive in responding to the emerging priorities in the fast changing STI policy space in Africa and globally.

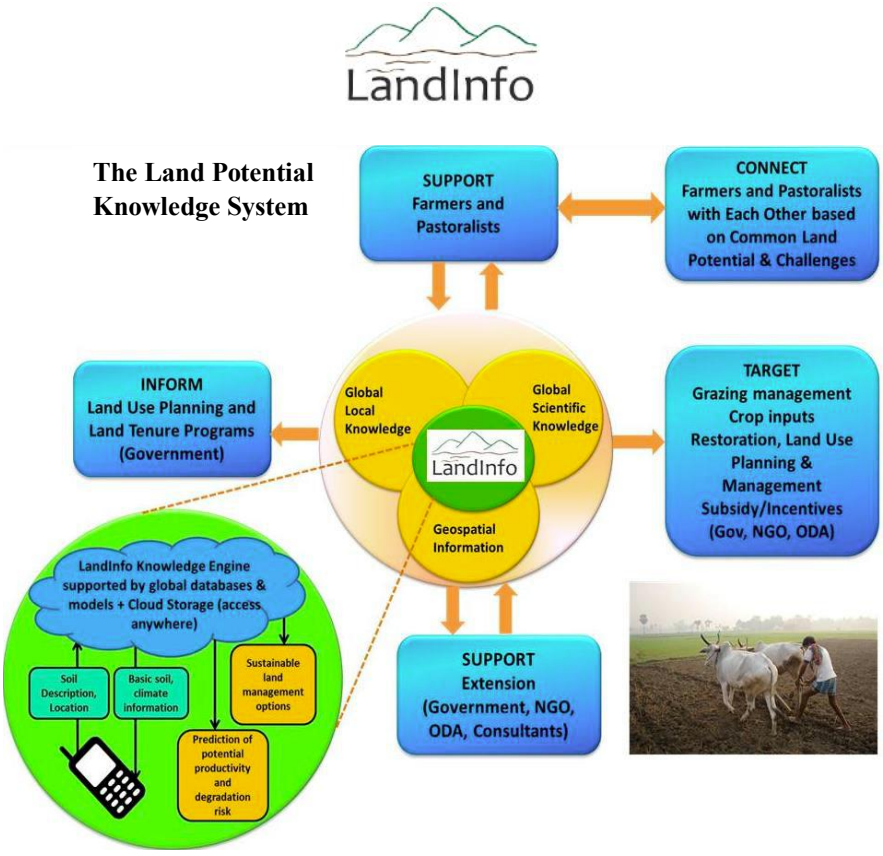
We recognize that achieving the desired outcomes of this strategy will require significant investments in terms of Overseas Development Assistance (ODA), government supports, and private sector investments. We invite both traditional and new partners to support the new ATPS Phase VIII Strategic Plan 2017-2022 through core grants, thematic/programmatic grants, and consultancies to enable us achieve our stated objectives.

ANNEXES: DESCRIPTION OF ATPS FLAGSHIP PROJECTS

ANNEX 1: Improving Agricultural Productivity and Resilience to Climate Change Using the *LandInfo* Mobile Technology

Rationale

The *LandInfo* mobile app is predicated on the lack of easily accessible, timely and accurate climatic and soil information to inform farm decision-making on production and management at site-specific locations. Besides, the failure of soil maps and other remote-sensing estimates to characterize soils at finer scales begs for suitable technologies that can produce better results. African farming system is characterized by inadequate extension agents to provide advisory services to farmers (1:2500 in Africa and 1:400 in Europe) and hence new technologies that could complement the services of the extension agents to farmers will go a long way in improving agricultural productivity. These are the reasons why *LandInfo* was developed. It is the first of its kind in providing accurate soil and climatic information at site-specific locations and can be used anywhere. With improved mobile phone access and internet penetration in Africa, *LandInfo* is surely a one stop shop for supporting farmers' decision-making in agriculture.



LandInfo Mobile App Won the coveted Climate Information Prize 2016!

Description

The *LandInfo* app is a community-driven app that enables users to instantaneously access climatic and soil information and interpret them in the context of local conditions and values, including crop preferences. Users are able to target investments on land for specific purposes such as specific crop choices for specific soils. With knowledge on annual average rainfall and temperature, aridity index, soil types, among others, farmers are able to plan their farming enterprises adequately to avoid losses due to climate variability and hence improve agricultural productivity and climate change resilience.

Target Beneficiaries of LandInfo

Farmers, farmer associations, extension agents, agripreneurs, land-use planners, land investors and policymakers.

LandInfo Field Example

- User wants to select a site with the highest potential to support a specific crop production
- Phone identifies GPS location
- User enters point-specific data on soil characteristics, land use, and topography; phone automatically uploads to the "cloud"
- User data integrated with global and local soil and climate databases
- Relevant climatic information including rainfall and temperature distribution, estimates on soil water storage, aridity index, average annual rainfall amounts, the growing season length, and the soil type uploaded to the phone almost instantaneously
- User selects appropriate soils for specific crops for production using our soil-crop suitability matrix or advisory from extension agents

Key Outcomes

- Farmers obtain the highest crop yields from any soils based on their access to accurate soil and climatic information which is provided by the *LandInfo* mobile app in-situ
- Increased yield means more income for the farmers

Request for Supports and Collaboration

The ATPS solicit for supports and collaboration from development partners and donors to enable us upscale and out scale the *LandInfo* mobile app technology across Africa through 1) awareness creation, 2) capacity building/training of farmers and extension agents on how to use *LandInfo* and 3) policy advocacy to mainstream *LandInfo* into other agricultural development initiatives.

ANNEX 2: Linking Agriculture and Nutrition Value Chain for Improved Health Outcome (LANHO)

Project Summary: The new Sustainable Development Goal number two aims to "end hunger, achieve food security and improved nutrition, and promote sustainable agriculture". To achieve this, it is critical to strengthen the link between agriculture, nutrition and health in order to ensure that all people, particularly vulnerable people in low and middle income countries, have access to sufficient and safe food all year round. Identifying ways of ensuring that agriculture is nutrition-sensitive so that agricultural programs lead to improved nutrition and health outcomes becomes of critical importance. This enables policymakers to be able to translate nutritional knowledge into agricultural policies and programs for improved health outcomes by supporting (through policy) interventions that utilize nutritional knowledge for appropriate food production systems. Through this, the current global concerns on how to link agriculture and nutrition to improve health outcomes can be adequately addressed.

Project Aim: This project enables policymakers to answer the 'so what?' question when informed of food and nutritional deficiencies in their constituents' markets and households. It aims to produce a simulation model that will enable nutritionists and agriculturists to work together to determine technically and financially viable optimal mixes of food commodities that the markets should provide, at district, county, or country levels, to enable households to provide their population with better diets for improved nutrition and health outcomes**.** With this knowledge the policymakers will be able to formulate enabling agricultural policies and programs that will encourage farmers to produce the required qualities and quantities of the desired food commodities. **Specifically, the study aims** to develop a tool that will enable efficient translation of knowledge about nutritional deficiencies into policies that will result in food with the right proportions of nutrients being available in any target markets and households. This study will generate unique knowledge that will be useful in the determination of hidden hunger and malnutrition in vulnerable populations particularly children and women. It will enable **nutritionists**, **health specialists**, **agriculturists**, and **policymakers** to work together to address nutrient deficiencies, beyond just insufficient calories, to include essential micronutrients especially from animal-source foods that are required for safe pregnancies and proper physical and cognitive development of their children.

The **simulation model,** which will be built by a unique collaboration of **nutritionists, agriculturists, health specialists** and **mathematicians** using the Wolfram System Modeller, will:

- For a unit (kilograms) of a food commodity determine the related quantities, in appropriate dietary units of selected dietary components e.g. energy, protein, calcium, vitamin A, iron, zinc, etc.
- From the quantities (kilograms) delivered to the market and on household table, find the total availability of macro and micronutrients. The initial crude totals of available nutrients and micronutrients will be refined by taking into account the positive and negative interactions between foods when combined. The totals will be further adjusted to account for the way commodities are stored, processed and or cooked.
- Using the recommended daily requirements for any target population to: (i) determine the total requirements for each nutrient, (ii) determine the total market and household requirements for the corresponding number of people.
- Determine the gaps for each macronutrient and micronutrient between what is required and what is presently available.
- Use optimisation techniques to produce a first-attempt at determining what additional

or new food commodities should be produced, or made available, to fill the nutritional gaps of the target population. This will be adjusted to account for food preferences of particular markets due to religion, custom or demographic composition.

Study Design: The framework for this study is illustrated in Figure 1, and shows the pathways from determination of the quantities (weights) of food commodities in any particular market and household leading to the quantities of particular nutrients that feed into the so-called 'nutrient sufficiency tanks'.

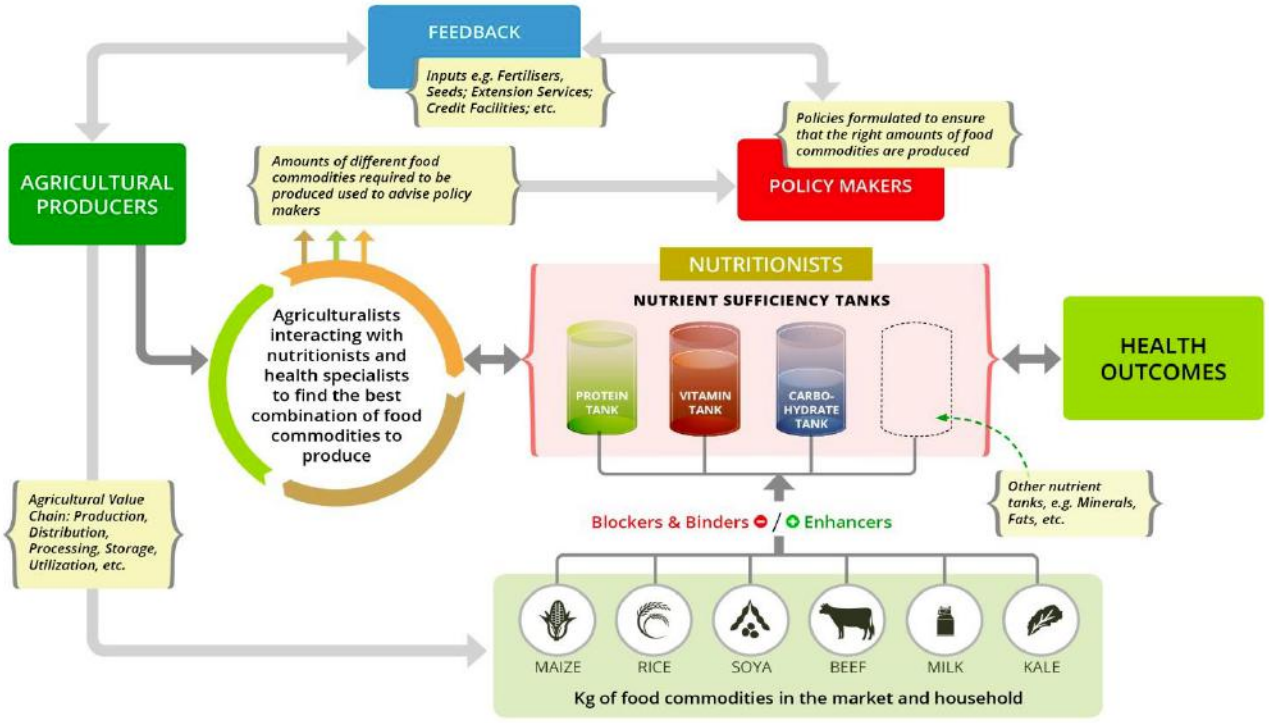


Figure 1: Nutrition and Health-Driven Agricultural Policy Generator

Summary of interactions in the nutrition and health-driven agricultural policy generator

- The nutrient sufficiency tanks will show how much of each nutrient is still needed to meet the nutritional requirements of any target population (adult population, children, lactating mothers, gender, age groups, and people with special nutritional needs, etc.) in a county, district or country.
- The nutritionists will then be able to use the model outcome to determine how the tanks could be filled using increased amounts of the different food commodities.
- These amounts will then be provided to the agriculturalists who will determine if the increases are technically and financially viable.
- Where the amounts are found to be non-feasible, the agriculturalists and the nutritionists will work together and re-run the model to derive a feasible best outcome with all the nutrition tanks filled as much as possible.
- The policymakers will be informed of the amounts of extra food products required to adequately fill the sufficiency tanks. This will

enable them make informed policy decisions on the best interventions to apply to ensure that farmers produce the extra amounts of the food products required or seek for other alternative food supply options including food imports to ensure better health outcomes for the target population.

Expected Outputs:

- A user-friendly food and nutrition tool which has the potential to be widely adopted by policymakers wishing to ensure that their constituents are able to meet the Estimated Average Nutrient Requirements (EAR) within realistic constraints such as affordability and availability of the food items.
- A model that provides feedback mechanisms between and amongst human nutritionists, food producers, and policymakers for better health outcomes in any target population. This does not exclude information from food distributors, processors, marketers and consumers. The model will enable the users to understand the implications of choice of any diet on the nutrient requirements of any target population.
    - A research tool that can enable university students in mathematics, nutrition, health sciences and agriculture to learn how to model real life situations and link the theory they learn in school to local, district and or national food production and policy decisions.

Expected Outcomes:

- A sustainable diet and healthy society for all the targeted populations in the selected countries. This will lead to reduced hospital visits due to illnesses and therefore increased savings, improved maternal and child health, reduced malnutrition, reduced nutrient related diseases such as obesity, over-weight, rickets, and osteoporosis among many others.
- Increased collaboration among agriculturists, nutritionists, health workers, and policymakers in ensuring sustainable diet for any targeted population. This will be one of the first time the quadruple stakeholders will be working together to achieve better health outcomes.
- Increased transdisciplinary research and development in institutions of higher learning dealing with issues of agriculture, food, and nutrition security.

Scope of Study: The study is planned to be conducted in four selected countries in sub-Saharan Africa. Priority consideration will be given to countries with high records of malnutrition but an agrarian economy, high population growth, gender inequality, and other political issues. Different target populations and districts/counties/states will be targeted in the four countries depending on records of nutrient deficiencies for the particular target populations.

Partnerships and Collaborations: The ATPS is partnering with leading scientists and institutions on the continent to ensure that all the expected outputs are delivered timely and make the desired impacts.

ANNEX 3: Promoting Pro-Poor Low Carbon Energy Access and Development in Sub-Saharan Africa (PLoCEAD)

Project Summary: African continent had recorded strong economic growth recently with a 4.9% rise in real GDP between 2000 and 2008 which far more doubled its growth rate in the 1980s and 1990s (MGI, 2010[3]) and this growth has been projected to increase. Despite this projection, energy supply has been below average across the continent. Africa faces high level of energy poverty with about 587 million of the population not having access to electricity while 657 million people rely on traditional biomass for cooking (IEA/UNDP/UNIDO, 2010[4]). Lack of access to modern energy services (e.g. electricity and clean cooking facilities) and massive dependence on fossil fuels hamper sustainable socioeconomic development. Access to modern and reliable energy services is a critical human development priority (Bryne et al., 2014 and UNIDO, 2015[5]) and ensuring access to clean and sustainable energy is one of the major energy challenges in developing countries including African countries (Akpan and Ishiak, 2012[6]). In 2009, only about 31% of the Sub-Saharan African (SSA) population and 42% of the entire African population had access to electricity. Based on projections, 35% and 45% people in SSA and Africa respectively will have access to electricity by end of 2015, while 50% and 57% of the Sub-Saharan African and African populations will have access to electricity by 2030 (IEA/UNDP/UNIDO, 2010).

These figures indicate that about two-third of Africans do not have access to electricity, and the poor living in rural/peri-urban areas form the greatest percentage of these people because they do not have access to the national grid and have been termed "off-grid" communities. School children often cannot read after dusk, businesses cannot grow, clinics cannot refrigerate medicine or vaccines, and industries are idled hampering economic growth, jobs, and livelihoods (World Bank, 2015[7]). This energy poverty and insecurity can be reduced or solved by promoting and providing low carbon energy to these areas thereby promoting "off-grid" electrification. Renewable energy such as solar photovoltaic system (PVs) can be used to accelerate "off-grid" rural electrification (targeting the poor) as well as to facilitate rural development, reduce GHGs emission and improve energy access in the entire

[3] McKinsey Global Institute (MGI) (2010). *Lions on the Move: the Progress and Potential of African Economies*. http://www.mckinsey.com/mgi/publications/progress_and_potential_of_african_economies/pdfs/MGI_african_economies_full_report.pdf

[4] IEA/UNDP/UNIDO (2010). Energy Poverty – How to Make Energy Access Universal? International Energy Agency (IEA), United Nations Development Programme (UNDP), United Nations Industrial Development Organisation (UNIDO), Paris.

[5] Byrne, R., Ockwell, D., Urama, K., Ozor, N., Kirumba, E., Ely, A., Becker, S. and Gollwitzer, L. (2014) *Sustainable energy for whom? Governing pro-poor, low carbon pathways to development: Lessons from solar PV in Kenya*, STEPS Working Paper 61, Brighton: STEPS Centre.

[6] Akpan, U.S. and Isihak, S.R. (2012). Electricity access in Nigeria: Is Off-grid Electrification using Solar Photovoltaic Panels Economically Viable? A Sustainability, Policy, and Innovative Development Research (SPIDeR) Solutions Nigeria Project. (Interim Report).

[7] World Bank (2015). Fact Sheet: The World Bank and Energy in Africa. http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/0,,contentMDK:21935594~pagePK:146736~piPK:146830~theSitePK:258644,00.html.

region. According to the World Bank (2008[8]), off-grid electrification is usually considered when providing electricity access to small rural communities consisting of low income earners with dispersed settlement pattern that are far from the existing grid. "Off-grid" electrification has been noted to provide similar benefits as grid extension in terms of enhancing the standard of living and stimulating the creation of micro-enterprises that increase overall economic benefit (Akpan and Ishiak, 2012). This study proposes to promote pro-poor low carbon energy access and development in SSA with emphasis on accelerating the provision and use of solar PVs and clean cooking stoves in off-grid communities in order to increase energy access, reduce energy poverty, further reduce greenhouse gases (GHGs) emission, thereby attaining the Sustainable Development Goals (especially Goals 4, 7, 9, 12, 13) for the region. Incidentally, the region has a vast untapped renewable energy resource in form of solar, biomass, geothermal, wind, and hydro.

Project Aim: The overall objective of this proposed project is to promote pro-poor low carbon energy access and development in sub-Saharan Africa in order to meet the energy needs of off-grid communities. Lighting and clean cooking infrastructure becomes the top priority low carbon energy sources for this study. Specifically, the study aims to:

1. Conduct market scoping study of the available pro-poor low carbon energy products, technologies and innovations in SSA.
2. Create awareness of the available pro-poor low carbon energy products for the off-grid communities and build linkages along the value chain so as to improve access and use in selected countries.
3. Support research and development of low carbon energy innovations, technologies, and products that satisfy special needs of the rural communities with strong market linkages.
4. Train and build the capacity of artisans on the installation and maintenance of low carbon energy products, technologies, and innovations for the pro-poor in selected countries.
5. Ascertain the political economy of low carbon energy access in selected countries.
6. Advocate for policy supports to improve access to pro-poor low carbon energy products, technologies, and innovations in selected countries.

Expected Outputs:

- A documentation of the different types of pro-poor low carbon energy innovations, technologies and products available in the region. This will also include information about manufacturers, importers, distributors and retail channels.
- Increased awareness, access, and use of low carbon energy products, technologies, and innovations for lighting and clean cooking in the selected countries.
- Increased capacity to install and maintain low carbon energy infrastructure in the selected countries.
- Opportunity for developing new, sustainable, and user-friendly products, technologies, and innovations for lighting and clean cooking for the pro-poor through transdisciplinary research and innovation incubation programs.
- An understanding of the political economy of low carbon energy in the region with a view to advocate for policy reforms that will improve access and development of low carbon energy

[8] World Bank (2008). Designing Sustainable Off-Grid Rural Electrification Projects: Principles and Practice. World Bank, Washington D.C.

products, technologies, and innovations for the pro-poor in the selected countries.

- Publication of journal articles, policy briefs, newspaper articles and fliers targeting different categories of audience in the selected countries.

Expected Outcomes:

- An estimated 40,000 pro-poor gain access to low carbon energy in the selected countries.
- Over 400 artisans and technicians trained on how to install and maintain choice low carbon energy products, technologies and innovations in the selected countries
- A favourable policy to improve access to low carbon energy products, technologies and innovations
- Improved health statuses from the use of clean cooking stoves
- Reduced emission of greenhouse gases and improved resilience to climate change

Scope of Study: The study is planned to be conducted in selected countries in sub-Saharan Africa. Priority consideration will be given to countries with highest population of energy poverty as contained in the recent World Bank Report (2011-2015) on share of country's population with and without access to electricity (see: http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?page=1).

Partnerships and Collaborations: The ATPS will partner with leading scientists and institutions on the continent and beyond to ensure that all the expected outputs are delivered timely and make the desired impacts as well. One of these partners is the African Union Commission's Scientific, Technical and Research Commission (STRC).

ANNEX 4: Bridging Climate Information Gaps to Strengthen Capacities for Climate Informed Decision-Making

Project Description/ Background

The project responds to the call to strengthen the capacities of African countries to collect, synthesize and use climate information and services to inform decision-making on adaptation and development planning. It is being implemented by the African Technology Policy Studies Network (ATPS) in partnership with the Stockholm Environment Institute (SEI) Africa Centre, IGAD Climate Prediction and Applications Centre (ICPAC), Observatoire du Sahara et du Sahel (OSS), AGRHYMET Regional Centre (ARC), and the Regional Centre for Mapping Resource for Development (RCMRD).

The project is being supported by the African Development Bank (AfDB) under the Clim-Dev Special Fund and it will be implemented in Cameroon, Kenya, Malawi, Nigeria, and Tunisia. These countries represent the five major geographical regions in Africa.

Key Objectives and Activities

The project aims to strengthen the capacities of African countries to collect, understand and deploy appropriate climate information and best practices to support decision-making and support development planning, reduce the vulnerability of the selected countries and foster a food-sure Africa. Specifically, the project will:

1. Identify and analyse climate information needs, provide support for climate information production, synthesis, and use;
2. Build the capacities and knowledge of stakeholders (government agencies, research institutions, extension agents and contact famers) to collect and utilize high quality, demand-driven climate information for adaptation planning and decision-making; and
3. Facilitate the mainstreaming of climate change issues in regional policy dialogue aimed at raising awareness on climate change issues to strengthen understanding, use and mastery of climate information.

The project has three main activities:

- Climate information synthesis in selected countries;
- Capacity Enhancement and Climate Information Dissemination;
- Project management and administration.

Project Beneficiaries

The ultimate beneficiaries are the ordinary citizens and communities associated with the agricultural sector, including pastoralists' and agricultural laborers. These groups will benefit through reduced vulnerabilities and raised adaptive capacities based on the utilization of proven climate information.

Stakeholders include:

(i) Policymakers focusing on parliamentarians, ministries, departments, commissions and committees in partners countries including- National Development Planning Commissions,

Meteorological and Extension services, Ministries of Energy, Ministries of Finance and Economic Planning, Line Ministries responsible for coordinating sector climate policy support programmes;

(ii) Researchers and Research Institutions;

(iii) Civil Societies' Organisations including the Media; and

(iii) Farmers and Farmer associations.

Expected Outputs and Outcomes

- Technical report on the state of climate information needs and services for climate change mitigation and adaptation in Cameroon, Kenya, Malawi, Nigeria, and Tunisia
- Web-based Interactive Collaborative Environment (ICE) for climate information knowledge sharing and dissemination
- Training modules for policymakers and scientists
- Policy briefs and proceedings report of a 3-day regional climate change dialogue and training workshop for policymakers and scientists
- Training Manual for extension agents and contact farmers on the use of LandInfo mobile app
- ICE for climate information knowledge exchange and sharing
- A robust climate adaptation toolkit
- Reports from the Project launch and steering committee meetings
- Establishment of the Project implementation team with clear responsibilities
- Framework for Project implementation, procurement and disbursement

The project will run for two years (2017-2019) and the expected outcomes include:

- Improved national and regional level data collection systems and synthesis for better deployment in decision making and practice;
- Improved capacity of policymakers, scientists, extension agents and farmers to use climate information and technology tools for adaptation planning and decision making;

The African Technology Policy Studies Network (ATPS) is a trans-disciplinary network of researchers, private sector actors and policy makers promoting the generation, dissemination, use and mastery of science, technology and innovation (ST&I) for African development, environment sustainability and global inclusion. ATPS intends to achieve its mandate through research, capacity building and training, science communication/dissemination and sensitization, participatory multi-stakeholder dialogue, knowledge brokerage, and policy advocacy.

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