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TECHNOPOLICY AFRICA

This is the official newsletter of the African Technology Policy Studies Network (ATPS)

A Snapshot of the Proposed ATPS New Strategic Plan 2016-2020

Nigeria Launches a New Agricultural Policy

Why Africa should put much Emphasis on Science, Technology and Innovation

ATPS Vision:
To become the leading international centre of excellence and reference in science, technology and innovation systems research, training and capacity building, communication and sensitization, knowledge brokerage, policy advocacy and outreach in Africa.

ATPS Mission:
To improve the quality of science, technology and innovation systems research and policy making in Africa by strengthening capacity for science and technology knowledge generation, communication and dissemination, use and mastery for sustainable development in Africa.

Overall Objective:
To develop Africa's STI capacity (knowledge basis & infrastructure, knowledge circulation & networks, knowledge conditions & policies) today for sustainable African development tomorrow.

ATPS Motto:
Building Africa's capabilities in science, technology and innovation policy research, policymaking and policy implementation for sustainable development.

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CHAIRMAN'S MESSAGE

The capacity to innovate and bring innovation successfully to the market is a crucial determinant of global competitiveness and sustainable development. Developmentalists have identified Science, Technology and Innovation (STI) agenda as one of the main drivers to economic progress and well-being as well as a potential factor in meeting global challenges such as environment, food security, energy access, and health.

STI are paramount to the economic development and well-being of any nation across the world. However, an STI-led development is a leadership endeavor. This means that for STI development to thrive in any country, there must be adequate political good will from the leadership to inform on favourable policies, frameworks, programmes and budgets that will precede the gains in terms of increased productivity, job and wealth creation, and other socio-economic and technological developments.

For twenty two years in existence, ATPS can be lauded for its efforts at improving the quality of science, technology, innovation system research and policymaking in Africa by strengthening the capacity of science and technology, knowledge generation, communication and dissemination, use and mastery of science for sustainable development in Africa. Today, ATPS is the leading policy research Think Tank in Africa (see http://www.atpsnet.org/media_centre/focus/atps-ranking-2016/index.php). ATPS emerged tops according to a global survey conducted by the University of Pennisylvania under the Think Tank and Civil Societies Program. ATPS was rated as the Best Think Tank Network, Best Managed Think Tank, Think Tank with the best use of internet, Think Tank with the most significant impact on public policy, Best Institutional Collaboration involving two or more Think Tanks, and Top STI Think Tank among many others. The ATPS policy report/brief on *"Mainstreaming Gender in National Science, Technology and Innovation (STI) Policy of Kenya"* was rated as the best policy report in Africa and 2nd globally.

ATPS convened the 2016 Stakeholders' Forum on 29 July 2016 in Nairobi, Kenya to review the current strategic plan (2013-2018) with a view to assessing the progress made so far with the implementation and reposition it for better achievement of the ATPS mandate and objectives in line with national priorities as well as the African Transformation Agenda 2063, the Science, Technology and Innovation Strategy for Africa (STISA) 2024, and the global Sustainable Development Goals (SDGs). The proposed Strategic Plan aims at improving the functioning and understanding of STI policy research together with other policymaking processes and also in strengthening capabilities, social responses and governance of STI-led sustainable development in Africa.

Prof. Shaukat Abdulrazak

In the new proposed plan ATPS aims to adopt a sector focused strategic approach with key focus in Agriculture; Food and Nutrition; Health; Energy; and Climate Change and Environmental Management. The target is to keep pace with developments in new disruptive technologies and leverage the use of mobile phones, internet and other modular technologies whose adoption will take advantage of costs.

I take this opportunity to sincerely thank all delegates who attended the Stakeholders' Forum for working so hard to produce an excellent draft of the proposed ATPS Phase VIII Strategic Plan (2016-2020). As we finalize with the plan, we still encourage stakeholders' and development partners to send in their contributions to the ATPS Secretariat for consideration. We are optimistic that the plan will be launched in no distant time.

On this note, I welcome our numerous partners, donors, national governments to support our proposed plan through core and thematic funding for the implementation of programs and activities in the plan. I thank all those who have supported us already on the plan and solicit for more support to ensure that the vision and mission of the premier STI institution in Africa continues to be alive. I wish to extend my gratitude to the Secretariat staff for their commendable work and all those who have greatly supported ATPS in the last few years through development grants, linkages, partnerships and other collaborative activities.

Prof. Shaukat Abdulrazak, PhD, FKIM, FAAS FASI, FTWAS, MBS
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Chair, ATPS Board of Directors

EXECUTIVE DIRECTOR'S MESSAGE

Where there is a vision, there is hope, is a common parlance! I am glad that our vision at the ATPS towards becoming the leading international centre of excellence and reference in Science, Technology and Innovation (STI) systems research, training and capacity building, communication and sensitization, knowledge brokerage and policy advocacy is progressively being realized.

It has been two years since my assumption of office as the Executive Director at ATPS. We have continued to live up to expectations in realizing the vision, mission and objectives of the ATPS. We have made solid progress in renewing relationships with many of our partners, donors, national chapters and other stakeholders of the ATPS. ATPS was consecutively rated as the best Think Tank in Africa according to the Global Go To Think Tank Index Report released annually. Our efforts translate into improving the understanding and functioning of STI policy research, policymaking and policy implementation for sustainable development in Africa. We promote the generation, dissemination, use and mastery of STI for African development, environmental sustainability and global inclusion.

During the quarter, we held the 2016 ATPS Stakeholders' Forum where a new Strategic Plan was proposed to the ATPS stakeholders. The new plan is being crafted to align with 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). ATPS participated in the trending discussion on *"Biosciences for Farming in Africa"* which was held at the University of Cambridge, UK in September 2016. The forum reiterated on the need for African governments to invest in bioscience innovations as part of the strategy to end hunger, create jobs and increase wealth. ATPS also made presentations during the celebration of Science, Policy and Research Unit (SPRU), University of Sussex at 50 and emphasized on the need for African-SPRU partnerships in promoting STI policy in Africa.

We have also concluded a policy scoping study on regulatory harmonisation of veterinary products' registration in East Africa Partner States. The study conducted in partnership with the Global Alliance for Livestock Veterinary Medicines (GALVmed), sought to identify strategies and mechanisms for implementation of proposed mutual recognition procedures within the EAC veterinary medicine registration systems. The policy study will contribute towards strengthening GALVmed's work in livestock

Dr. Nicholas Ozor, ATPS Executive Director

health policies aimed at promoting availability of effective and affordable products among smallholder farmers.

We have also received a seed grant to build the capacity of extension agents in Meru County, Kenya on the use of the LandInfo mobile app technology which the ATPS is out-scaling across Africa. This project is being supported by the African Forum for Agricultural Advisory Service (AFAAS). LandInfo app enables farmers to determine the potential of soils at point-given locations and produce weather information that will enable farmers take optimal farm decisions based on the soil and climatic information that the app provides.

Also during the quarter, I was selected to lead the drafting of the African Capacity Report (ACR) 2016 on STI by the African Capacity Building Foundation (ACBF). This report has been duly delivered and waiting for publication by the ACBF.

We thank all our donors and partners who have continued to support us to enable ATPS build Africa's capabilities in science, technology and innovation for sustainable development in Africa. We continue to solicit for your support and promise to deliver the value to money on every initiative/project/programme entrusted to us.

Dr. Nicholas Ozor
Executive Director, ATPS

ATPS HOLDS ITS 2016 STAKEHOLDERS' FORUM

Stakeholders converge in Nairobi, Kenya to discuss a New Strategy for the Implementation of ATPS work from 2016-2020.

By Sharon Anyango

The African Technology Policy Studies Network (ATPS) held its 2016 Stakeholders' Forum on 29th July to review its current Phase VII Plan (2013-2018) and align it with with the African Union's Agenda 2063, the Science, Technology and Innovation Strategy for Africa (STISA 2024), and the UN Sustainable Development Goals (SDGs) so as to serve its numerous stakeholders' better.

Mr. Chuma Ikenze, ATPS Board Member presented the proposed new strategic plan which aims to use Science, Technology and Innovation (STI) to address problems in Agriculture; Food and Nutrition; Health; Environment and Climate Change; and Energy. He noted these key sectors are critical to sustenance of livelihoods as they also align with priority areas and goals of STISA and SDGs respectively. With over two decades of experience working in STI policy and development, ATPS is well placed to support individuals, institutions, governments, and private sectors by building their capacities to deploy STI across the sectors to achieve sustainable development.

Mr. Chuma also highlited five cross-cutting components across the identified sectors which include: STI Policy Research, Policymaking and Advocacy; Training, Sensitization and Capacity Building; Youth and Gender Empowerment; Knowledge Brokerage, Facilitation of Adoption and Commercialization of STI Initiatives; and Intra-Africa and Global Collaborations and Partnerships.

Another ATPS Board Member, Dr. Peggy Oti Boateng, lauded the ATPS for reviewing the current plan to align it with STISA 2024 which was developed by the African Union with the objective of accelerating Africa's transition to an innovation-led, knowledge based economy within the overall framework of the AU Agenda 2063. She emphasized on the need for African countries to drive their agenda through STI, SDGs and Science, Technology, Engineering and Mathematics (STEM) education.

On the issue of climate change, Dr. Boateng emphasized on the need to build resilience capacities and risk preparedness among vulnerable groups including farmers and city dwellers. African countries should not wait for disasters to happen before they can take action. We should not be reactive in our adaptation and mitigation efforts, rather, we should make adequate plans and preparations against anticipated impacts of climate change. ATPS can support this effort through awareness creation and capacity building of relevant stakeholders' to equip them with the requisite knowledge and skills to accomplish adaptation and mitigation actions. There is need for data and evidence that will support policies and implementation in this regards.

Dr. Nicholas Ozor, ATPS Executive Director highlighted the achievement of ATPS for the period 2013-2016. He noted that since his appointment as the Executive Director in August 2014, he and his team have been working tirelessly to accomplish two major objectives. One, to rebuild and strengthen

relationships between ATPS and its stakeholders' including the national chapters, donors, partners, staff and ex-staff, the entire members of the ATPS network, and the general public that ATPS is meant to serve in the continent and beyond and two, to raise funds to implement ATPS activities as contained in the ATPS Strategic Plan Document 2013-2018.

Dr. Ozor noted that he has been consistently reforming the structure, governance, and effectiveness of the ATPS to deliver optimally on its mandate. In 2015, four new Board members namely; Mr. Chuma Ikenze, Dr. Peggy Oti-Boateng, Dr. El Tayeb Mustafa, and Prof. Banji Oyelaran-Oyeyinka were appointed to serve as ATPS Board Members so as to strengthen the delivery of ATPS mandate through strategic guidance and advice. ATPS was also accredited as an implementing partner of the African Union Commission for the STISA 2024 leading to a close working relationship with the Commission.

Dr. Ozor and his team have also renewed and strengthened relationships with previous donors, partners, staff and ex-staff and this has continued to boost the image and integrity of the ATPS. Few months after his appointment, he was able to restore the full diplomatic status for the ATPS in the host country, Kenya. In order to improve communication between the ATPS and its stakeholders' he rebranded ATPS newsletter, *the Technopolicy Africa*, which is published every three months to showcase significant achievements, activities and challenges faced during the periods by the ATPS.

ATPS also emerged tops for the second time in a row as the best Think Tank in Africa despite various difficulties the organization has faced in the past few years. The ranking was done by the University of Pennsylvania under the Think Tank and Civil Societies Program. ATPS emerged as the best managed Think Tank in Africa, best advocacy campaign Think Tank, best networked Think Tank in Africa, Think Tank with the most significant impact on public policy, best institutional collaboration involving two or more Think Tanks, Top Science and Technology Think Tank in Africa, Think Tank with the most innovative policy ideas/proposals, and Think Tank with the best use of internet in Africa.

Funding for the ATPS activities was among the top agenda during the Stakeholders' Forum. Participants urged ATPS to continue reaching out to numerous donors interested in Africa's development through STI and to increase its brand visibility to the public by participating in forums, inviting potential donors to workshops so that they are aware of the role and

Mr. Chuma Ikenze, ATPS Board Member presenting the proposed New Strategic Plan to ATPS Stakeholders.

potential of the ATPS in Africa and beyond. In addition, ATPS should utilize its linkage with the media on the continent to highlight its work and achievements in the area of STI development.

Dr. Ozor further reported that the ATPS now has a new chapter in Namibia and Tanzania. He pointed out that efforts are under way to revitalize ailing chapters as well as appoint new coordinators for some ATPS Chapters in selected countries in order to boost their activities in the countries. He urged the ATPS National Chapter Coordinators to reactivate themselves and source for funds to implement STI programs and activities in their respective Chapters. They can liaise with the Secretariat to achieve this feat. He requested those who have not been in contact with their members in their respective countries and sub-regions to reactivate communications with them and reorganize their leadership towards achieving high efficiency and effectiveness in the ATPS Network at national, sub-regional and regional levels.

In response, delegates at the Stakeholders' Forum commended the current leadership of Dr. Ozor and his team at the ATPS and pledged their full support to the team to enable it achieve the mission, vision and objectives of the ATPS. They confirmed the relevance of ATPS as a pioneer institution in building Africa's capabilities in STI policy research, policymaking and policy implementation for sustainable development on the continent and noted that every ATPS stakeholder has a role to play to accomplish this mandate.

A SNAPSHOT OF THE PROPOSED ATPS NEW STRATEGIC PLAN 2016-2020

Stakeholders engage in discussions during the 2016 ATPS Stakeholders' Forum.

By Dr. Nicholas Ozor

The African Technology Policy Studies Network (ATPS) is in the process of developing a new strategic plan for the implementation of its activities for the next five years. The Phase VIII Strategic Plan will be for a period from 2016 to 2020. The purpose of the plan is to realign ATPS activities with 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). Most importantly, the plan proposes to prioritize the ATPS stakeholders' and national chapters' priorities identified during the several participatory fora and dialogues of ATPS stakeholders. The plan will also be greatly enriched with lessons learnt from the implementation of the ATPS Phase VII Strategic Plan.

The plan has proposed a shift from the usual programmatic approach to sectoral approach in identifying African priorities for implementation. In the sectoral approach, ATPS stakeholders have identified four sectors to focus on during the next five years. These sectors have also all been prioritized by most national, regional, continental, and global development agenda including most African national development agenda/vision, the African Union Agenda 2063/STISA 2024, and the SDGs. They include:

1. Agriculture, food and nutrition
2. Energy
3. Climate change and environmental management
4. Health

Under the **Agriculture, food and nutrition sector**, 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. Thus, 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 manage-

ment and resilience. Food, nutrition and health outcomes will also form a major focus for the ATPS in the coming years under the current strategy.

Under the **energy sector,** ATPS aims 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 socio-economic development even as the access to modern and reliable energy services is a critical human development priority. 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.

Under the **climate change and environmental management sector**, the ATPS hopes to strengthen its longstanding efforts in building climate change resilient capacities at individual, institutional and systemic levels on the continent. 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 Policy making through scenario analyses, training and policies that support the development of sustain able technologies and innovations for adaptation such as the renewable energy carriers and efficient stoves.

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. Specific attention will be paid to 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. ATPS 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.

Whereas ATPS will focus on these four sectoral areas, some cross-cutting activities have also been identified for the achievement of desired impacts on the sectors. These cross-cutting activities include:

- STI policy research, policymaking and advocacy - building capabilities, structures, and conditions necessary for the democratic governance of STI, formulation of policies, and effective policy implementation for sustainable development in Africa.
- Training, sensitization and capacity building - enhancing individual and organizational STI skills for African Development.
- Youth and gender empowerment - nurturing and harnessing the innovative potentials of African youth and women, since they constitute the largest segment of the African population.
- Identifying and promoting locally developed STI initiatives - brokering the adoption, commercialization and sharing of locally developed scientific knowledge, technologies and innovations for sustainable development.
- 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

The ATPS Board of Directors and Management takes this opportunity to appreciate all our stakeholders, donors, and partners who have supported us thus far in developing the new strategic plan. We welcome more inputs even as we finalize the new plan by the end of 2016.

YOU ARE WHAT YOU EAT: DEMYSTIFYING FACTS ON NUTRITION AND HEALTH PERSPECTIVES

By Dr. Catherine N. Kunyanga
Lecturer, University of Nairobi

We rarely think about the consequences of the types and amounts of foods we eat, what you choose to eat is one of the most important health decisions you can make.

Many at times, consumers do not think about what they are eating. In the African set-up, most diets tend to be driven by a myriad of factors namely; hunger, appetite, cultural and social meaning of food, habit or custom, emotional comfort, convenience and advertising, nutritional value, social interactions and accessibility.

Advertising continues to play an important role in influencing consumption of foods. Nutrition information is rarely displayed on the labels of most food products; consumers therefore purchase and consume these foods regardless of their cost without being oblivious of the possibility of them being unwholesome or of lower nutritional and health quality than indicated.

The famous quote by Hippocrates that: *"Let food be thy medicine"* still guides most of the underlying principles of nutrition. It is a proven fact that plant foods i.e. cereals, legumes and vegetables have helped to fulfill the ageless need to sustain body and soul. These foods play an important role in the traditional diets of many developing countries; they are low in fat, excellent sources of proteins, carbohydrates, dietary fibre and a variety of micronutrients. Increased consumption of these foods has been widely promoted, not only do they supply macro and micronutrients but they also provide many bioactive phytochemicals which are strongly associated with health maintenance and prevention of chronic diseases. Consumers, especially those from the middle and upper socio-economic classes have become increasingly aware of health benefits derived from consumption of health promoting specialized foods found in the market.

There is also increasing willingness to pay for additional safety of food products, and increasing attention toward the overall safety of consumption patterns, given a more widespread knowledge of the relation between food consumption patterns and health status.

Is there a Biblical Perspective on What we Eat?

My all favourite biblical quote *"Daniel then said to the guard whom the chief official had appointed over Daniel, Hananiah, Mishael and Azariah, "Please test your servants for ten days: Give us nothing but vegetables or pulses to eat and water to drink. Then compare our appearance with that of the young men who eat the royal food, King's meat, and treat your servants in accordance with what you see."* 15…..*At the end of the ten days they looked healthier and better nourished than any of the young men who ate the royal food."* Daniel 1:11-13 (NIV)
This proves that plant foods can help promote nutrition and health of many populations in Africa and globally with positive outcomes. Many consumers may find it strange to think about eating as a choice but it is.

Choosing to live well is choosing to eat well. Whole foods and nutritionally adequate diets such as a variety of vegetables and fruits as part of a mainly plant-based diet can help one avoid four of the top ten leading causes of premature death which are: heart disease, cancer, stroke and diabetes. A healthy diet can help one look better and feel younger. In addition to providing several nutrients for healthy balanced diets, plant based foods exert a health-protective effect attributed mainly to antioxidants and dietary fiber. These foods have potential as a remedy to counter food insecurity since most are

well adapted to the local environment enabling them to resist pests, drought and diseases.

In addition, plants possess macronutrients, amino acids, lipids and minerals, which are natural components of many cereals, legumes, oil seeds, and vegetables and they play an important role in maintaining their quality and determining nutritive value in human diet. Policy interventions and nutrition education should focus on linking agriculture to positive nutrition and health outcomes. Hence, in the efforts to address food and nutrition security it is pertinent to take into consideration the role of plant foods in diseases and health. Climate smart agriculture should therefore, incorporate production of nutrition sensitive crops for positive nutrition and health outcomes among various populations in Africa.

Why Worry about What you Eat?

Globally, under nutrition and over nutrition are key concerns of many nutritionists. These two scenarios lead to risk of being underweight or overweight which can be measured. The risks of being overweight and physically inactive are numerous depending on individuals. The biblical perspective also cautions against overeating for instance, "Proverbs 23:20-21: *Be not among drunkards or among gluttonous eaters of meat, for the drunkard and the glutton will come to poverty, and slumber will clothe them with rags."*

If you are overweight (BMI over 25) and physically inactive) you may develop: Cardiovascular (heart and blood circulation) disease, Gall bladder disease, High blood pressure (hypertension), Diabetes, Osteoarthritis, and certain types of cancer such as, Colon and Breast Cancer. The short-term conditions related to poor diet include fatigue, bad moods, depression and stress.

Steps to a Healthier Lifestyle

1. Eat diet rich in fruits, vegetables, whole grains and low-fat foods.
2. Exercise for 20-30 minutes a day, 3-5 days/week
3. Maintain a healthy weight
4. Get a good night sleep
5. Manage stress (sex helps)
6. Moderate alcohol

If you are underweight (BMI less than 20), you may be malnourished and develop: Compromised immune function, Respiratory disease, Digestive disease, Cancer; Osteoporosis, and Increased risk of falls and fractures.

The Choice is Yours!

A plant based diet will contain macronutrients (carbohydrates, protein and lipids), micronutrients (vitamins and minerals) as well as dietary fibre. Dietary fibre has been showed to have benefits that include combating constipation and improvement of control s in the body like your heart health as well as protection against cancer. The most undisputed advantage of insoluble fibre is its ability to soften and expand stool volume, speeding up faecal transit and elimination. Soluble fibre from legumes, barley, oats, some fruit and vegetables can help regulate blood sugar swings and by lowering serum cholesterol, protect against heart disease.

Excess blood fats are possibly reduced by soluble fibres such as pectin, bean and oat gums, and the types in legumes (lentils, chickpeas, navy, pinto or kidney beans). Your heart health may improve by diets rich in fibre, through its cholesterol lowering effects. Fibres also have possible anti-cancer effects since in the bowel, bacteria converts fibre into short chain fatty acids, which provide energy for the body and may help protect against cancer.

Many at times we neglect our bodies by overeating and lack of exercise. Physical exercise is also important in nutrition and health. *1 Timothy 4:8 says that "For bodily exercise profiteth little: but godliness is profitable unto all things, having promise of the life that now is, and of that which is to come".*
Let moderation in everything guide you to a healthy living. *"Let your moderation be known unto all men. The Lord is at hand. Philippians 4:5"*

HOW CAN VALUE CHAIN AND VALUE CHAIN FINANCE BE MADE FUNCTIONAL IN AFRICA?

By Dr. Mkpado Mmaduabuchukwu

The quest to develop agriculture in Africa through financial services has not yielded the desired results.

African Agriculture is largely dominated by smallholders and remains the source of livelihood to majority of poor living in sub Saharan Africa who have witnessed an increase in the number of companies locating production bases within countries, especially in agriculture via land grabbing without any improvement in value chain as the produce are not fully processed in Africa.

Improving value chain is a major way of alleviating poverty; it increases income to billions of people (about 70 percent) that engage in agriculture. African agriculture still contributes the highest GDP of upto 28%, 25% and 20 % in Western, Eastern and Central Africa respectively from 2006 to 2010.

The Concept of Value Chain and Value Chain Finance

Value chains encompass a full range of activities and services required to bring a product or service from its conception to sale in its final markets whether local, national, regional or global. Value chains actors include suppliers, producers, processors and buyers who have a crucial role in three subsectors of agribusiness namely input sector, farm sector and the product sector.

Chain actors are involved in bringing a product from production to the end-consumer. Often the product sectors which consist of consumer markets, business markets, governments and institutional markets, and international markets tend to dominate the concept of value chain.

Value chain finance refers to the flows of funds to and among various links within a value chain. Efficiency of value chains is partly determined by accessibility and affordability of financial services across various agricultural and non-agricultural products with the aim of improving jobs and wealth creation, stability of value chains and enhancing efficiency and capacity of various commodity chains.

Value chain can be viewed from two perspectives, it could be internal or external based on the product under consideration. Internal value chain takes place within the value chain such as when a supplier provides credit to a farmer while external value chain finance is financing from outside the chain made possible by value chain relationships and mechanisms like when a bank issues a loan to a farmer based on a contract with a trusted buyer.

Integration of the Concept of Value Chain Finance in Formal Financial Markets

Agricultural value chains have not been integrated in mainstream financial services successfully however,

the recognition of the role of Agriculture in Agrarian economies has made Agricultural value chains graduate into an emerging market for financial markets intermediation players but not yet in Africa. Improved and integrated agricultural financing via micro credits, insurance, value chain financing is required. African Development Bank (AfDB) and Central Banks of individual African economies may wish to develop models for improved value chain finance.

Handling Challenges /Constraints Posed by Inherent Characteristics of Agriculture

The biological nature of agricultural production makes it susceptive to diseases and pest attacks as well as environmental changes. The changing weather has been responsible for fluctuating yields and a supply shortfall which has put pressure on crop prices. The recent floods in Ghana, Nigeria and other parts of Africa caused huge losses to farmers and the agricultural sector .The bulkiness of agricultural products may pose some limitations due to poor transportation network. The seasonality of rainfed agriculture as paratised in many parts of African is a constraint to continus processing and optimisation of processing and marketing of agricultural products.

Improving Market Access and Market Infrastructure

Improving value chain and value chain finance in Africa requires investment which may not be sufficiently carried by African economies alone. There are many conditions/situations in Africa that causes insecurity that need reversal to attain improved agricultural value chain and its finance. Political neglect on agriculture and rural development in Africa leads to under performance in the Agricultural sector.

Increasing Industrialization, Technology and Innovations in African Agriculture

Agriculture in Africa is poorly industrialized. The sector is dominated with small scale entrepreneurs whose capital outlay is very small and lack necessary linkages for upscaling. Many African farmers are using crude, less efficient implements which has not reduced much of the drudgery they experience. Innovations for adaptation and mitigation of climate change exit but the transfer and adoption constitute a major challenge. Week extension services as a result of poor capacity of majority of the staff and very limited facilities such as those for mobility and information communication technology.

Improving Contract Farming Arrangement

Contract farming offers an opportunity for smallholders to gainfully participate and relieve the principal of the time and labour for primary production. A contract arrangement provides the most critical factor which constitutes a bottle neck for the production. Although contract farming is not new in Africa, its application has to be increased. Increase in participation of farmers will reflect in reduction of rising trade inputs.

Policy Implications

Increased value chain in Africa can be a means of creating employment, wealth and poverty eradication even gaining favourable balance of payment. Efforts should be geared towards proving good market access, market infrastructure, industrialization, technology and innovations, as well as improved agricultural financing via micro credits, insurance and value chain financing.

Reforms in African land tenure system and industrialization of agricultural sector to large scale production and processing. African can gain from improving value chains of cassava, cotton lint, milk and butter.

The African Development Bank should develop modes for improved agricultural financing via micro credits, insurance, value chain financing in Africa and the African Union, as well as individual economies and different economic blocks in Africa need to intensify efforts to arrest the growing insurgence that leads insecurity and poor investment.

ATPS POLICY STUDY ON REGULATORY HARMONISATION OF VETERINARY PRODUCTS' REGISTRATION IN EAST AFRICA

By Hillary Ragen

ATPS in partnership with the Global Alliance for Livestock Veterinary Medicines (GALVmed) engaged in a policy landscaping study on regulatory harmonization of veterinary products' registration for mutual recognition among East Africa partner states between July and October 2016.

GALVmed is a non-profit organization with its headquarters in Edinburgh, UK. The organization works with countries in the developing world to promote access and affordable livestock health products to key populations who depend on livestock for their livelihoods.

Since 2011, GALVmed has been working with Regional Economic Communities to harmonize registration of veterinary products towards Mutual Recognition Procedures (MRP) in East Africa. There has been significant progress on the technical aspect of regulatory harmonization process and to complement these efforts, GALVmed saw the need to review the policy requirements for the implementation of MRP.

It is against this backdrop that ATPS as a leader in policy research coupled with its experience working with Regional Economic Communities (RECs) in Africa, was contracted to undertake this study with the goal of providing insights of policy landscape within East Africa Communities (EAC) and provide a way forward in terms of policy recommendations that will enable the implementation of MRP in EAC Partner States.

Harnessing the expertise, experience and networks afforded by ATPS in research, policy and advocacy in the field of Science, Technology and Innovation (STI), GALVmed will be able to augment the sustainability and scalability of its work on regulatory harmonization within the EAC. The outcomes and impact of this policy scoping study will be mutually beneficial to ATPS and GALVmed and will contribute towards agricultural sustainability and African development.

The specific objectives of the policy scoping study were:

*ATPS Research Officer Mr. Hillary Ragen **(fourth from right standing)** during the regional seminar organised by GALVmed from 8th-12th August 2016 in Arusha, Tanzania.*

- To review EAC law/regulations on regulatory harmonization in so far as they are applicable for the implementation of MRP.
- To review the laws and regulations in EAC Partner State to determine gaps and where alignment is needed in order to implement MRP at the national level.
- Identify mechanisms and strategies that will facili tate and enhance national level ratification, do mestication and actual implementation of MRP.

ATPS undertook its activities towards achieving the set objectives that include data collection and analysis in three of the six East Africa countries (Kenya, Uganda and Tanzania) and an analysis of the policy and legal documents of all the six partner states of the EAC.

A final comprehensive report is expected as an outcome of the study that will detail the key findings on each of the partner states, policy position with respect to implementation of the MRP and policy recommendations that will facilitate and accelerate national level ratification, domestication and actual implementation of MRP. If the proposed recommendations are implemented, the project will have a wider long-term impact on policy environment with respect to harmonization of laws and policies in the livestock sector in East Africa which will consequently impact positively on the lives of ordinary livestock farmers.

GALVmed has previously contracted ATPS to conduct a market assessment for Newcastle Disease Vaccine in Nigeria and Ghana which was completed early this year in February.

NIGERIA LAUNCHES A NEW AGRICULTURAL POLICY

By Prof. Michael Madukwe
ATPS National Coordinator, Nigeria Chapter

Nigeria has launched the Agricultural Promotional Policy (APP) 2016-2020, which aims to reduce food imports and increase significant foreign exchange from Agriculture. APP strategy will focus on solving core issues at the heart of limited food production and delivery of quality standards. As productivity improves domestically and standards are raised for all Nigerian food production, export markets will also benefit impacting positively on Nigeria's balance of payments.

The new policy will provide a disciplined approach to building an agribusiness ecosystem in which the private sector will remain in the lead while the government facilitates; key federal ministries, departments and agencies (MDAs) will take a regulatory role to ensure commercial development of the market objectives.

APP has key three thematic areas: Productivity Enhancements aims to address issues of access to land and land management, soil fertility, access to information and knowledge, access to inputs (seeds/seedlings, fertilizer, livestock), production management, storage, processing and marketing, and trade. The second theme crowding in private investment will address issues of access to finance and agribusiness development while the third theme FMARD's Institutional Realignment will address issues of institutional setting and the role of government, youth and women, infrastructure, research and development, food ,consumption and nutrition security.

However, two issues that are not clear in the document are the technological capabilities of the actors, and how to enhance them and the necessary linkages to drive the initiatives particularly linkages with non-ministry actors. Nigeria is currently facing two key gaps in Agriculture; the inability to meet domestic food requirements and to export at quality levels required for market success. The Federal Ministry of Agriculture and Rural development (FMARD) has identified an initial pool of crops and related activities that will be Nigeria's path to tackling this menace. Its priority is on improving productivity into a number of domestically focused crops such as rice, wheat, maize, sugar amongst others. This will be possible if Nigeria partners with private investors across farmer groups and companies to develop end to end value chain solutions which will be facilitated through government support as they engage a new generation of farmers.

Nigeria plans to work with investors to sharply improve the distribution system for fresh foods so as to reduce post harvest losses and improve nutrition outcomes. FMARD will prioritize for the production of cowpeas, cocoa, cashew, cassava, ginger, sesame, oil palm, yams, horticulture, beef and cotton in collaboration with a network of investors, farmers, processors and other stakeholders' so as to deepen the supporting infrastructure to ensure quality standards are defined and maintained across the value chain. This will involve adding more testing laboratories, improving traceability of crops, disseminating intelligence on export markets and consumer preferences with the aim of building high quality brand for Nigerian foods based on rigorous data and processes to protect food safety for both domestic and export market.

FMARD will also use its convening and related powers to ensure there is an enabling system in place to support agribusiness, it will invest on rural roads to reduce transport time and improve security of farming communities to reduce incidence of criminality. In addition, FMARD will periodically publish metrics to track performance against strategy, this will enable them to repeatedly collect accurate data, integrate these into policymaking as well as investor planning. If the Agricultural Promotional Policy is properly implemented, Nigeria's continuous import of rice will disappear while its main produce like beans and cocoa will once again become a quality benchmark across the globe.

HINGING THE VIBRANCY OF ATPS CHAPTER ON LINKAGES AND GROOMED YOUTH: LESSONS FROM ATPS UGANDA CHAPTER

By Okuonzi John (PhD)
ATPS National Coordinator, Uganda Chapter

Good habits formed at youth stage make a significant impact to the society. ATPS Ugandan Chapter (AUC) has remained vibrant and relevant to the STI agenda despite gaps in funding its activities.

The youth are the pillar of AUC. A number of youth groomed by chapter since its inception have matured with different technology based business initiatives, some work closely with government agencies and have continued to maintain their identities with the ATPS.

The AUC identified a number of talented youth with strategic innovations and nurtured them to develop their innovations to commercial levels. Most of them have come up with software products used in universities and some with tangible electronic products such as inverters for solar systems. Having developed commercial viable products, the youths formed business companies with an office and production space. One of the software companies offered AUC office space that it currently conducts business in appreciation of nurturing and support at incubation. This is under the auspices of the ATPS Phase VI Strategic Plan 2008-2012.

AUC has worked with youths who have benefited from small grants ranging between USD 1000 to 5000 USD. In 2013 -2014, a group of AYFST members in Uganda wrote a proposal dubbed, *Engineering Practice for Community Services (EPICS)* which attracted a funding of USD 3000. The aim of this project was to encourage youth to join the engineering profession so as to serve communities. It involved pairing university students with secondary students and actively engaging them to produce innovate systems or products that address rural community challenges.

The same youth group wrote another proposal to install lighting arrestors in primary and secondary school prone to lightning strikes. The activities involved awareness creation, design and installation of lightening discharge system with the school children. The children were taught by ATPS youth about science lightening and how to protect themselves from attacks. The project attracted a grant of USD 5000.

In 2015-2016, AYFST group won a grant of USD 3500 to develop a mobile ICT lab to train students and those that are under-privileged in the community. The mobile ICT lab contains about 5 personal computers designed to be hauled around schools without ICT lab facilities. The mobile ICT lab is stationed in one school for about 5 days to enable pupils gain bits of digital literacy. In order to be sustainable the schools make contributions to support the initiative since many of them cannot afford to buy computers.

Since 2013, AUC has worked with Café-Sci, an NGO that promotes teaching of science informally in primary and secondary schools. The Café Sci and AUC members have visited over 60 schools in more than 5 Districts in Uganda. In this arrangement, the students and pupils are urged to form science clubs. The science clubs then identify science topics that are relevant in the community. ATPS members with related knowledge are identified as guest speakers in the schools. The project became so popular and in most cases attracted the entire school. These activities are in line with ATPS youth and gender programme.

AUC has been working closely with the Uganda National Council for Science and Technology (UNCST) since 1994 to accomplish relevant IP programs. The UNCST a national body charged with the responsibility of developing Science and Technology in Uganda. UNCST in collaboration with AUC continue to develop the capacity of scientists in the area of Intellectual Property Rights in order for them to benefit from their efforts; for IP strategy to be successful, inputs from other national mandated bodies like Uganda Registration Services Bureau (URSB) and leading academicians were required. This led to the formation of a 9 member National IP Advisory (NIPA) Group to advise UNCST on IPR issues.

Mr. John Okuonzi, AUC National Coordinator is an active member of the NIPA. The NIPA Group initiated a program called “IP Clinics” which is a platform used to train and create an IP culture amongst scientists and innovators in Uganda. The IP clinics are held monthly with an aim of providing an information platform on intellectual property related issues and improve access to IP information. The IP Clinic, UNCST, AUC and URSB promote commercialization of local inventions/innovations and facilitate access to patent information.

AUC and URSB created a Technology Innovations Support Center at Kyambogo University to easily access patent information. Over 200 staff, students and other scientists have been trained to search patent information since 2014. This program has made AUC relevant in strengthening institutional mechanism to acquire and support Intellectual Property Rights (IPR) and expand the innovation base in Uganda. These activities are aligned with ATPS agenda on STI Research, Training and Sensitization, Knowledge Brokerage and Commercialization, and Policy Advocacy.

AUC also participates in national events such as the National Science Week . In recognition of these key activities, AUC was selected by URSB to be a member of the National Expert Group (NEG) whose mandate is to identify appropriate technologies for adoption and national development. AUC has continued to develop IP as an important strategic and competitive resource that is currently recognized as a national resource that can attract foreign investments in Uganda.

AUC has collaborated with like-minded institutions in Uganda and continues to provide platforms for collaborative youth innovative engagement in ATPS programs. While supporting the AFYST and STI institutions/stakeholders to build necessary conditions and incentives to implement their programs, AUC has remained active to ensure that six core pillars of ATPS remain operational in the chapter. AUC works towards implementing the Phase VII Strategic Plan, which is designed to improve the understanding and functioning of STI policy research, policymaking processes and systems to strengthen capabilities, social responses, and governance of STI-led sustainable development in Africa.

YOUTH AND ENTREPRENEURSHIP

US President, Barack Obama speaking to delegates during the 2015 Global Entrepreneurship Summit in Nairobi, Kenya.

By Dr. Ernest Acheampong

Africa's youth-heavy population can transform the continent's economy, insulating itself from the perils of a resource-driven approach.

The 2015 Global Entrepreneurship Summit in Nairobi reiterated the crucial role of entrepreneurship in economic development, job creation, and technological innovations for enhanced economic growth. The event which was attended by U.S. President Barack Obama helped place Africa in the global limelight as an emerging entrepreneurship hub. Africa is taking advantage of its youth demographic dividend to push young entrepreneurs to contribute to the continent's economic transformation. Two decades ago, Africa was hardly represented on the global business map due to its insignificant contribution to the global economy.

Today, Africa's economic figures are expected to pick up significantly in the latter part of 2016 due to growing confidence to both the investor and consumer. Current indicators seem to suggest the opposite is occurring with limited job opportunities and high youth unemployment. The public sector is no longer capable of absorbing the massive number of young people graduating from universities every year. Youth unemployment in Africa is still a menace, in North Africa the rate is at 30.5% which is the highest worldwide according to a report, Global Employment Trends for Youth 2015 by the International Labour Organization.

Africa's rapidly growing population has led to a massive youth bulge, with over 40% of the continent under the age of 15 and 20% between the ages of 15 and 24. The statistics present both risks and opportunities for future prosperity. On the risk side, the high unemployment rate and limited opportunities for youth create widespread dissatisfaction especially in countries with limited avenues for dissent can serve as a recipe for social unrest.Absent progress in unrest. Absent progress in these areas means an immense pool of talent will be left to waste at the expense of African economies.

On the opportunity side, if properly harnessed Africa's youth bulge can offer a strong and energetic human capital with the potential to speed up economic growth and foster a sustainable future for the continent. Many young Africans are highly motivated to define a better path to prosperity; they are well-connected and well-placed to create new technologies to transform Africa's economy from resource-reliant to service-driven.

Entrepreneurship is not a new idea in Africa; young people have demonstrated their creativity and ingenuity in creating small and medium scale enterprises. Technological revolution in Africa is proving to be a game changer for young entrepreneurs by facilitating the development of mobile apps and the emergence of business start-ups and tools to address pertinent societal needs while filling the employment gap.

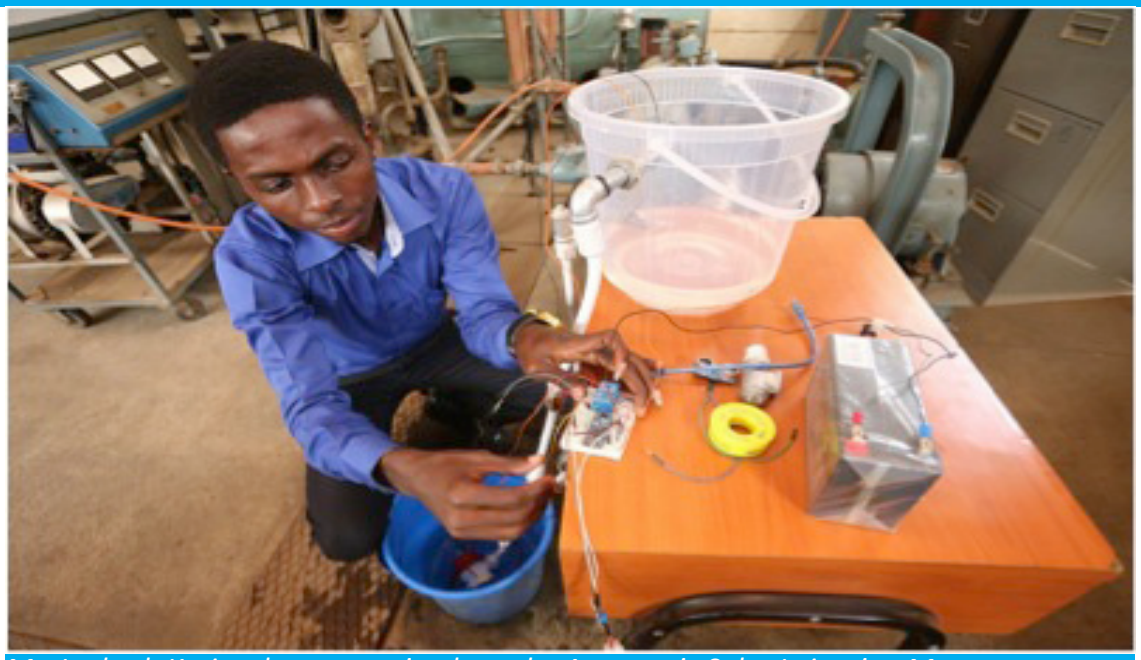
Challenges

While many African entrepreneurs complain about limited financial capital, financiers and investors point out that a number of proposed ventures are not fundable hence the reason why they are averse to offering loans and credits to youth-led businesses because they are deemed too risky and in many cases not financially viable.

Young Africans seeking to start new businesses lack well-tailored training which undermines their innovation potential and deters would-be investors. In spite of well-intentioned government programs, private and public funds that have been set up, many have been hit hard by corruption, poor programming and implementation.

Entrepreneurship in Africa will take more than just funding. State agencies must create and support programs that provide the knowledge and skills necessary to set up businesses including financial management, risk and uncertainty analysis, and market strategy. The youth should take advantage of technology and establish business connections in the region and abroad and prepare themselves to access financial services and emerging markets.

AUTOMATIC SOLAR IRRIGATION MANAGEMENT SYSTEM



Mr. Japheth Karisa demonstrating how the Automatic Solar Irrigation Management System Works.

By Japheth Karisa

Africa is the world's second largest continent after Asia, more than 70 % of the continent's poor people live in rural areas and depend on agriculture for food and livelihood yet the development assistance to agriculture is decreasing.

The history of agriculture dates back to 1200BC when farmers used simple farming tools to till their land and produce food for their family. It is until Agrarian revolution that mechanization replaced human labour and new tools for farming led to high yields.

In Kenya, most people who practice irrigation farming use pumps to pump water from the source to the cultivated lands while others create sills and dykes that can tap stream water and then redirected to allow water flood over the land under cultivation. Farmers using pumps often use diesel as a source of power. The price of petroleum products keeps on fluctuating and becomes expensive each day due to political events, economic growth causes excess supply hence shortage by major oil distributors so as to increase oil prices and fluctuation in currency rates amongst others.

The use of petroleum products as a source of fuel leads to environmental pollution through the release of carbon monoxide, unburnt hydrocarbons and nitrogen oxides to the atmosphere which leads to global warming due to the accumulation of greenhouse gases. Another problem incurred by people using diesel pumps is the cost of labour as one has to employ people to irrigate the land.

Due to these problems there is a need to come up with a better irrigation system that conserves the environment and is pocket friendly. Irrigating a large piece of land requires a pump, to cut the cost incurred to buy fuel for the irrigation pumps then solar energy can be used because it is cheap, renewable and readily available.

In order to reduce pollution caused by burning of fuel used to run the pumps, solar energy which is clean and green can be used. The cost of labour incurred through employment of labourers to irrigate the lands can be reduced by having an automatic irrigation system that can run on its own without involvement of many hands and to manage the water used for irrigation, a correct amount of water should be distributed on the land evenly and on the places that have inadequate water.

The solar powered automatic irrigation management system makes use of sensors and mechanical actuators to control the whole irrigation process.

The automatic solar irrigation system has a pump that pumps water from a source (river) to a storage tank. In the tank there is a water level sensor that monitors the variation in water level, when the water reaches the highest set level an analog signal is sent to the microcontroller which sends a digital signal to the relay to switch off the pump. The water in the storage tank is directed to the irrigated soil.

When water in the soil reaches the set level, the soil moisture sensor in the soil sends an analog signal to the microcontroller which then sends a signal to the relay connected to the valve and the relay closes the valve. In addition, there is an LCD display that displays the level of water and the action taken by the microcontroller e.g “PUMP ON, TANK LEVEL 40%”.

The system can be used in large scale production and on any type of soil or crop. The variable changed is the set amount of moisture so as to suite various types of crops and soil.

Interview with Mr. Japheth Karisa

Japheth Karisa is a student at the Technical University of Kenya pursuing a Bachelors degree in Mechanical Engineering. He has developed an innovative prototype on the Automatic Solar Irrigation Management System which is simple to operate and makes use of sensors.

Mr. Japheth Karisa

1. What is an Automatic Solar Irrigation Management System?

An automated irrigation system refers to the operation of an irrigation system with no or just a minimum of manual intervention beside the surveillance. Almost every system (drip, sprinkler, surface) can be automated with help of timers, sensors, computers or mechanical appliances; it makes the irrigation process more efficient and workers can concentrate on other important farming tasks.

2. What is so unique about the innovative prototype you have developed?

The design is so simple to operate. It makes use of sensors unlike the old systems that use timers.

3. What is the niche of the new technology?

The automatic solar irrigation system has solved the problem of loss or abandonment of land that could be used for cultivation due to little or no rainfall and also there is need of conserving the environment and curbing environmental pollution in all its forms.

4. How does the Automatic Solar Irrigation Management System works?

It makes use of sensors to control various parameters. A water level sensor is used to check the level of water in the tank where it sends a signal to a microcontroller on the water level. The microcontroller responds by sending a signal to the relay to either start or stop the pump. On the other side soil moisture sensors are used to check the level of water in the soil. When the soil becomes wet enough to the set point a signal is sent to the microcontroller which responds by sending a signal to the relay to either open or close the valves. A display screen displays the various output commands.

5.How is the new technology environmentally conscious?

The system runs on solar power which is a green source of energy. Water is also conserved and cases of water logging are eliminated.

6. What are the advantages and disadvantages of the Automatic Solar Irrigation Management System?

The system is environmentally friendly as the source of energy is green, cheap and not affected by inflation. The costs of human labour are less as there is minimal human intervention. However, the source of power can be affected by a cloudy weather and the initial cost of setting up the system is high but long benefits are cheap.

7. Can the Automatic Irrigation Management System be used in all types of land?
Yes, the system can be used on any soil and any crop, since a program is fed to the microcontroller and the values of the variables can be changed to fit with the type of soil

8. Is the Automatic Irrigation Management System favourable to people living in dry areas?
Yes it is, those with access to boreholes and wells can take advantage of automatic irrigation system.

9. What are your plans with the new technology and how will you ensure that it benefits farmers?
I will partner with government organizations and NGOs to ensure that the idea is implemented especially, to the less fortunate farmers.

10. Have you patent your innovation?
I am in the process

11. What is the procedure of patent in Kenya?
The Kenya Industrial Property Institute is mandated with the task to patent innovations and it has set guidelines of what can be patent or not. The process begins by filing an application through an IP3 form which requires one to give a description of his/her invention, the technical field the invention relates to and background information of the applicability of the invention to the industry. The innovator then provides claims which define the features of the patent for which protection is sought, a drawing of the invention is needed and lastly, it is the abstract that includes technical information which is a summary of the technical field to which the invention relates to and the principal use or uses of the invention.

12. What are the benefits of patent?
Patent offers one monopoly of their work, one is able to enjoy the benefits that come with his hard work unlike situations whereby one plagiarizes someone's work and starts reaping the fruits he/she did not sow.

KENYA's ROADMAP TOWARDS THE IMPLEMENTATION OF SDGs

By Sharon Anyango

Kenya has launched a roadmap to guide the country in its quest to achieve the 17 Sustainable Development Goals (SDGs) within the deadline set by UN. The roadmap will ensure there is close monitoring to identify gaps and progress of the integration process.

The importance of capacity building within public institutions and the need to conduct civic education was also emphasized to ensure every citizen is involved in the process of integrating the SDGs.

Mr. Mwangi Kiunjuri, CS Devolution noted that SDGs will be aligned with the County Integrated Development Plans; the plan has classified SDGs into short, medium and long-term in order to prioritize pressing areas anchored on People, the Planet, Prosperity, Peace and Partnerships. Kenya has also integrated SDGs into its vision 2030.

Eradicating poverty, hunger, ensuring healthy lives, gender equality and empowerment of women are integrated in the SDGs to capture unfinished MDGs.

SDGs 6-11 are newly designed areas expected to address water and sanitation challenges, affordable energy, economic growth and infrastructure and industrial development with an aim of reducing inequalities among countries, address sustainable cities and communities.

Goals 12 to 15 have been incorporated to address matters of environmental sustainability with great concerns to challenges of climate change which include responsible consumption and production, climate action, conservation of water sources, protection of forests and proper utilization of land resources.

Goal 16 focuses on enhancing peace and justice through establishment of effective institutions that can administer accountability and inclusivity.

Kenya had the opportunity to chair the panel that drafted the 17 SDGs which were later on adopted by the UN General Assembly in 2015 to advance inclusive growth, peace and good governance.

Deputy President, William Ruto on 24th September presented the roadmap to the United Nations General Assembly to showcase Kenya's commitment towards attaining the new development framework.

KENYAN FARMER REAPING BIG FROM BANANA TISSUE CULTURE BUSINESS

Joyce Macharia, a young farmer in Mogotio in her five acre banana plantation farm.

By Arnold Ominde

Every year, thousands of well-educated young Africans migrate from their countries in pursuit of greener pastures abroad due to the high rate of unemployment in the Continent. Some are lucky to land into lucrative jobs while others continue to languish in poverty with poor pay in the host countries.

Many youths prefer white-collar jobs as opposed to Agriculture and very few have an entrepreneurial mindset. Those who have ventured into Agribusiness and reaped its benefits have not looked back but continued to work hard and inspire others.

Joyce Macharia, quit her job three years ago at a local bank to venture into banana tissue business. She identified a niche in the market which was a shortage supply of bananas to the growing Kenyan population. She turned her fortunes by making use of neglected farmlands into centers' of attraction through science, technology and innovation. She could not understand the reason as to why the country should import bananas from neighbouring countries yet young people have the potential to farm bananas for export.

Her biggest challenge was getting the appropriate seeds. She first did a market survey before setting up the business and realized that there was a problem in getting seeds to sustain commercial banana farming. Being posed by this challenge, she and her colleagues tackled it by teaming up with friends to come up with a proper structure that would sustain the business.

They set up a banana tissue culture laboratory by converting a residential house into a laboratory with an investment worth Ksh.2 million, where they would use to produce seeds into bulk from identified banana varieties after the realization that through this model they would be able to produce disease free seeds that are able to easily get adapted to local environmental conditions.

Most of the capital went into installing tissue-culture banana seedlings production systems that churn out over 10,000 plants every month. The laboratory has seven employees and each of the three bedrooms turned laboratory is used for different purposes in the production process as they mostly work in groups to separate the shoots using what the Agronomist calls clean benches as the plants remain in this room for four weeks.

Each shoot is planted in its own sterilized bottle in the special soil with essential nutrients; the temperatures are maintained from 26-29 degrees Celsius since the plants are fragile and sensitive to too low or too high temperatures. From the laboratory, the seeds are taken to the nursery where they are hardened for around one month before being taken to the field for planting. Today, the business has grown and it supplies seeds to farmers spread across the country majorly in Mombasa, Marsabit and Kisii.

An entrepreneurial mindset amongst the youth is a more sophiscated approach towards the brain drain challenge in Africa. This approach would recognize not just the obstacles but also the opportunities for STI, and capacity building in Africa afforded by the migration of well-educated, productive scientists with great drive and ambition to developed countries.

Educational experts agree that Higher Education throughout Africa must be revitalized. Universities have been hollowed out by decades of brain drain and now find themselves severely handicapped by dilapidated facilities and inadequately trained staff. According to the Science Citation Index, Africa currently produces just 1.4 percent of the articles published in Peer-Reviewed International journals.

While Africa has paid a high price for this trend due to the on-going loss of its most educated and skilled citizens; denying talented individuals adequate education and training opportunities elsewhere carry significant costs too. As Rajiv Gandhi, former Prime Minister of India once observed, *"Better brain drain than brain in the drain."*

YOUTH EMPOWERMENT FOR SUSTAINABLE DEVELOPMENT IN AFRICA: THE ROLE OF AYFST

AYFST members during one of the Africa Regional Youth Congresses and Expositions in Nairobi, Kenya.

By Eng. Emeka Victor Ngwoke
Chairperson, ATPS African Youth Forum for Science Science and Technology (AYFST)

Today, the African continent is made up of youth with over 200 million people aged between 18 and 35 (the youth bracket). The current trend indicates that this figure will double by 2045, according to the 2012 African Economic Outlook report prepared by experts from the African Development Bank (AfDB), the UN Development Programme (UNDP), the UN Economic Commission for Africa (ECA) and the Industrialized Countries' Organization for Economic Cooperation and Development (OECD).

Africa is going through a rapid population growth. Its population has more than tripled during the second half of the twentieth century reaching around 1 billion people. As the total population keeps on increasing, the population of young people is getting its importance not only in terms of absolute number but also in terms of needs and this trend is expected to keep rising in the continent. According to the World Bank (2009) more than 72% of the youth population in Sub-Saharan Africa live with less than $2 a day and majority are unemployed.

What is Africa doing to take care of its young people? Presently, the youth constitutes about 60% of all Africans unemployed. In North Africa, the youth unemployment rate is an eyebrow-raising, it is even worse in Botswana, the Republic of the Congo, Senegal, South Africa, Nigeria and several other countries. The high rate of population growth presents many challenges for African leaders who are very sluggish to finding solutions to the constraints that Africa is facing. These constraints are unemployment, poverty, health, education, corruption, development infrastructures, terrorism, and disruptive conflicts. This represents major challenges worldwide particularly in Africa where youths often live in conditions of extreme poverty and social exclusion.

In spite of all these realities, there are many people and organizations that show encouraging dedication and passion for proactive and positive change in Africa. The African Youth Forum on Science and Technology (AYFST) is such a unique forum in Africa.

AYFST leaders and members during one of the Steering Commitee Meetings in Ghana.

AYFST is a youth organization in African countries which aims at engaging youth in the development of science, technology and innovation to solve problems they are facing in their communities.

AYFST was initiated by ATPS in 2005 in collaboration with the Technical Centre for Agricultural and Rural Cooperation CTA, Netherlands. Since then, the AYFST has provided a platform for African young professionals to build capacity in science, technology and innovation policy research, policy dialogue and policy practice. The forum and its website (http://www.ayfst.atpsnet.org) was formerly launched during the 2nd African Youth Congress on Science and Technology in Accra, Ghana co-organized by the ATPS, CTA, CSIR, among other partners. AYFST has national chapters in all the countries where the ATPS exists.

AYFST exists to build capacity of youths through training, information sharing, networking and dialogue in relevant topical and developmental issues to promote youth participation in policy formulation and implementation processes at all levels regarding STI and to promote youth-led, demand-driven research and development initiatives in Agriculture, Science, Technology and Innovation.

As young people of African extractions with unparalleled interest in the pursuit of economic renaissance in Africa using science, technology and innovation, we are convinced that Africa will soon be competitive and competitive. This hope is not without a price tag, it requires a diligent and consistent effort and investment from all the stakeholders' in Africa to ensure that Africa joins the rest of the world to celebrate good livelihood. If Africa must catch up with the rest of the World, then we need to be more aggressive in our policies and implementations in youth programmes.

AYFST Vision

AYFST is focused to see "Empowered African communities that enjoy sustainable livelihoods".

AYFST Mission

AYFST is committed to building the capacity of African youth in Agriculture, Science, Technology and Innovation and empower them to participate in policy formulation processes, advocacy and implementation for sustainable development.

AYFST is well-coordinated and has a wide spread youth network in Africa. It is committed to build the capacity of African youth in Agriculture, Science, Technology and Innovation by empowering them to participate in policy formulation processes and advocacy for sustainable development. African stakeholders' should buy into her programmes to assist the African youth to pursue and realize their dreams.

GOING GREEN: A PANACEA FOR CLIMATE CHANGE MENACE IN AFRICA

By Chibuzo Okpokiri,
Lecturer, Michael Okpara University of Agriculture

The enigma of climate change is no longer an illusion but a reality. In the recent years, climate has been changing drastically with an increase in local mean temperature, changes in rainfall - its onset, seasonal distribution and extremes, increase in frequency and intensity of large storms and tropical cyclones, increase in evaporation losses from plants and water surfaces and increased melting of glaciers and other ice bodies.

Climate Change has taken toll on the global economy making the cost of living and production to inflate. Although climate change is a global issue, it is more pronounced in Africa because of its geography, sole dependence on agriculture and generalized incapacity to cope and adapt to climate extremes. South Africa, Nigeria, Malawi suffered from effects of heavy flooding in 2010, 2012 and 2015 respectively while East African Countries namely Kenya, Somalia, Ethiopia, Eritrea experienced drought in 2011. This is a clear indication of how climate change is already knocking hard on our continent and we must be on the front line to mitigate its impacts.

Climate Change is the defining human development challenge of the 21st Century and if we continue with business as usual, the planet will probably become uninhabitable for future generations. If we continue to pollute our atmosphere as we are doing today, the future of the planet will be bleak with dramatic local climate changes, increasingly violent weather and rise of sea levels. The planet is heating up already and to stop it going much further the world must radically change its ways and go green.

A green economy or going green means an economic system that is compatible with the natural environment; it should be environmentally friendly, ecological, and for many groups is also socially just. This can also be called “greening the economy”. It is hinged on the concept of the ability to meet our present needs without compromising future generations’ capability to meet their needs. A green economy is buttressed by three major pillars namely: low carbon technology, resource use efficiency and socially inclusive growth.

Green economy was launched by the United Nations Environment Programme in 2008 to seize the opportunities that the concept of a green economy has to offer. It seeks to accomplish two tasks. First, it tries to make a “beyond anecdotal” macroeconomic case for investing in sectors that produce environmentally friendly or environmentally enhancing products and services. Second, the initiative tries to provide guidance on how to boost pro-poor green investment. The goal is to encourage and enable policymakers to support increased green investment from both the public and private sectors.

Africa is transitioning to a mechanized economy and will contribute its own pollution load to a planet already under severe ecological stress. Going green is hampered by many factors which include high poverty and unemployment rate, use of resources that contribute directly to GHG production and selfish nature of most African leaders who amass wealth

with no care to sustainable development. South-Africa is making tremendous effort in 'greening' its economy, they are spearheading the green revolution in Africa. The South African government has created a conducive environment to encourage green revolution by making policies that encourage going green which include; the 2006 national framework for environmental fiscal reform, the 2011 department of environmental affairs national climate change response, the 2012 department of trade and industry industrial policy plan, carbon tax in 2013 amongst other laws. The South African government has adopted the National Development Plan (NDP) as a road map to deliver public services efficiently up to 2030; the NDP outlines interventions that can put the economy on an environmentally friendly path. The reconfiguration will lead to a higher share of green sectors in the South African economy, more green and decent jobs, reduced energy and material intensities in production processes, less waste and pollution, and significantly reduced greenhouse gas (GHG) emissions.

The planet is ours and it is high time we made the needed plans to protect it. African countries should have a desire to protect the environment by active governmental regulation and polices, green building awareness campaigns, training and development, products standardization, culture and community influences, introduction of green building strategies and best practices into school curricular.

MY EXPERIENCE AS AN INTERN AT THE ATPS

By Clive Owino

Education is learning what you didn't even know you know. The Kenyan University education system is structured in such a way one has to do an industrial based attachment and be supervised by a his/her lecturer. The purpose of industrial attachment is for each student to apply the theory learnt in the classroom to the field.

I am a third year student at the Technical University of Mombasa pursuing a Bachelor of Science in Developmental Studies. I had the privilege to intern at the ATPS. I first came across the ATPS through a facebook post and later on decided to have a look at their website to know more about the Organization. I was astonished by the global reach the ATPS has in its National Chapters, I sent my application and after two weeks I received a mail that my application was successful.

My main motivation to join the ATPS was its global reputation of excellence and commitment to improve the quality of science, technology and innovation systems research and policymaking in Africa by strengthening capacity for science, technology and innovation, communication and dissemination, use and mastery for sustainable development in Africa. My interest in the ATPS programmes is on Youth and Gender Empowerment (YGEP) as well as Training and Sensitization (T&S).

I joined the Research Department that is headed by Mr. Ernest Acheampong, he has been instrumental during my internship period. He is very passionate about his work and strives to deliver the best, he challenged me a lot me through multiple works in

Mr. Clive Owino, ATPS Research Intern

line with duty and I had to ensure that I beat the set deadlines. I have gained valuable experience on how to write good research papers, journals, how to key in and analyze data with assistant from my other supervisor Mr. Hillary Ragen, who is the Research Assistant at the ATPS.

I extend my gratitude to Dr. Nicholas Ozor, ATPS Executive Director for the opportunity to work in the best Think Tank in Africa. The staff are truly incredible and hospitable; everyone is dedicated to achieve the best for the Organization and pride themselves of being associated with the ATPS. It is a united team always ready to assist each other at work. The skills I have gained during the short period, I am sure one day it will transform the World to be a better place. I would encourage other students to apply for Internship at the ATPS as this is the best place to launch your career path.

AAIN TO DRIVE AGRIBUSINESS AGENDA IN AFRICA

By Sharon Anyango

The African Agribusiness Incubators Network (AAIN) in partnership with the African Union Commission-Department of Rural Economy and Agriculture (AUC-DREA) held a design workshop from 1st to 3rd September at the New Stanley Hotel, Nairobi.

The objectives of the workshop were to review the status of agribusiness incubation and incubation models in Africa under AAIN and other partners, to develop AAIP Programme proposal structure and tools for implementation development, to create a common understanding of the African Agribusiness Incubation Programme, and to identify strategic partnerships which are effective for programme delivery.

AAIP has 6 proposed investment pillars and business models namely; Agribusiness and Incubation Fund, Agribusiness Technology and Emerging Opportunities for Commercialization, Agribusiness Education and Capacity Building, Seed Sector Development and Food Loss Reduction, Youth Engagement in Agribusiness and, Policy Support and Networking.

In the pillar of Policy Support and Networking, AAIP will strengthen agribusiness incubation capacity, promote agribusiness education, create access to finance, access to affordable quality seed and commercialise agricultural technologies and innovations through incubation.

The programme will be used to facilitate and finance agribusiness incubation activities in 54 African Union Member States in the next five years with an aim of transforming the agricultural sector through creation of wealth and job opportunities. AAIP in its proposed activities will support the integration of Agribusiness Incubation into CAADP country investment plans, facilitate policy briefs on agribusiness incubation support among Africa Union Member states, conduct CAADP Non-Stators awareness meetings on agribusiness incubation support, develop a communication and information sharing framework between actors, develop M&E framework for Agribusiness Incubation based on CAADP principles and provide technical support to partners during implementation

The AU-EU-AAIN agreed in one voice to drive the agribusiness agenda in the continent; they reiterated on the importance of creating job opportunities for both women and youth through agribusiness.

ATPS recently signed an MoU with AAIN to accelerate Africa's quest to eradicate poverty, hunger and malnutrition and improve the general well-being of its people.

Both parties will contribute to the implementation of mutually beneficial activities that include technology transfer through integrating Science, Technology and Innovation, research capacity building, Agribusiness innovation incubation training and sensitization, stakeholder dialogue (policy analysis and advocacy) and the start-up of SME programmes than can empower enhanced benefits of poverty eradication, hunger and malnutrition through STI for sustainable development in Africa.

AAIN incubates agribusiness-incubators through advancing entrepreneurial talent, networking, integrating science and technology for job and wealth creation in Africa while ATPS is a trans-disciplinary network of researchers, policymakers, private sectors and the civil society that promotes the generation, dissemination, use and mastery of science, technology and innovation for sustainable development in Africa.

WHY AFRICA SHOULD PUT MUCH EMPHASIS ON SCIENCE,TECHNOLOGY AND INNOVATION

By Arnold Ominde

Africa has many grand opportunities for economic transformation and development through Science, Technology and Innovation (STI) with a competitive advantage of being the World's youngest region as 60% of its population is below 35 years.

Over the decades, Africa has made bold attempts of enhancing STI to turn around their development fortunes by adopting the Monrovia Strategy of July 1979, alongside the Lagos Plan of Action (LPA) for the Economic Development of Africa in April 1980. This is followed the African Union Commission's establishment of a Conference of Ministers in charge of Science and Technology (AMCOST) that would enable the Union to periodically deliberate and have a collective voice on science and technological issues in African Countries. The LPA was a visionary, far-reaching and unprecedented blueprint on how to foster collective self-reliance and sustainable development in the continent. Subsequent attempts at chanting Africa's development have drawn inspiration from that visionary framework.

However, the implementation of the Commonwealth Parliamentary Association (CPA) influenced the important role STI played in Africa's socio-economic development. These influences were translated into policy instruments at various levels to enable constructive achievement and transformative goals by building institutions and implementing related programs. Similarly, Africa is exposed to a wide range of technological opportunities to address its human development challenges. Technologies such as information and communication technologies, biotechnology and nanotechnology can be harnessed and applied to increase food production, fight diseases such as malaria, tuberculosis and HIV/AIDS so as to increase economic competitiveness of the continent.

Technological innovators who are using mobile technology to increase agricultural productivity are demonstrating Africa's entrepreneurial potential, even though the opportunities offered by mobile technology are constrained as people in rural areas still need to travel long distances to get their mobile phones recharged because of poor accessibility to electricity.

Africa still remains the poorest and most economically marginalized continent in the World. The politics of globalization, internationalization and regionalization of STI have defined and shaped it in ways that effectively exclude the African voice its knowledge systems and to a large extent the African development agenda. The Kenya Government for example has been implementing the Economic Recovery Strategy for Wealth and Employment Creation (ERSWEC) since 2003 as its medium term plan to address development challenges of economic growth and poverty alleviation. In its long-term development strategy outlined in Vision 2030 envisages a nation that is globally competitive and prosperous with a high quality of life by the year 2030. If we compare traditional societies with those of the present, it becomes clear that norms and processes of creating a meaningful environment for living are currently being heavily transfused with science-based knowledge.

Many African leaders and the international community are increasingly recognizing that STI is critical for the transformation of their economies, reduction of poverty, attainment of the Sustainable Development Goals (SDGs) and integration of the continent into the global knowledge economy. By analyzing this positive impetus, the concept of national system of innovation with reference to nineteen sub-Saharan countries namely; Angola, Botswana, DRC, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe provides insights on the state of STI in Africa and how African countries and Africa's

regional bodies are prioritizing STI in their national and regional development agendas respectively.

Many approaches used by African countries to set their R&D priorities exhibit a disorganized national R&D priority setting processes which seem to emerge from socio-political statements. Most countries R&D priorities are often set by or at the level of individual research institutions based on the institution's anticipation of funding from national governments or international donors. R&D priorities are also set within sectors such as agriculture and health, and at the level of individual departments or ministries. There have been efforts to set R&D priorities in specific technology fields such as biotechnology, nanotechnology and nuclear sciences.

African countries and stakeholders should embrace and implement STI policy and strategy by making it a cornerstone component of their institutional and sectoral strategies. This is only possible by promoting capacity building in STI and infrastructural development through effective networks and linkages for knowledge generation and dissemination.

SASA CUE CONFERENCE

By Hillary Ragen

ATPS participated in the 4th Annual International Scientific Conference by the Society for the Advancement of Science in Africa (SASA) which was held at the Kenyatta University, Nairobi from 22nd to 26th August. The major theme of the conference was advancing Africa's sustainable development through science, technology and innovation with focus on quality university research and innovation. This was the first biennial conference on the state of higher education in Kenya.

The conference was organized and sponsored by the Commission for University Education (CUE) as the local host institution in collaboration with the Ministry of Education, National Commission for Science, Technology and Innovation (NACOSTI), universities and other stakeholders in the sector. Dr. Nicholas Ozor, ATPS Executive Director chaired the plenary session on Agriculture and Food Security which is in line with ATPS new strategic priority area of Agriculture, Food and Nutrition that aims to enhance Africa's capacity for agricultural sustainability through science, technology and innovation.

The session included notable presentations by experienced industry leaders and experts as well as university professors in various fields of research. The current state of agriculture and agricultural research was highlighted with presentations from Agriculture Food Authority (AFA), African Women in Agricultural Research Development (AWARD) and International Development Research Centre (IDRC).

The conference had other sub-themes that encouraged reflection and discussions in the following areas:

- Promoting STI research and building a globally competitive higher education sector in Africa.
- The role of research in policy formulation, national development and sustainable funding for research in Africa.
- Quality of postgraduate research training in Africa and translating academic research into innovation.
- Transforming the academic curriculum for advancing STI.
- Accelerating research infrastructure and human development.
- Evolution, strides and challenges facing universities and Technical Vocational Education and Training (TVET) centres in Kenya.
- Harmonizing variations in science policy and government funding of research in countries.

Kenya has attached great interest in education as a stimulant for economic and social development since its independence. The growth of the higher education sector has resulted in both challenges and opportunities and thus the conference was timely to scale up the current status of university education to meet the ever increasing global market demands. The conference also showcased many cutting-edge scientific, educational, technological and medical presentations aimed at advancing science, technology and education in Africa.

6TH TOKYO INTERNATIONAL CONFERENCE ON AFRICAN DEVELOPMENT (NAIROBI DECLARATION)

African Heads of States and delegates from across the globe during the 6th Tokyo International Conference on African Development in Nairobi, Kenya

By Sharon Anyango

Africa for the first time hosted the 6th Tokyo International Conference on African development (TICAD VI) since its inception in 1993 where it has been serving as a pioneer multilateral forum for international cooperation on African development. Kenya hosted TICAD (VI) at the Kenyatta International Convention Centre (KICC) from 27-28th August 2016; key attendees to the conference were African Heads of States and Governments and representatives from private sector and civil society organizations both from Japan and Africa.

The theme for TICAD VI was, *"Advancing Africa's sustainable development agenda through partnerships for prosperity."* TICAD VI (Nairobi Declaration) is aimed to address Africa's emerging development challenges and respond strategically to pertinent continental and global agreements such as the Sendai Framework for Disaster Risk Reduction, the 2030 Agenda for sustainable development and the Paris Agreement on climate change. It is also aligned to the African Union's Agenda 2063 and its first ten year implementation plan (STISA 2024) is relevant to NEPAD programmes, regional and national development plans and strategic priorities.

Africa is facing challenges which have impacted its development landscape since TICAD V in 2001. The challenges include:- decline of global commodity prices due to exacerbated fiscal pressure and debt sustainability of many African countries, Ebola outbreak is a menace due to lack of resilient and sustainable health systems which has led to the loss of lives and crippled socio-economic activities and the rising wave of radicalization, terrorism that impedes social cohesion.

TICAD VI identified three pillars namely;
Pillar 1: Promoting structural economic transformation through economic diversification and industrialization.
Pillar 2: Promoting resilient health systems for quality of life.
Pillar 3: Promoting social stability for shared prosperity.

The first pillar will address economic diversification and industrialization by facilitating solutions to urban problems and create markets by linking consumers, producers, farmers and economies through region-wide development that leads to job creation and transfer of expertise to enhance capacity building of African countries and its people especially for women and youth.

The second pillar will strive to strengthen health systems in Africa by increasing the continent's capacity to respond to public health crises such as Ebola, HIV/AIDS, tropical diseases and non-communicable diseases so as to improve the quality of life. It also emphasizes on the importance of sexual and reproductive health and family planning, bearing in mind the reproductive rights and the rights of women and adolescent girls.

The third pillar will resolve to promote social stability by responding comprehensively to security concerns like terrorism and violent extremism which has undermined international peace and security by endangering the ongoing efforts to strengthen regional and global security as well as the economy. TICAD will also reform UN bodies including the Security Council in order to maintain a political momentum through enhanced dialogue to find the best approach.

GRANTS RECEIVED BY THE ATPS DURING THE QUARTER

S/N	Title of the project	Donor	Project description	Grants received
1	Hosting of African Climate Change Fellows and Documentation of the impacts of ACCFP Fellows on climate change adaptation and mitigation in Africa since inception	African Climate Change Fellowship Program (ACCFP), Institute of Resource Assessment (IRA), University of Dar es Salaam, Tanzania	The study presents an analysis of the impact of the ACCFP program as reported by Fellows in their contribution to the climate science, education and policy development for climate change adaptation and mitigation in Africa	US $ 27,586.00
2	Consultancy Service for Dr. Nicholas Ozor, ATPS Executive Director to draft the 2016 Africa Capacity Report (ACR 2016)	African Capacity Building Foundation (ACBF)	To draft the full Africa Capacity Report on the theme 'Capacity for Science, Technology and Innovation in Africa' based on own expertise and available literature, the results obtained from the survey conducted in 45 African countries, and the findings from the case studies targeting individual countries' experiences.	US $ 25,000.00
3	Policy Landscaping Study on Regulatory Harmonisation of Veterinary Products' Registration in East Africa	Global Alliance for Livestock Veterinary Medicines (GALVmed)	A policy landscaping study for determining the necessary steps that Partner States of the East African Community need to take at national level to actualise mutual recognition of registration of veterinary vaccines.	US$ 65,000.00
4	Improving Agricultural Productivity and Climate Change Resilience Using the LandInfo Mobile App Technology	African Forum for Agricultural Advisory Services (AFAAS)	The project aims to address a capacity development need identified in most Africa's national capacity development strategies by building the individual and institutional capacity to use emerging Information and Communication Technologies (ICTs) such as mobile phone technology as a tool for providing useful information to enhance effective decision-making for agricultural productivity, sustainable land-use management and climate change resilience.	US$ 10,000.00
5	ATPS Stakeholders' Forum 2016 and Board Meeting	African Economic Research Consortium (AERC)	Professional association grant to enable the hosting of the 25th session of the Board meeting and Stakeholder Forum 2016. ATPS will be expected to submit an approved final technical report and a one-page narrative of how the grant benefitted the organization thereafter.	US$ 10,000.00
6	ATPS Stakeholders' Forum 2016 and Board Meeting	Commercial Bank of Africa Limited (CBA)	Fund support towards the hosting of the 2016 ATPS Stakeholders' Forum.	Kes. 50,000.00

NEW APPOINTMENTS

Ms. Madonna Achieng is the Administration Assistant at ATPS. She coordinates activities with the ATPS Secretary and ensures that there is a good working environment at the office. She holds a Diploma in Early Childhood Development Education and a Diploma in Beauty and Hairdressing.

Mr. Peter Mwangi Chege is the driver/logistician at ATPS. He holds a Diploma in Computer Networking Administration and a Certificate in AutoMechanics. His main duties include: managing the office and the Executive Director's transportation, coordinating the receipt and dispatch of letters, facilitates document processing with various Government agencies and assists in settling office utility bills. He brings a wealth of experience from Kenatico Taxi and Serena Hotels where he served for nine years.

SCHOLARSHIPS

Accelerating Digital Innovation In Media 2016

Applications are open for innovateAFRICA Fund, which is run by Code for Africa that aims to accelerate digital innovation in watchdog media and civic news organizations by funding transformational ideas and then continuing to support them through a network of peers and advisors. Winners will receive cash grants of between $12,000 and $100,000 each to kick start their projects.

ELIGIBILITY

- innovateAFRICA is an open and worldwide contest. Anyone anywhere can therefore apply – as long as they have an African partner to help with implementation.
- There is no other age or geographic restriction.
- The competition is open to nonprofits, for-profits or individuals of any age, anywhere in the world.
- Awards to minors will be made to an intermediary designated by innovateAFRICA.

DEADLINE: December 1 2016
For more information please visit: https://innovateafrica.fund

Catto PhD Scholarships for Sub-Saharan African Students in UK, 2017

The Centre of African Studies at the University of Edinburgh is offering a fully-funded scholarships for Sub-Saharan African students. These scholarships are available for students starting a doctoral programme in African Studies in September 2017.

ELIGIBILITY

- Applicants must reside in a country in Sub-Saharan Africa and be studying full-time towards a PhD in African Studies. At the time of the scholarship deadline, applicants must have already received an offer (conditional or unconditional) onto the PhD in African Studies programme.
- Applicants must be able to demonstrate exceptional academic skills and achievements. Preference will be given to those proposing a doctoral research project in conflict resolution, elections, peace-building and/or governance in African contexts, although other topics in the field of politics and international development may be considered.

NATIONALITY: Citizens of Sub-Saharan Africa can apply for this scholarship.

DEADLINE: May 1, 2017.
For more information please visit: http://scholarship-positions.com/catto-phd-scholarship-sub-saharan-african-students-uk/2016/11/07/

OPPORTUNITIES

Africa Energy Forum Off the Grid Summit

The first Africa Energy Forum-Off the Grid will be held in Tanzania from 6-8 December 2016. The forum will focus on project opportunities for mini and off grid technology providers working in Africa's energy space. The Summit will bring together ministries of energy, rural electrification agencies, philanthropic business foundations, banks, regulatory bodies, multilateral organisations and off grid businesses to discuss topical issues concerning rolling out off-grid projects across Africa.

For more information please visit: http://www.energynet.co.uk/event/africa-energy-forum-grid-2016

Science Forum South Africa

The South African Department of Science and Technology will host the second Science Forum in South Africa from 8-9 December 2016. The Forum will again serve as a large, open, public platform for debating the science and society interface.

Key characteristics of Science Forum South Africa 2016 (SFSA2016) will include:

- A provocative and stimulating forum programme comprising several parallel sessions, addressing a diverse range of science and science policy orientated themes;
- A rich diversity in the background of participants, comprising scientists, students, public and private sector representatives as well as civil society constituents;
- A forum programme not only compiled "top-down" by the organisers but also enabling public input through a competitive call for proposals for the organisation of sessions; and
- A strong international dimension to the event, reflected by the participation of speakers and attendees from a diverse range of countries, especially from Africa.

For more information please visit: http://www.sfsa.co.za/

PHOTO GALLERY - ATPS STAKEHOLDERS' FORUM

Prof. Arsene Konnan Koauadio, National Chapter Coordinator Ivory Coast addressing delegates during the forum.

Dr. Nicholas Ozor (left) and Prof. Michael Madukwe (right) during the stakeholders' forum.

Dr. Sheila Maina makes her opening remarks to delegates at the forum.

ATPS Stakeholders share insightful ideas during one of the break-out sessions.

Dr. Nicholas Ozor(left), Dr. Mustafa El Tayed (centre) and Nadia Hassan Sidahmed (right) share some thoughts during tea break.

Mr. Victor Emeka (left), AYFST Chairperson adressing various delegates at the forum. **On the right**: *Mrs. Grace Achiando from Egerton University.*

PHOTO GALLERY - ATPS BOARD MEMBERS

Prof. Shaukat Abdulrazak
Board Chair

Prof. Peggy Oti-Boateng
Member

Mr. Chuma Ikenze
Member

Dr. Mustafa El Tayed
Member

Dr. Nicholas Ozor
Ex-Officio Member

ATPS board members during their meeting which was held on 30th July, 2016 at Silver Springs Hotel, Nairobi Kenya.

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