



# TECHNOPOLICY

## AFRICA

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



**ATPS Tops the List as The Best Think Tank in Africa**

**New Innovation in Malaria Testing**

**Mobile Phones and The Youth in Africa**

### **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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- ATPS tops the list as the Best Think Tank in Africa for the 2nd year in a row according to a Global Survey
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## CHAIRMAN'S MESSAGE



*Prof. Shaukat Abdulrazak*

Compliments of the New Year 2016! I am pleased to present to you this first issue of our newsletter in the New Year. ATPS recently witnessed remarkable progress as well as changes that are clearly reflected in this issue. I am honored to confirm Dr. Nicholas Ozor as the Executive Director of ATPS; this follows his impeccable 19 months service at the helm of ATPS in acting capacity. The Board feels satisfied with his leadership and efforts, which has seen ATPS move progressively towards attaining its core mandate.

Among the major success stories is the recognition of ATPS as the Best Think Tank in Africa for the second year running (getting the highest number of rankings as well as ranking 1st in more categories than any other Think Tank in Africa). ATPS was ranked in 18 out of the 25 relevant categories for Africa. Our outstanding ranking among others under this survey makes ATPS proud as it relentlessly continues with its STI endeavors on the continent and even beyond. Having been stimulated by this great honor, we do extend this gratification to our various stakeholders for their support during this period of evaluation, as the achievements couldn't have been possible without them.

As we progressively implement our phase VII strategic plan (2013-2018), we strive to ensure that our strategic activities are successfully heeded to and fulfilled. This plan was comprehensively guided by our core mandate: building Africa's STI capabilities, and the conditions for the co - production of scientific knowledge,

technologies, and innovations and areas of policies for sustainable development. The plan also focuses on five thematic priorities; STI policy research and research capacity building (STI-RCB), intra-Africa and global Collaboration and partnership (IGCP) program, youth and gender empowerment (YGEP), training and STI knowledge brokerage, commercialization and policy advocacy (KB-CPA). The Phase VII strategic plan ultimately aims at improving the functioning and understanding of STI policy research together with other policy making processes, and also in strengthening capabilities, systems, social responses and governance of STI - led sustainable development in Africa.

The ATPS remains committed to serve its wide range of stakeholders even better. We ensure that we align our programs with the donor priorities without losing focus on our core mandates and the priorities of our stakeholders at the local, national, and regional levels. This is even in the face of the current global financial crisis where funding has significantly limited our ability to meet with the needs of our numerous stakeholders in Africa including policymakers, researchers, private sector actors, the civil society and the media among others. We therefore continue to solicit for financial support from our consortium of donors and partners and remain open to collaborations and partnerships with like-minded organizations and institutions around the world.

I take this opportunity to thank all those who have supported us during this period through development grants, linkages, partnerships and other collaborative activities. Notable among these are: our host country, the Republic of Kenya, the JRS Biodiversity Conservation Foundation, Technical Centre for Agricultural and Rural Cooperation (CTA/Netherlands), Global alliance for Livestock Veterinary Medicines (GALVmed), Association of African Universities (AAU), the African Union Commission (AUC), the African Development Bank (AfDB), and United States Department of Agriculture - Agricultural Research Service (USDA-ARS) among others. I wish once again to thank all those who have greatly contributed to this edition of Technopolicy Africa for their very useful inputs. We do appreciate you all.

**Prof. Shaukat Abdulrazak,**  
**PhD, FKIM, FAAS FASI, FTWAS, MBS**  
**Director, Division for Africa,**  
**Department of Technical Cooperation**  
**International Atomic Energy Agency (IAEA),**  
**Vienna, Austria**  
**Chair, ATPS Board of Directors**



## EXECUTIVE DIRECTOR'S MESSAGE



Dr. Nicholas Ozor

Welcome to the first issue of 2016 *Technopolity Africa* Newsletter publication. This edition highlights significant events, activities and achievements that have happened during this first quarter at the ATPS. The year started on a high point when the 2015 Global Go To Think Tank Index Report was released and ATPS was ranked as the best Think Tank in Africa - getting the highest number of rankings (18) as well as ranking 1st in more categories (6 categories) than any other Think Tank in Africa for the second year in a row under the Think Tank and Civil Societies Program (TTCSP) of the University of Pennsylvania (USA). The results confirm the significant contribution of the ATPS in promoting the generation, utilization and dissemination of science, technology and innovation (STI) for Africa's development, environmental sustainability and global inclusion. We thank all our stakeholders for their continued supports.

We remain committed more than ever before to the implementation of the five strategic priority areas identified by our stakeholders in our Phase VII Strategic Plan namely:

- 1. STI policy research and research capacity building program:** designed to build capabilities, structures, and conditions for the co-production of scientific knowledge, technologies, innovations, and policies for sustainable development in Africa. The research priority themes under this strategy include: agricultural innovations for food and nutrition security; integrated management of environmental infrastructure; climate change adaptation and mitigation; renewable energy research and development; democratic governance of STI policies, institutions and knowledge systems; water and sanitation; green growth; and health innovation systems program.
- 2. Intra-Africa and global collaboration and partnership program:** designed to develop new forms of intra-Africa and global partnerships within and amongst stakeholders for achieving Sustainable Development Goals (SDGs) in Africa.
- 3. Youth and gender empowerment program:** designed to nurture and harness the innovative potentials of African

youth and women.

- 4. Training and sensitization program:** designed to enhance individual and organizational STI skills for African development. Training themes include STI policy analysis, formulation and implementation; intellectual property rights issues; and writing STI policy briefs among many others.
- 5. STI Knowledge Brokerage, Commercialization and Policy Advocacy program** designed for brokering the commercialization and sharing of scientific knowledge, technologies and innovations with the quadruple helix-policy makers, private sector actors, researchers, and the civil society for sustainable development.

We are currently promoting our **LandInfo** app, which is an IT-based/mobile application that supports farm management decision-making. Its development has been supported by USAID/USDA-ARS. The tool allows users to capture point-specific data about soil characteristics such as soil water, texture, erosion risk and climate factors (e.g. temperature, rainfall) in view of facilitating decisions on agricultural production, land-use management and climate change resilience. The app is free, but it requires farmers and extension workers to be sensitized and trained on its utility. We seek for support and collaborations from development partners and donors to enable us upscale and out-scale the app across Africa.

In our continued efforts to seek for partnerships with like-minded organizations and stakeholders for achieving Sustainable Development Goals in Africa, ATPS signed an MOU with the African Economic Research Consortium (AERC) in February, 2016. The MOU provides a framework of cooperation and understanding and facilitate collaboration between the parties to further their shared goals and objectives in regard to fostering collaboration and strengthening working relationship between the two organizations. We are open to collaborations with other organizations and development partners that will enable us achieve our mandate.

During the period, we hosted an African Climate Change Fellow who is currently pursuing his PhD at the Addis Ababa University, Ethiopia. The programme is supported by the African Climate Change Fellowship Programme (ACCFP), which is being hosted at the Institute of Resource Assessment, University of Dar es Salaam, Tanzania and the International START, with funding from the International Development Research Centre (IDRC), Canada. An ATPS Researcher was also appointed to conduct a research under the ACCFP.

ATPS facilitated Advanced Policy Institute Training for the African Climate Change Fellowship Program (ACCFP) held from January 18-22, 2016, in Dar es Salaam, Tanzania. We provided training on the topic 'Green growth and climate change' showcasing the role of policymakers in promoting the adoption of Green Growth initiatives, presenting case studies as best practice, and using policy briefs as a policy-influencing tool.

During the period, ATPS participated in several other regional and global events bordering on STI. Some of these include: Guest speaker on "Improving Agricultural Productivity and Resilience to Climate Change Using the *LandInfo* mobile app" during the 3<sup>rd</sup> International Science Conference organized by the

Technical University of Kenya (TUK), from 23-25 February, 2016; Delegate at the Inaugural African Transformation Forum (ATF) organized by the African Center for Economic Transformation from 14-16 March, 2016 in Kigali, Rwanda; Delegate at the 18<sup>th</sup> Senior Policy Seminar on Financial Inclusion in Africa organized by the African Economic Research Consortium (AERC) from 22-23 March 2016 in Nairobi, Kenya; Speaker on "Youth as drivers of rural economic development in Africa" during the Southern Voices Conference held in Pretoria, South Africa from 21-25 March, 2016; Speaker on "Pathways to accessing and domesticating innovation system for technology transfer both from within and outside Africa" during the workshop for African policymakers on climate change innovation systems for technology transfer organized by the African Sustainability Hub (a hub managed by the ATPS, African Center for Technology Studies, and the Stockholm Environment Institute) from 23-24 March, 2016 in Nairobi, Kenya; and Delegate to the Climate Knowledge Brokers workshop held from 29-31 March, 2016 at the ILRI campus, Addis Ababa, Ethiopia; among many others. I was also appointed a Distinguished External Reference Group (ERG) Member for the production of African Capacity Building Foundation's 2016 Africa Capacity Report (ACR). The report is titled: *'Building Capacity in Science, Technology and Innovation for Africa's Transformation.'*

I want to take this opportunity to welcome our newly recruited

staff members to the ATPS family: Mr. Dennis Wanyonyi (Finance and Administration Assistant), Mr. Arnold Onyango (Communication and Outreach Assistant), and all the other members who have joined our network from different parts of the world. I urge them to embrace the new spirit of hard work and determination in achieving the ATPS mandate.

The demand for ATPS's services in building Africa's capabilities in STI policy research, policymaking and implementation for sustainable development on the continent continues to grow higher. Our stakeholder list among researchers, policymakers, civil society actors and the private sector actors that promote STI also continues to grow in numbers. To enable us satisfy the needs of these growing demands and list, we call on development partners and donors to support our work to continually deliver quality services and products that enable Africa attain its sustainable development objectives/goals. I express my appreciation to the ATPS Board of Directors for finding it worthy to confirm my appointment as the ATPS Executive Director. I pledge total allegiance to the ATPS vision, mission and objectives. I also thank our National Chapter Coordinators, Secretariat staff, Network members, and entire ATPS stakeholders for the firm support and guidance they provided throughout our efforts to rebrand the ATPS. We look forward to receiving your continued supports throughout this year and in the coming years.

**Dr. Nicholas Ozor**

Executive Director, ATPS

## AFRICAN TECHNOLOGY POLICY STUDIES NETWORK (ATPS) TOPS THE LIST AS THE BEST THINK TANK IN AFRICA FOR THE SECOND YEAR IN A ROW ACCORDING TO A GLOBAL SURVEY



### 2015 Global Go To Think Tank Index Report

The African Technology Policy Studies Network (ATPS) has emerged tops in Africa for the second year running under 18 out of the 25 relevant categories used for ranking in the 2015 Global Go To Think Tank Index Report recently released by the University of Pennsylvania (USA) under the Think Tank and Civil Societies Program (TTCSP). This makes the ATPS come first among all other Think Tanks in Africa that were nominated and ranked in the global survey for 2015 (getting the highest number of rankings as well as ranking first in more categories).

The Report ranks the ATPS as the Best Think Tank Network; Best managed Think Tank; and Best Think Tank with the most Significant Impact on Public Policy in Africa placing it at position

14, 18 and 28 respectively in the world.

ATPS's well-networked system across Africa and its strategic mandate also contributed to it being recognized and ranked 1st under Think Tanks with the best use of the Internet (26<sup>th</sup> globally), Best Transdisciplinary Research Think Tank (11<sup>th</sup> globally) and Best institutional Collaboration involving Two or more Think Tanks (7<sup>th</sup> globally).

Most remarkable is ATPS Policy Paper titled *"Mainstreaming Gender in the National Science, Technology and Innovation (STI) Policy of Kenya"* which was also ranked 1st in Africa and 2nd globally among the Best Policy Study/Report Produced by a Think Tank. This policy brief has been used to influence science, technology and innovation policies in Kenya and it has received wide accolades from our different stakeholders in Africa and globally. The policy report is available online at: <http://www.atpsnet.org/Files/pb44.pdf>

In addition, ATPS ranked 2nd under the Best Science and Technology Think Tanks, which is within its core mandate of promoting science and technology for sustainable development in Africa. Furthermore, ATPS came tops amongst Think Tanks with the Most Innovative Policy Ideas/Proposals (30<sup>th</sup> globally); Top Think Tanks with Annual Operating Budgets of Less Than \$5 Million USD (8<sup>th</sup> globally); and Best Advocacy Campaign Think Tank (18<sup>th</sup> globally). Even more, ATPS was ranked 44<sup>th</sup> globally and 4<sup>th</sup> in Africa amongst Top International Development Think Tanks.

**Continued on next page**

## AFRICAN TECHNOLOGY POLICY STUDIES NETWORK (ATPS) TOPS THE LIST AS THE BEST THINK TANK IN AFRICA FOR THE SECOND YEAR IN A ROW ACCORDING TO A GLOBAL SURVEY

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Overall, the ATPS ranked amongst the top Think Tanks and Civil Society Programs globally, ranking 101 amongst Top Think Tanks Worldwide (US and Non-U.S.) and 7th in Africa. The 2015 Global Go To Think Tank Index Report was generated from an evaluation of a total of 6,846 Think Tanks across the world and 615 in sub-Saharan Africa that went through the nomination and ranking processes.

Global Go To Think Tank Index is an annual ranking that identifies the most significant contributions and emerging global trends of think tanks worldwide. The survey is conducted by Think

Tank and Civil Societies Program at University of Pennsylvania. For more details on the 2015 Global Go Think Tank Index, kindly visit: [http://repository.upenn.edu/think\\_tanks/10/](http://repository.upenn.edu/think_tanks/10/)

The ATPS Board and Management takes this opportunity to thank all its stakeholders – ATPS Board, National Chapter Coordinators in all the 30 Chapters in Africa, USA, UK and Australia; Secretariat staff, and the entire 1500 network members and stakeholders spread across 51 countries in 5 continents for the enormous supports and strategic guidance received in 2015. We look forward to your continued cooperation in 2016 and beyond. It is with no doubt that with your continued support, ATPS will accomplish its mandate to achieve Africa's sustainable development through STI.

### ATPS Ranking at a Glance:

S/n	Relevant Criteria	2015 Ranking	
		ATPS Ranking World Wide	ATPS Ranking in Africa
1.	Best Policy Study/Report Produced by a Think Tank "Mainstreaming Gender in National Science, Technology and Innovation (STI) Policy of Kenya	2	1
2.	Best institutional Collaboration involving Two or more Think Tanks	7	1
3.	Best think Tank Network	14	1
4.	Best managed Think Tanks	18	1
5.	Think Tanks with the best use of the Internet	26	1
6.	Think Tanks with the most significant impact on public policy	28	1
7.	Top Think Tanks with Annual Operating Budgets of Less Than \$5 Million USD	8	2
8.	Best Transdisciplinary Research Think Tanks	11	2
9.	Top Science and Technology think Tanks	13	2
10.	Best Advocacy campaign	18	2
11.	Think Tanks with the most innovative policy ideas/proposals	30	2
12.	Top Global Health policy Think Tanks	23	3
13.	Top Domestic Health policy	30	3
14.	Top International Development Think Tanks	44	4
15.	Top Domestic Economic Policy Think Tanks	81	5
16.	Top Think Tank World Wide (US and non-US)	101	7
17.	Top Think Tanks in sub-Saharan Africa	N/A	31
18.	Best Independent Think Tanks (category not in rank order, institutions were nominated but not ranked and are listed in Alphabetical order)	N/A	N/A
Number of Think Tanks ranked in the World 2015		6,846	
Number of Think Tanks ranked in sub-Saharan Africa		615	
Number of Think Tanks ranked in Kenya		53	



## NEW INNOVATION IN MALARIA TESTING: THE URINE MALARIA TEST KIT



only home test for malaria - the Urine Malaria Test Kit. Eddy is the brain behind Fyodor, the successful biotech company that developed and commercialized the Urine Malaria Test (UMT). This is the world's first non-blood test that tells in 25 minutes or less if a fever is due to malaria or not.

Fyodor was founded in 2008 with a mission to translate biotechnology discoveries into novel medical diagnostic tests or medicines that address major unmet medical needs in our target markets. With multiple grants funding support from various US and Nigeria institutions, Fyodor successfully developed and recently commercialized its flagship Urine Malaria Test in Nigeria.

The UMT product aims to facilitate universal malaria testing in all cases of fever and in all healthcare settings, and to address the need for a simple non-blood home and point-of-care test as well. The UMT test is simple and easy to follow and interpret as it only requires a UMT strip stand being dipped in urine for 25 minutes; two lines on the strip means positive result while one means negative.

Fyodor is motivated by the hitherto clear need for a tool to facilitate universal malaria testing particularly in rural communities where the impact of malaria is greatest. The global market for the UMT is the over 500 million cases of fevers suspected of being malaria that occur annually in Africa, each of which must be tested to confirm if its malaria or not. The test is now available in pharmacies and health centers in Nigeria, and their current focus is to deploy them in rural communities.

Malaria is one of the world's most threatening life diseases; about half of the world's population is at risk of getting infected according to the World Health Organization (WHO). The most vulnerable among this population are children, expectant women and non-immune travelers from malaria-free areas, with sub-Saharan Africa having the highest number of malaria cases and deaths globally. Majority of malaria deaths occur within 48 hours of fever onset. So, early diagnosis is critical as the disease has no licensed vaccination, however, it can be prevented and cured if effective measures and strategies are taken on time.

In the global efforts of finding methods to reduce or do away with the disease Dr. Eddy Agbo came up with the world's

### INTERVIEW WITH EDDY C. AGBO

#### 1. What motivated you to come up with this innovation?

There has been a long-standing gap in global malaria effort in many parts of Africa, i.e. how to make universal malaria testing possible in all cases of fever, and in all healthcare settings. Current rapid blood tests are limited by the fact that they are invasive and multi-step, and therefore, unsuitable for home use or in rural community healthcare settings where blood handling with a multi-step pose major health risks. As a result, healthcare providers such as proprietary & patent medicine vendors (PPMV's) and other private healthcare providers have been unable to comply with the WHO and national policies of "test before you treat" in managing malaria. As a result, many cases of fever are considered to be malaria and treated presumptively without any firm diagnosis. With the UMT, NO MORE GUESSWORK!

#### 2. What are some of the significant benefits that you anticipate will be created out of the use of this innovation?

Several: 1. The UMT is one step, non-invasive, and so simple that anyone anywhere can do it. 2. It removes the guesswork that drives malaria case management in many settings in Africa. 3. With the UMT, it is now possible to test if a fever is due to malaria in the comfort of the home or by any healthcare provider, using the one-step Urine Malaria Test™ (UMT™); 4. The UMT is the tool that can rapidly facilitate



*Eddy C. Agbo, DVM, PhD, Chairman and CEO  
Fyodor Biotechnologies Corp*

## INTERVIEW WITH EDDY C. AGBO

universal testing for malaria in ALL cases of fever. 4. The UMT: No Blood. No Reagent. No Equipment

### 3. What is your education and professional background and what contribution did it have in the development of the innovation?

I led the development and commercialization of the UMT in 2008. This is following a highly productive senior/executive level academic and industry career including at Johns Hopkins University Baltimore, Maryland USA, Cangen Corporation Baltimore USA, and ID-Lelystad in Holland. I have served as a Member of the State of Maryland Life Sciences Advisory Board (2012-2015) created in 2007 by Maryland General Assembly to advance the State's foremost position in life sciences; appointed by Governor Martin O'Malley). Earned DVM (University of Ibadan, Nigeria); PhD in Molecular Genetics (Utrecht University, The Netherlands), and Graduate Certificate in Business Management (Johns Hopkins University).

### 4. How long did it take you to produce the urine test kit?

7 years of product development

### 5. What challenges did you face in developing this urine test kit?

Three main challenges: Funding! Funding!! Funding!!!

### 6. How was the innovation received in the medical world?

The UMT innovation is being received very positively by regular folks, healthcare providers, academics, industry and policy makers, because it offers several things that current blood tests do not. The government of Nigeria provided immense support in the full-scale clinical trial, and partnered with Fyodor and University of Lagos to implement a pivotal clinical trial. The National Coordinator, Nigeria National Malaria Elimination Program, Federal Ministry of Health (Dr Nnenna Ezeigwe) and Head of Case Management also in the Ministry (Dr Godwin Ntadom) were part of the investigators who implemented the pivotal clinical trial.

### 7. How available is it, where can it be bought and at what price?

The UMT is now available in retail pharmacies, hospitals and patent medicine stores in Nigeria, and online through online stores [www.konga.com](http://www.konga.com); [www.jumia.com](http://www.jumia.com); [www.fyodorbiong.com](http://www.fyodorbiong.com) or; [www.geneithpharm.com](http://www.geneithpharm.com)

### 8. How many awards have you received as recognition of this innovation?

Fyodor and the UMT recently won major high profile innovation awards, including:

- (1) The inaugural 2015 Health Innovation Challenge Award, backed by the Nigeria Private Sector Health Alliance, PHN (October 2015). The award came with a grant of \$100,000 and support for PHN from backers including Bill Gates; Nigeria's malaria

Ambassador, Alh Aliko Dangote; and former Nigerian president Dr Goodluck Jonathan.

- (2) The Outstanding Business Innovation by African Diaspora Award from the Corporate Council on Africa (CCA) for the Urine Malaria Test™ in December 2014. The award recognizes and celebrates outstanding Private Sector innovation, together with the creative application of technology by the African Diaspora.

- (3) The Headline Innovation at the United States Bio-economy Conference organized by the White House & US Department of State in Washington DC in March 2014.

### 9. What do you anticipate to achieve in the next 5 years with this innovation?

In the next five years, we aim for every African living in a malaria endemic area to have access to a simple, non-blood test in all cases of fever.

### 10. How do you plan to upscale and out scale it?

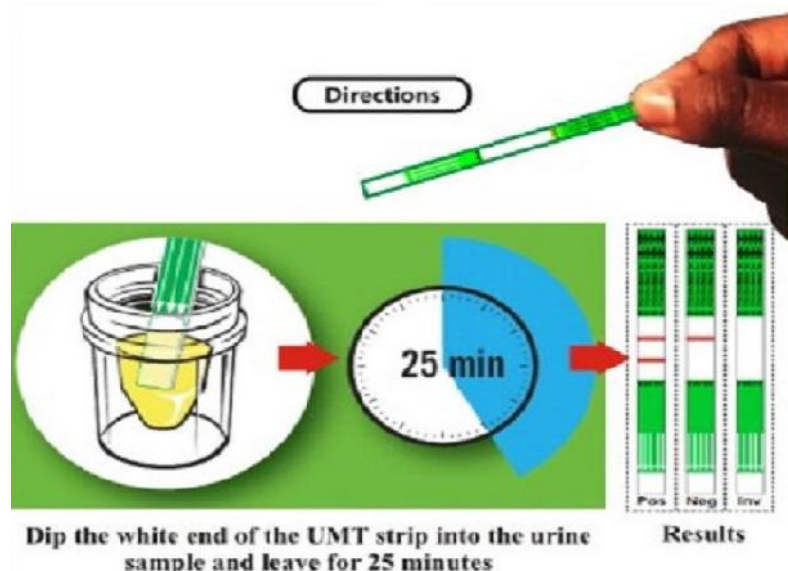
We seek to work with strategic partners with national or regional reach to commercialize the UMT in all target countries.

### 11. How sustainable is the test kit?

The shelf life of the UMT is 24 months. The product is Made in USA. Our sales and marketing model is to partner with leading local and regional players in healthcare sector. We have unlimited production capacity and can promptly deliver on any confirmed order.

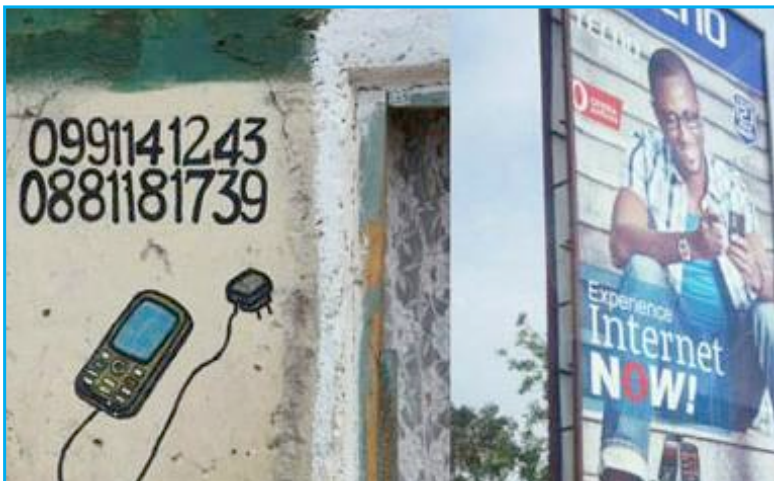
### 12. As a recognized innovator, what advice would you give to other upcoming innovators especially the youth in Africa?

Three things: Be Brave. Be Focused. Be Persistent





# MOBILE PHONES AND THE YOUTH IN AFRICA



their phones for mundane purposes like clarifying homework tasks, checking exam results, or requesting resources to facilitate education. What is worrying moreover is that the information sources that the youth use to get their academic information are very few. It is only in South Africa that there is evidence of youth using targeted searches to access educational information.

Negative impacts of mobile phone usage are being recorded in all settlement types in all the three countries, the most common being disrupted classes, which have an effect on academic performance. Some students also tend to spend a lot of time on prolonged sessions on social network sites, some are involved in harassment and bullying by phone and there is increasingly widespread access to pornography. However, this is not a student problem only- teachers have also been caught up as they have often been reported to use their phone during lesson time.

The impact has not only been in the education sector but also in the health sector particularly in facilitating access to healthcare such as seeking emergency attention and financial support for loved ones who need medical treatment. The youth also use mobile phones to connect with therapeutic resources and information, in circumstances where effective healthcare is limited.

Furthermore, mobile phone usage can affect intergenerational relations; the older family members, as they are often passive, episodic users often regard the youth as family information hubs and 'experts'. Other relational set ups are gifting of hand sets and airtime to young family members and constant family interactions like monetary requests through the phone.

Mobile phones have had both positive and negative impacts on youth gender relations and female empowerment, physical mobility and patterns of transport use and migration, livelihood configurations, job search and other social, political and religious activities.

It is evident that phone use has become popular in Ghana, Malawi and South Africa over the last 7 years and is increasingly being used by youth in undertaking many aspects of their daily lives. Mobile ownership has also rapidly increased and this has influenced the decisions of what the youth want to use the phone for. As much as mobile phones have made life easier and facilitated prompt interactions and transactions they have also had adverse negative effects among the youth that are a cause for concern.

More information about this study and some published papers by the researchers on the themes of education; health and inter-generational relations are available at [www.dur.ac.uk/child.phones/](http://www.dur.ac.uk/child.phones/)

**Drawn from a report on a multi-country study led by Durham University, Durham, UK, in collaboration with the University of Cape Coast (Ghana), the University of Malawi and the University of Cape Town**

**By Dorothy Njagi**

Mobile phones have revolutionized how activities are done in the world today, so much so that many people cannot operate without a mobile phone even for a day. Communication is the most fundamental use of any mobile phone: however, with the introduction of applications, mobile phones can offer more than just calling and texting functions. The rapid expansion of mobile usage is impacting on young lives in sub-Saharan Africa by making it easy for them to perform particular tasks like job search, organizing transport, building social networks, and for educational purposes.

A study done in 24 sites (varying from urban to remote rural) in Malawi, Ghana and South Africa evaluates the key impacts of mobile phone usage in young people's lives. The study focuses on young people between the ages of 9-18 years and an older age group, those between 19-25 years. The research team conducted an earlier survey in 2007/8 in the same sites (but only among those aged 9-18 years), so it is possible to compare some data between these two periods. Ownership of mobile phones has increased massively in all the three countries and usage levels have also increased substantially. Unsurprisingly, both usage and ownership are concentrated in urban areas with better network reception in all of the three countries.

Gender disparity in ownership of mobile phones in 2013/2014 was still evident among the 9-18 year olds in Ghana and Malawi in that there was still lower ownership among girls in both countries, but in South Africa ownership across the two genders is at parity.

There has been an expansion in smart phone and Internet access, especially in South Africa, where around 40% of 9-25 year olds are accessing the Internet through their Smartphone in urban areas as compared to 5 years back when majority of them were using basic phones with the only access to Internet tool being a desktop computer.

The impact of mobile phone usage has been particularly evident in the education sector, with some positive educational value being recorded. The majority of the youth, however, use

# SCIENCE AND TECHNOLOGY FOR ECONOMIC DEVELOPMENT IN NIGERIA

By **Yusuff Utieyineshola Adeleke**

Nigeria boasts of both human and natural resources, it is interesting to know that each of the 36 states including the Federal Capital Territory has abundant mineral resources. The Raw Materials Research and Development Council (RMRDC), an Agency of the Federal Ministry of Science and Technology (FMST) has carried out an in-depth survey of these Mineral Resources in all the 36 states giving their economic quantity in terms of deposit, which makes it easier for any potential investor to take off with the index data. Recently, Nigeria

launched its STI policy and unlike previous Science and Technology (S&T) policies, the stakeholders involved in the review of this policy identified that there is the need to introduce "I" which stands for Innovation into the policy. Another interesting thing is that it is anchored on the approach of systems of Innovation. With this in place, it is expected that all the actors will play their part towards ensuring that Nigeria is better positioned to achieve sustainable development. Actors like Government, Academia, Industry and Finance must interact and explore their strategic linkages being a philosophy that NIS stands for. What then is the challenge?

It is a general believe that Nigeria prides itself of abundant scholars in the academia with well-endowed knowledge on how to formulate policies that can turn around the country. However, the drive to implement it has always been the challenge. This same challenge seems to gradually erode the importance of this recently launched STI Policy. As a young researcher in the sector, I observed that until we have a change in approach to how this policy is implemented, then it might remain passive like the previous S&T Policy. So what change am I suggesting? We need to engineer the implementation of the policy right from the local government level.

Currently, there seems to be much focus at the national level for its implementation. How will the policy succeed when at the national level, Government at the centre (Federal Government) is distracted by other pressing issues like dwindling oil price, unstable currency, insecurity, fuel scarcity, and unstable power supply among others. These challenges remain to be a threat to the growth and competitiveness of Nigeria. At the local government level, despite the latent opportunities possessed in terms of resources (human and natural), very little development can be seen there which explains why people at the local government are getting poorer and have continued to abandon farming at the rural communities for a better life in the urban cities giving rise to over-population in the urban communities. Therefore, in order



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to stop rural-urban migration, economic activities must be activated at the local government level and people must be engaged.

There has to be concerted effort towards identifying and categorizing potentials needed under each of the actors within an innovation system. This effort has the propensity of springing up clusters in the agricultural and mineral, sectors. With the deployment of technologies to the grassroot from Agencies of FMST, establishing such clusters becomes realistic although this will come with some level of awareness in form of sensitization campaigns to intimate dwellers in these communities on the importance of this move.

Conclusively, each State in Nigeria must be ready to give STI the needed attention so as to pilot its economic activities. This has become imperative as many states in Nigeria today have become economically impotent, hence, at the mercy of the Government at the centre for its allocation from the monthly revenue sharing from oil. It must be known that no serious nation has ever attained any meaningful development without much priority on the relevance and importance of STI. Within the African continent, nations like South Africa, Botswana and Kenya have continued to explore the contributions of this vital sector and this explains why they have continued to grow and create jobs for its citizens. Nigeria stands a chance of attaining this feat if only it can localize its approach towards implementing the STI policy placing more focus at the local government levels.

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## THE RELATIONSHIP BETWEEN TECHNOLOGY AND POTENTIAL DESTRUCTION

By Martin Kaggwa

Africa boasts of a variety of mineral resources, those discovered and yet to be discovered. With the rapidly increasing discoveries of minerals such as oil, natural gas, coal, and uranium, there is a renewed momentum to leverage these natural resources to spur economic growth and development on the continent. It is essential to properly manage these minerals as they bear both positive and negative implications in all spheres of existence - socially, economically and politically. If carefully taken care of, they can yield great impact on development and contribute in changing the wellbeing of the citizenry.

With new optimism, emanating from recognition that the continent still has a chance to use its natural resource base to drive development, many countries are coming up with creative policies and interventions to exploit their natural resources in ways that will benefit their citizens. Technology is acknowledged as an important enabler of this purposeful and development oriented exploitation of natural resources on the continent. There is, however, an important dimension of technology in so far as purposeful exploitation of mineral resources on the continent, which has received little attention, is concerned. This relates to the effects of improvement in mineral technologies. Advances in mineral technologies have the potential to make some of Africa's mineral resources valueless due to the emergence of synthetic minerals.

It is now possible to produce synthetic diamonds and Platinum Group Metals (PGMs) in laboratory using modern technology. Synthetic mineral alternatives have begun to compete with the natural mineral in international resource markets. With the increasing costs of mining natural mineral on one hand, and technological improvements in manufacturing synthetic mineral on the other, it is probable that at one point in time, synthetic minerals will out compete alternate mineral resources due to cost advantage.

Mineral resource-rich countries like South Africa will find themselves in a situation where the value of their natural resource reserves will decline over time. At the extreme, when the synthetic minerals completely displace natural minerals, countries' reserves will become worthless. Although this is not likely in the immediate future and across all minerals, it is an important aspect that has to be included in the renewed effort to develop Africa using its natural resources. The element of synthetic mineral technologies undercutting the value of some of the continents' mineral resources should be considered in the planning and articulation of Africa's economic growth using its mineral wealth.

Africa needs to carefully manage the risks involved in synthetic mineral technologies. Recognising that some of the minerals will face stiff competition overtime from synthetic alternatives begs the question of what should Africa do to mitigate the effects of the synthetic mineral in its crave to develop faster. Africa should make deliberate effort to participate in the synthetic mineral technologies research and development. Rather than being a spectator and waiting for the day when the continent cannot sell its natural mineral



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on international market. The continent should use revenues currently generated from exploitation of vulnerable minerals to undertake research and have a foot-print in the production of synthetic mineral technologies too. Countries like South Africa have the capacity to do so under its Council of Scientific and Industrial Research (CSIR). If this is done, even when the synthetic minerals overtake natural mineral in global resource markets, the continent will continue to be an active player in this space.

Prioritizing and accelerating investment of revenues generated from vulnerable mineral sectors to other sectors of the economy that support sustainable livelihood and are to some extent delinked with the mining of the vulnerable minerals should be done. By default, mining has a finite life-span. To make it a sustainable source of livelihood for the citizenry, national government have to come up with creative ways of channeling revenues received during the active period of mining projects, to other sectors of the economy that are more sustainable. Recognizing the threat of some minerals being replaced by synthetic alternatives call for accelerated re-investment of revenues from these minerals to identified sustainable sectors of the economy.

Finally, the continent should engage in road mapping of mining technologies including synthetic mineral technologies. How technology is evolving in the mining sector has a bearing on the extent to which mineral wealth translates into socio-economic benefits to the citizenry. Different mining technologies have different effects on employment and the environment. National governments need to keep track of emerging mining technologies and pro-actively put in place measures to mitigate their undesired effects. This process of technology road mapping should be expanded to include tracking of synthetic mineral technologies.

**Dr. Martin Kaggwa is the Executive Research Director Sam Tambani Research Institute, South Africa**



# ATPS PLANS TO COLLABORATE WITH IFAD TO OUT-SCALE THE LANDINFO MOBILE APP

By **Nicholas Ozor** and **Arnold Onyango**

The ATPS is currently exploring ways of collaborating with the International Fund for Agricultural Development (IFAD) to implement and out-scale its LandInfo mobile app in selected countries in Africa. To this end, the ATPS has presented the mobile technology to IFAD's staff led by Henrik Franklin, Head of Regional Office in Nairobi, Kenya and Country Director IFAD. The team was very impressed with the technology and plans to organize a sensitization session with the Kenya IFAD projects for eventual piloting and use. The team also agreed to share the information with other country teams. It was during this process that Dr. Steve Twomlow, Regional Climate and Environmental Specialist, East and Southern African/Environment and Climate, IFAD Office, Rome, Italy, got to know about the LandInfo mobile app.

At the request of Dr. Twomlow, a meeting was convened at the ATPS Headquarter in Nairobi where the LandInfo app was presented and demonstrated. Dr. Twomlow agreed on the need for the training of relevant stakeholders especially the extension workers, land-use planners and farmers on the use and application of the LandInfo app for improved agricultural productivity, land-use planning and climate change resilience. He demonstrated his longstanding years of experience working in the area of conservation agriculture in many African countries and made several inputs that will enhance the use and deployment of the LandInfo technology. He cited the potential that the app will have in many arid and semi-arid countries of Africa, e.g. Lesotho. He promised to explore ways for integrating the LandInfo app in the numerous works of IFAD and that of his other colleagues in other organizations.

The LandInfo App is part of a wider land potential knowledge system that allows individuals and organizations to use a smart mobile phone to determine land potential at a specific location based on local and global knowledge and information about the potential of similar types of land (i.e. land with similar climate, soils and topography) (Figure 1). The LandInfo was developed with funding support from USAID by USDA\_ARS in partnership with the ATPS and many other partners. The LandInfo App currently operates on Google android platform, connected to a more sophisticated web tools that can be accessed via personal computers and linked with other decision tools.

The App integrates climatic and topographic information from existing databases with targeted field data collection of knowledge and information to predict relative productivity,



From Left: ATPS Executive Director, Dr. Nicholas Ozor, (Forth left) with Dr. Stephen Twomlow of IFAD (U.K), Mr. Ernest Acheampong (ATPS Researcher) and Mr. Arnold Onyango (ATPS Communications Assistant) after a successful meeting at the ATPS Head office in Nairobi, Kenya on how to out-scale the LandInfo Mobile App.

soil erosion, and sustainability of crop and forage production for a set of locations. Tapping into recent advances in cloud computing, digital soil mapping, Global Positioning System (GPS) enabled camera phones, the *LandInfo* App allows users to enter point-specific information about soil texture, topography and easily observable soil properties and in turn obtain site-specific data including temperature, rainfall, estimated amount of water the soil can store for plants, the growing season length, and the elevation of the plot among others. Field data are captured into the *LandInfo* App by two main methods: first, through a field of observational assessment of the land cover type, use, slope, slope shape, occurrence of soil erosion, runoff and soil conditions, and second, up to 1 meter depth of soil is excavated to identify the different layers and types of soil layers by examining the soil texture at different depths. Geo-referenced photographs are taken to serve as benchmarks for future monitoring.

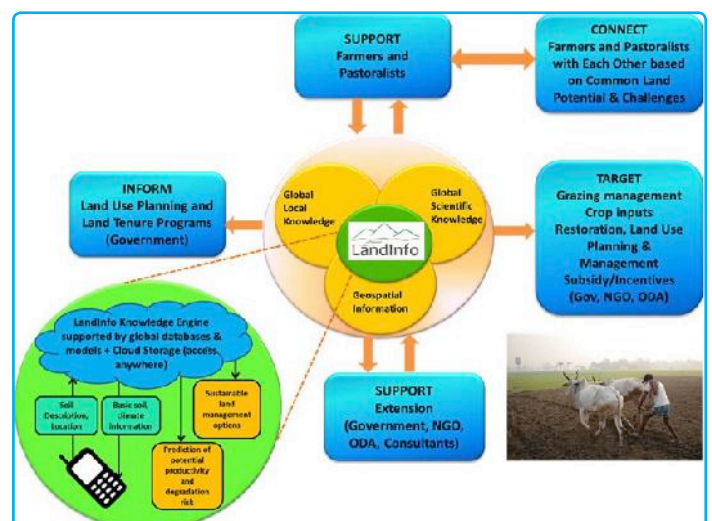


Figure 1: Land Potential Knowledge System (Herrick et al., 2013)

# INNOVATIVE WAYS TO COMMUNICATE CLIMATE CHANGE TO VULNERABLE COMMUNITIES IN AFRICA



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**By Caroline Lumosi**

During the recent 2015 COP meeting in Paris, France, countries committed to reducing the rise in global temperatures to less than 2°C. This was certainly a bold and significant move, however, what makes me wonder is what this agreement means for vulnerable communities. These communities may not be interested in the technicality of the negotiation processes, but what is of interest to them is, getting to understand what climate change really means, how it could affect their lives and how to adapt to climate change impacts. How can we effectively communicate climate change to these communities? How do innovations in ICT support understanding of climate risks and uptake of climate adaptation actions? With recent developments in ICT in Africa and Asia, and growing mobile penetration of about 67% in Africa and 72% in Asia Pacific, communication access has become easier. This new development has opened up ways for communities to access a wide variety of information through radio, TV, Internet-based communication, mobile phones among others. Yet despite these developments, the level of awareness on climate change and adoption of appropriate adaptation actions is still low, especially among rural communities in Africa and Asia.

Studies have shown that how individuals understand climate change and its impacts, influences their engagement with and adoption of climate change adaptation practices. Yet there

are many factors that shape individual's understanding of climate change. Key among them includes how information is communicated to support understanding, engagement and adoption of climate change adaptation actions. Understanding of climate change varies depending on the content of information, the quality and technicality of information communicated and the communication mediums used. For example, while some audience may be responsive to information communicated through radio and mobile phones, others still prefer the 'old' conventional face-to-face communication, through workshops or extension services.

Studies in Asia noted that communicating climate change is best received when it integrates different communication approaches (ICT and non-ICT) and formats, such as community radio, street puppetry, wall paintings and info-tainment (information with entertainment modes e.g. jiggles, songs, poetry) among others. These approaches help in presenting adaptation information in a practical and simplified manner that is engaging, relevant and can easily be used and applied by the local communities.

With emergence of ICT, there is a tendency for donors and practitioners alike to demand and focus on ICT-driven communication approaches, or as it is often referred to as 'innovative' approaches, for communicating climate change. Although there is great potential with ICTs, the 'old' and

**Continued on next page**



**Continued from page 13**

traditional approaches should not be abandoned all at once. Furthermore, effectiveness of innovative approaches may be unknown as these new approaches have not been fully tried and tested. The efficacy of ICT-driven as well as the 'traditional' communication approaches should be investigated to understand the gaps, barriers and enablers to support effective uptake of adaptation practices among local communities. Perhaps an 'innovative' approach to boost effectiveness, would be to consider incorporating traditional communication approaches with ICT-driven communication approaches in a manner to facilitate learning and support exchange of information and knowledge. Local communities have in the past responded well to face-to-face interactions. Therefore, ICT-driven communication approaches could attempt to effectively make use of this 'strength' by bridging the gap between 'old' and 'new' communication approaches. Moreover, innovation can further be examined and applied in the methodology of the traditional communication approaches, i.e. refining the 'how' to communicate using 'old' communication approaches.

To sum up, if we are to address the issue of 'effective' climate change communication to local communities in Africa and Asia, we must first start by understanding what is working and seek ways to improve on it. Secondly, riding on the ICT-wave in Africa and Asia, ICT-driven communication approaches, should be used to complement and work with the already existing communication approaches. Thirdly, by embracing the learning by doing approach, communication approaches

should seek to bridge the communication gap by providing a 'two-way loop' of information flow, this allows for information dissemination and as well as feedback to be incorporated thus enhancing social learning. This loop of information flow should take into consideration the different communities, their social contexts, how they learn and consequently incorporate approaches that can facilitate faster and effective learning among different communities. Additionally, for donors interested in seeing scalability, there is a need to understand what scalability would imply in terms of climate communication and what communication approaches could support this.

Considerations should be made towards trade-off from scaling up vs. scaling out, considering that not all communication approaches would be effective when scaled up based on the varying socio-political contexts. Finally, we should understand that there is no one-size-fits-all communication approach, therefore when developing communication approaches; we should take into consideration the context in which these communication approaches will be used, their barriers and the surrounding socio-political contexts.

**Caroline Lumosi is a Senior Project Officer with INTASAVE Africa based in Nairobi.**

**Caroline works on the [ASSAR](#) (Adaptation at Scale in Semi-arid Regions) project**

## NEW APPOINTMENTS



**Dennis Wanyonyi is the Finance and Administration Assistant at the ATPS.** He is responsible for day to day running of the Human Resource, Finance as well as the Administrative functions of the organization. Other key duties include reviewing contractual correspondence with Donors and recipients, preparing the ATPS' annual budget and periodically monitoring actual expenditures in relation to approved budget. Further, he is responsible for ensuring timely preparation of ATPS budgets and submission of financial statements to the Board, working with external auditors in performing their statutory duties to ATPS and ensuring implementation of overall ATPS financial policies and procedures. Dennis holds a Bachelor's of Commerce degree, with an Accounting Major from The Technical University of Kenya as well as CPA III. He is currently pursuing section four of Certified Public Accountants (CPA) on part time basis. He is well versed with the field of finance having undertaken an undergraduate degree in commerce and working as an

Assistant accountant at I Ledger Consultancy before joining ATPS. Dennis has experience in using various accounting packages ranging from Quick books, Sage, Fast pay and Pastel.



**Mr. Arnold O. Onyango joined ATPS on March 7th 2016 as a Communication and Outreach Assistant.** He holds a Masters Degree in Mass Communication with specialty in Mass Media Ethics, from Washington Int. University, (Graduate) Advanced University Diploma (NQFL-7), in Visual and Communication from University of South Africa, British Diploma in Textile Design from ICS London, Graduate & Professional Certificate (CS188x), in Artificial Intelligence, Certificate in (ICT and DTP from University of Nairobi, Leadership and Management Certificate from British Council (UN-LEAD). He is currently pursuing his PhD at Ashley University through Presidential Scholarship Award for Online Doctorate degree Program. He is a very experienced Research, Advocacy and Campaigns specialist with creative ability to develop effective Service Design Strategies, Knowledge Brokerage & Policy Advocacy (OKBPA), and communication products for specific audiences and achieving organisations' communications objectives. His experience

has been in groundbreaking projects in areas of Communication and Service Design, Research, fundraising, Public Relations, Journalism, Media and advocacy, brand Development, Media and advertising output. He has previously worked with various Non Governmental Organizations' (NGO's), in Research programmes that work towards securing livelihoods Media and Advertising firms through enhancing Brand building, capacity building, Advertising and Marketing. These include IPCC, UNDP, UNFPA, VSO, ATPS, IPIX just to name a few



# OPPORTUNITIES

## Call for Participation: Identifying Sustainable Solutions for Africa

Climate Action, a UNEP partner organization, needs your help in identifying the leading low carbon solutions being deployed across Africa; providing NGOs, UN agencies and governments with the opportunity to improve the lives of millions of people. We will collate the top 50 solutions and publish the results ahead of the Sustainable Innovation Expo at the United Nations Environment Assembly (UNEA) on 23-27 May 2016

For more information visit: <http://start.org/announcements/call-for-participation-identifying-sustainable-solutions-for-africa>

## L'OREAL – UNESCO – Call for applications 2016

The L'Oreal Foundation launches the 7<sup>th</sup> edition of the L'Oreal – UNESCO for women science sub-Saharan Africa Fellowships to support young women scientists.

12 Fellowships of Euro 5,000 each, will be granted to 12 African Ph.D Students enrolled in an African University, 2 fellowships of Euro 10,000 each, will be granted to 2 African postdoctoral researchers working in a laboratory or research institute registered in one of the region's countries.

Deadline: 29<sup>th</sup> April 2016

For more information and to apply, visit [www.fwis.fr](http://www.fwis.fr)

## Technovation challenge 2016 – Technology entrepreneurship led by girls

Every year, Technovation challenges girls all over the world to build a mobile app that will address a community problem. Since 2010, over 3,000 girls from 28 countries have submitted to Technovation, thanks to dedicated volunteers around the world. Girls do not need to have programming experience to participate, and Technovation is free for any girl who wants to participate.

Submission Deadline: April 21, 2016 5pm

For more information and to apply, visit <http://www.technovationchallenge.org/>

## 5th National Science week – call for Exhibitors

The National Commission for Science, Technology and Innovation in partnership with the Ministry of Education, Science and Technology have organized the 5th National Science Week to be held 16th to 20th May, 2016 in Nairobi. The event comprises of exhibition, robotics contest and a conference.

The event will bring together innovators and technology developers from private firms, TVET institutions, universities, research institutions and individuals involved in research, science and technology development.

Submission deadline: 14<sup>th</sup> April 2016

For more information visit: <http://www.nacosti.go.ke/images/docs/Call%20for%20Exhibitors%20NSW%202016.pdf>

## Total Energy Summer School (TESS) 2016 10-13 July 2016

The Total Energy Summer School (TESS) is your chance to join a dynamic community of current and future energy leaders, working with industry stakeholders and leading academics and experts.

TESS will be held in Fontainebleau, near Paris, France from 10-13 July 2016. Successful applicants will be funded by Total to join this exceptional event. What's more, all applicants will have the opportunity to follow one key interactive session online, live-streamed from Fontainebleau during the Summer School.

Application deadline: 15<sup>th</sup> April 2016

For more information visit: <https://www.total-campus.com/opportunities/total-energy-summer-school/>

## 4th International Conference- Society for the Advancement of Science in Africa (SASA)

The Society for the Advancement of Science in Africa (SASA) in collaboration with the Commission for University Education (CUE) Kenya are organizing the 4<sup>th</sup> International Conference with the theme "Transforming Africa through science, technology and Innovation" at the UNEP Headquarters in Nairobi from the 22<sup>nd</sup>-26<sup>th</sup> August 2016.

More information on: [www.cue.or.ke](http://www.cue.or.ke) or follow the conversation on twitter #SASA2016

## PHOTO GALLERY



*ATPS Executive Director (4th from right) in a group photo with participants during the Climate Knowledge Brokers workshop held from 29-31 March 2016 at the ILRI Campus, Addis Ababa, Ethiopia.*



*Participants at a Climate Change Innovations and Technology Transfer conference in Tera Suites Hotel, Gigiri, off the UN Avenue, Nairobi Kenya on March 23rd-24th 2016.*



*ATPS Executive Director Dr. Nicholas Ozor, making a presentation during the Climate Change Innovations and Technology Transfer workshop held at the Tera Suites Hotel, Gigiri, off the UN Avenue, Nairobi from 23rd to 24th March 2016.*



*ATPS, Executive Director Dr. Nicholas Ozor, addressing delegates during a panel discussion on Climate Change Innovations and Technology Transfer workshop at the Tera Suites Hotel, Gigiri, off the UN Avenue, Nairobi from 23rd to 24th March 2016.*



*Dorothy Njagi of ATPS (far left), in a group photo with participants of Southern Voices Network (SVN) during the Annual Conference held in Pretoria, South Africa on 21st to 24th March, 2016.*



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