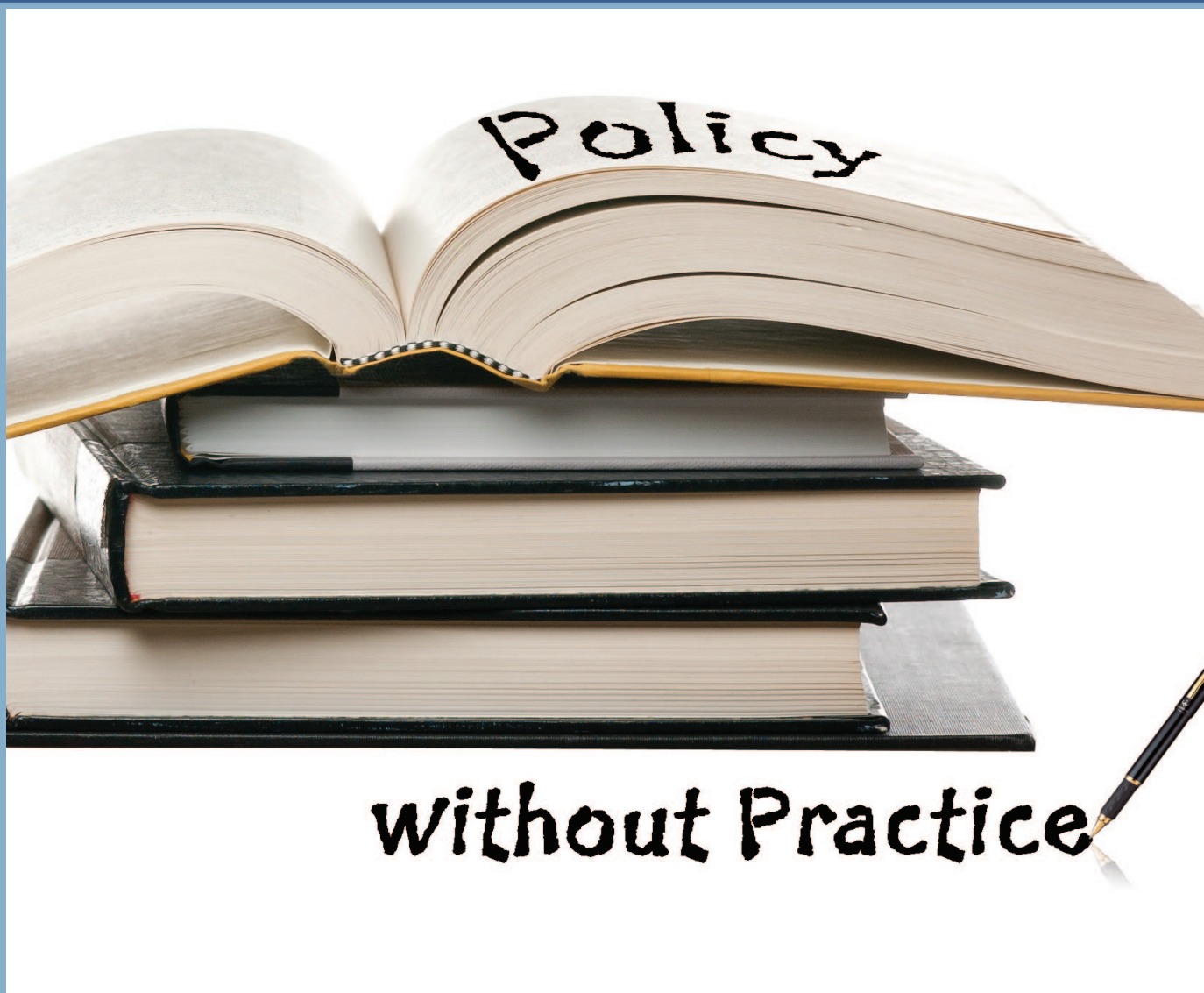




# TECHNOPOLICY AFRICA

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

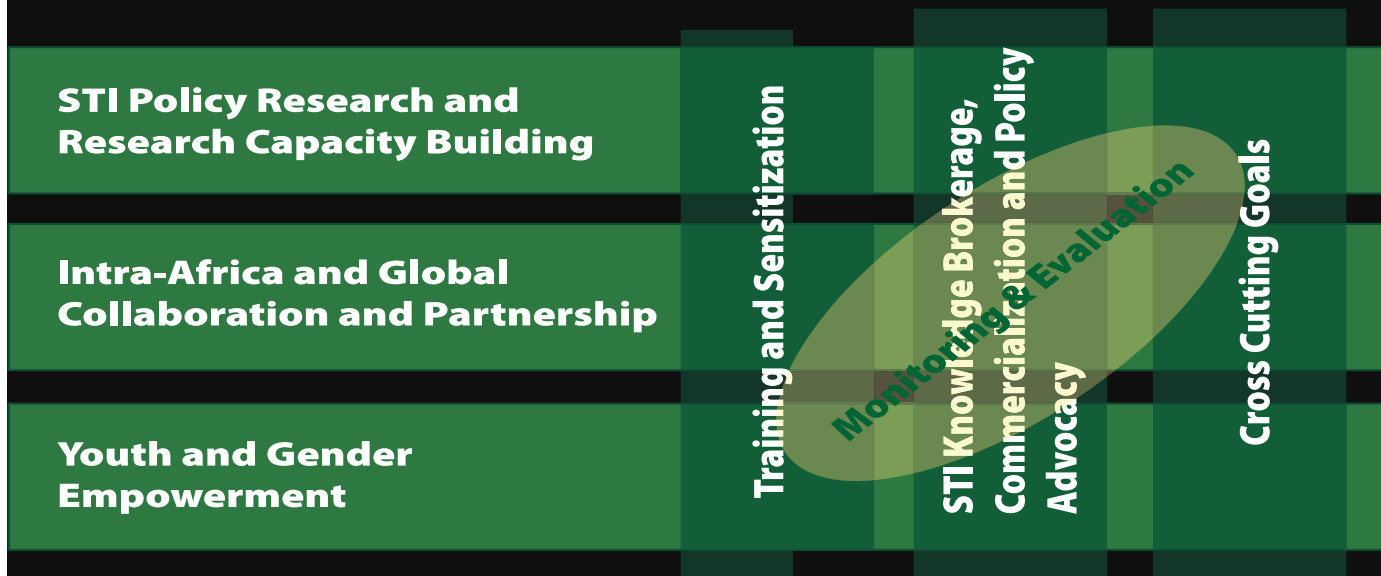


**ATPS New Board of Directors**

**Chinese African Babies: A Ticking Time Bomb?**

**Rethinking Africa's Growth Pathway: The Role of Youth and Women**

# ATPS Core Functions



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## CHAIRMAN'S MESSAGE



*Prof. Shaukat Abdulrazak*

I am delighted and honored to present this edition of Technopolicy Africa; this is the second issue of our revamped newsletter that was launched in June. I am aware that our first issue received enormous positive feedbacks from our readers and as a result had impacts in shaping perspectives on how we can progressively endeavor to build our continent for our own good and for the betterment of the future generations. We promise to continue engaging you with informative stories in science, technology and innovation.

ATPS under the new leadership of Dr Nicholas Ozor has consistently been reforming in structure, governance, capabilities and strategic partnerships in order to affectively deliver on the expectations and mandate of the organization. We have recently appointed four new members of Board of Directors to join in providing strategic direction for the ATPS. I am happy to present and welcome Mr. Chuma Ikenze, Dr. Peggy Oti-Boateng, Dr. El Tayeb Mustafa and Prof. Banji Oyelaran- Oyeyinka to the ATPS family. These fellows have been chosen through very rigorous processes involving key ATPS stakeholders. Their appointments were based on their long-standing experiences and contributions to the development of Africa and science, technology and innovation in particular. This is part of the repositioning of the ATPS to deliver on their mandate.

Again, ATPS is now concluding its previous years' audit reports to ensure that funds are properly expended and accounted for. This is in line with the commitment of the new leadership to ensure financial responsibility, controls, and systems in accordance with international standards. We have deployed an internationally recognized auditing firm – Deloitte & Touche to carry out the audit and so far great progress have been recorded in accomplishing this task.

I am pleased to note the remarkable progress in implementing the ATPS Phase VII Strategic Plan (2013- 2018) and as we move closer to the end of the period we remain optimistic that we shall have achieved our set goals in the six strategic focus areas of the ATPS including; STI Research and research capacity building (STI-RCB); Intra-Africa and Global Collaborations and Partnerships (IGCP); Youth and Gender Empowerment (YGEP); Training and Sensitization (T&S); STI Knowledge Brokerage, Commercialization and Policy Advocacy (KB-CPA); and other Cross Cutting Goals (CCGs) Through the implementation of these activities, we can be assured to improve the understanding and functioning of STI policy research and policymaking processes and systems to strengthen capabilities, social responses and governance of STI-led sustainable development in Africa.

As a premier STI institution in Africa, our core mandate remains to champion STI agendas nationally, regionally and globally. We recognize the need to invest in science and technology for economic progress so as to promote growth and prosperity. Africa should relentlessly examine it's future with a science and technology foundation and strive to come up with long-term effective strategies that can be reaped later.

We are happy to receive approval for a grant from the Clim-Dev Special Fund (CDSF), a multi-donor fund established by the African Development Bank (AfDB) under a tripartite partnership with the African Union Commission (AUC) and the Economic Commission for Africa (ECA), and this will go a long way in facilitating our mandate in responding to Africa's climate change challenges. Our research project aims to bridge climate information gap by strengthening capacities for climate informed decision-making in Africa. The overall goal of the project is to reduce vulnerability and foster a food-secure world through the strengthening of African countries' capacities to understand and deploy appropriate climate information and best practices to inform decision-making and support development planning.

We kindly call on other development partners and donors to support the new ATPS in implementing activities under its six strategic focus areas already mentioned above. We wish to re-affirm ATPS's commitment to building STI capacities in Africa for sustainable development and look forward to your continued support in this transformative journey. I am happy that this rebranded newsletter is making the desired impacts in reaching the target audience with proven information and I wish to thank all the contributors to this edition.

**Prof. Shaukat Abdulrazak,  
Vice-Chancellor, Umma University  
Chair, ATPS Board of Directors**



## EXECUTIVE DIRECTOR'S MESSAGE

I am very pleased to present this issue of the ATPS newsletter – TechnoPolicy Africa. Firstly, I want to congratulate the newly appointed Board of Directors of ATPS and welcome them into the family. I am convinced that ATPS will grow in leaps and bounds through the supports and strategic direction they will offer to the organization. The fellows are internationally acclaimed scientists and entrepreneurs in their own rights and I have no doubts that they will inject new innovative ideas that will enable ATPS deliver on its mandate of building Africa's capabilities in science, technology and innovation (STI) policy research, policymaking and implementation on the continent.

Over the last few months, we have been working tirelessly with Deloitte and Touche, an internationally acclaimed auditing firm to audit and update ATPS's accounts and records to ensure that all funds received from partners and donors have been expended judiciously. This is in line with the current administration's commitment to financial accountability and responsibility. It is also part of the efforts to re-assure our donors and partners of our resolve to put into effective use all finances granted the ATPS for the implementation of ATPS activities. We are happy to note that tremendous progress have been achieved in this regards.

I wish to welcome back our Research Assistant, Ayodotun Bobadoye who recently returned from the United States of America after a 3 month Fellowship with the Woodrow Wilson Center for International Studies under the Southern Voices Network program. Mr Ayodotun spent his fellowship time researching on "Gender, Science, Technology, and Innovation for Sustainable Development in Africa". I also wish to warmly welcome our new Research Assistant Ms. Akukwe Thecla who has recently joined the ATPS Secretariat with skills in the area of Environment, Water and flood risk management and Food Security.

We have continued to build capabilities, structures, and conditions for the co-production of scientific knowledge, technologies, innovations, and policies for sustainable development in Africa. For instance, our Biodiversity Informatics Policy landscape project funded by the JRS Biodiversity Foundation has shown that despite the different conventions, protocols and declarations aimed at compelling countries to commit to biodiversity conversation, the impacts of these policies remain elusive. The market scoping research study on Newcastle disease in village poultry in Nigeria and Ghana being supported by GALVmed is progressing well and the report will be presented in October 2015. The research aims to find out the effects of the Newcastle disease epidemiology, socio-economic impact on the livelihood of small scale village poultry producers, especially women and to determine availability, registration status and large scale sustainable distribution mechanisms of ND vaccines including, thermostable I2, Itanew etc., in Nigeria and Ghana. Similarly, the research project on 'Improving Agricultural Productivity and Resilience to Climate Change Using the Land Potential Knowledge System (LandPKS) Mobile Technology being funded by the Technical Centre for Agricultural and Rural Cooperation (CTA) is being concluded with tremendous outcomes on the project showing how the LandInfo app is already helping farmers, extension agents and land use planners to take farm decisions with respect to identifying the best soils suitable for production purposes; its erosion risks; for fallowing, and for other uses.

Under our Training and Sensitization program, we have partnered with the Ministry of Agriculture (Fiber Crops Directorate of the Agriculture, Fisheries and Food Authority-AFFA) to train



*Dr. Nicholas Ozor*

AFFA's technical officers on the use of the LandInfo mobile app technology. The training will enable them reach the farmers they serve with accurate information on the potential of their soils to support productivity especially in the face of climate change. Already a training of 100 technical staff in 10 counties in Kenya has been earmarked. ATPS has currently trained 20 technical officers of AFFA in Kisumu and Baringo counties on the use of the LandInfo app to support farm decision-making and land use planning.

During the quarter, ATPS staff presented papers in many international meetings, workshops, conferences and policy dialogues. Notable among them are: the Ecosystem Based Adaptation for Food Security conference tagged "Reimagining African Food Security now & in the future" which was held from 30-31 July, 2015 at the UN Complex in Nairobi, Kenya; Africa Geospatial Forum 2015: Moving towards a Geo-smart Africa held from 18-19 August in Johannesburg, South Africa; launching of the Alliance for Accelerating Excellence in Science in Africa (AESA) held on 10 September 2015 in Nairobi, Kenya; the Inception Meeting of the African Climate Change Fellowship Program (ACCFP) Phase III held from 21-23 September 2015 in Dar es Salaam, Tanzania; 3rd Annual Africa Food Security Conference & Agri-Exhibition 2015 held from 22-23 September, 2015 in Nairobi, Kenya; and the 1st African Agribusiness Incubation Conference held from 28-30 September 2015 in Nairobi, Kenya among many others.

We continue to solicit for supports from donors and development partners to help us realize our mission which undoubtedly will help Africa to implement most of the sustainable development goals already launched at the United Nations General Assembly. We assure you of tangible impacts and outcomes for every support received. You can register to be a member of ATPS by simply filling a form on our website and get a chance to join the network of 1,500 members. As a member you will be part of building and implementing STI Initiatives across Africa and in the Diaspora (USA, UK & Australia) where ATPS has its National Chapters. You will also have the opportunity to participate in conferences and trainings organized by the ATPS.

**Dr. Nicholas Ozor**  
Ag. Executive Director, ATPS

# THE FUTURE OF RENEWABLE ENERGY TECHNOLOGY THROUGH BIODIESEL PRODUCTION FROM JATHROPHA IN NIGERIA

By **Ogechukwu O. Ajoku ESQ**  
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Use of renewable energy has in a long time been a priority in environmental conservation and economic development in most African countries. Investing in renewable energy is a noble move of alleviating poverty hence promoting economic growth for sustainable development however; most of these energy sources in Africa remain under-exploited. Biodiesel has become a popular energy production method due to its proven benefits like; creating employment, contributing to socio-economic development, influences reduction in fossil fuel prices, provides nitrogen fixation in the soil that results to overall land productivity, provides stable income for rural community farmers among others.

Fossil fuels have resulted in many global economic, political, health and environmental problems. The key challenges facing the European Union (EU), United State of America (USA) and Asian producers of Biodiesel is the availability of affordable and sustainable feedstocks that will not interfere with the food chain. This has resulted to a serious energy security concern in most countries in these regions. Another challenge is that as more land is earmarked for food crops, pricing for raw materials for biodiesel production becomes a problem to food stock sustainability. In this regard, competition between food and fuel will lead to increase in EU imports for biodiesel. In the US, the competition for land to plant corn for bioethanol is still under competition, land for planting food crops and land for planting biodiesel feedstocks. All of these three regions of EU, US and Asia are now relying on Africa where availability of feedstock for biodiesel can be developed with cheap labour, abundance of water and land. Such materials in Africa are biodiesel feedstock that do not exert any direct pressure and competition with human food, and also do not require much land. These are known as second-generation feedstock (2nd gen raw materials).

In Africa, current biodiesel production efforts are at infancy stages, in Namibia, Erickson and Mobile Telephone Network (MTN) are developing a project to power base stations using biodiesel. In Nigeria, for instance, the 2nd generation biodiesel feedstock that has high potential is Jathropha. The plant is non-edible, and therefore does not compete with human food. Its residue can be exported to, European Union (EU), United State of America (USA) and Asian Countries. With the largest telecommunications and technology market in Africa, Nigeria stands at a strategic location for accessing alternative energy (Renewable Energy) to power its telecommunication and technology sector. The possible option in Nigeria is to produce Jathropha oil, sell to biodiesel producers in Nigeria, the rest of Africa, Europe, US and Asia, or out rightly produce Jathropha biodiesel for local, regional and global markets. In other words, the Global system for Mobile Communications (GSM) services providers in Nigeria alone consume over



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10million liters of petroleum diesel to power their stations, banks use diesel generators to provide their services and so forth.

The emergence of Jathropha as an alternative feedstock to deploying highly priced vegetable oil for producing biodiesel is an advantage for Nigeria. Nigeria has vast land, very fertile and flat, as well as cheap labour. Jathropha yields well in arid and semi-arid farm lands, as well as in degraded soils that does not require much fertilizer and water to produce high yields. It has a shorter plant cycle than palm oil. It has a high oil yield that grows where many human food crops do not, and cannot grow. It is an economic development engine in poverty stricken regions in Nigeria. It is a sustainable alternative to deploying human food crops for biodiesel production. Harvesting of Jathropha is not yet mechanized, which makes it labour intensive providing employment for many rural dwellers. It produces high oil, yielding inedible fruits. It is capable of producing as much as 20 times the energy it requires to produce it. It is easy to cultivate and can survive in degraded soils.

It is most ideal for cultivation on marginal land, thereby allowing prime areas available for food crops. It does not compete with resources required to produce food. The flowers and stems possess medicinal properties and the leaves are used for dressing wounds. The Jathropha plant is desirable as a source of feedstock for biodiesel production and its seed produce up to 40% oil and also highly resistant to drought and pest. It takes approximately 12-15 months from planting to first harvest, thrives successfully on degraded soils. Its biodiesel can be used in existing standard diesel engines, while the residue can be processed into biomass to power electricity power plant. It also serves as organic fertilizer very rich in organic fertilizer and in organic matter.

The production of Jathropha is a sure guarantee to poverty alleviation and a long-term energy solution that is affordable and has significant benefits to the environment.



# RETHINKING AFRICA'S GROWTH PATHWAY: THE ROLE OF YOUTH AND WOMEN



Photo by Albert Gonzalez Farran / CC BY 2.0

**By Ernest Acheampong**

In June 2015, Africa's corporate "gurus", senior bankers, renowned entrepreneurs and top government officials from the 53 African countries and beyond converged in the beautiful city of Cape Town in South Africa under the platform of the World Economic Forum for Africa. They scrutinized and discussed Africa's economic growth pathways, status and future prospects within the global economy.

Following the theme, "Then and Now: Reimagining Africa's Future", participants evaluated Africa's economic progression over the past 25 years, discussed prevailing insights on the current development landscape and identified innovative ways of accelerating inclusive growth and fostering a sustainable development agenda. This year marked the 25th forum in Africa and many questions have been raised about how this forum has shaped Africa's economy towards addressing the fundamental challenges such as poverty, unemployment, social exclusion, income inequality, unsustainable resource extraction rates among other things confronting African countries.

Barely two and half decades ago, Africa's contribution to global economy was rarely recognized, and all indications pointed to a continent destined to fail. However, the dawn of the new millennium heralded a new era of radical transformation of Africa's fortune. A continent that was deemed a "doomed continent" would turn the tables and become a beacon of hope for the global economy. Africa's growth showed incredible economic turnaround, with growth rate 2-3% faster than the global growth rate. Sustained by a stable growth rate of average slightly above 5%, Africa's economy was ranked as the second fastest growing economy after Asia from 2001-2010, with 6 countries among the rapidly growing economies.

The story of Africa's impressive and stable economic growth is often told alongside two key disturbing development trends. First, the rising economic growth has not translated into adequate job creation for the youth, with unemployment rate at 6% per annum. Africa's population pyramid depicts a massive and continuing youthfulness which provides clear

opportunity to accelerate growth, reduce poverty and build a sustainable and peaceful future on the African continent. The continuous neglect and lack of job provisions for the teeming African youth breed widespread frustration and social discontent, which can potentially undermine peace and political stability.

Second, Africa's development has not factored in the important role and contribution of women in the formal economic process. Women's economic role and impact on economic patterns are often discounted or not fully recognized by national policies, statistics and even in legislation. The continuous under-representation of women in social, political and economic spheres weakens Africa's leverage to achieve its maximum potential of sustainable socio-economic development. In a nutshell, Africa's current pattern of growth is neither inclusive nor sustainable.

Moving forward, there is a need for a drastic transition from an unsustainable natural resource-based economy to a more service-driven economy. Such a transition will require a renewal of mindset towards a culture of innovation. This is not to say that current systems are not innovative. In fact, the latter part of this century has witnessed the emergence of multiple innovations, new technologies, new services and new products that are addressing social and economic objectives in Africa, and this has significantly contributed to Africa's new brand as a "Rising Star". However, these advancements made have not significantly shifted Africa's economy away from the conventional production processes.

Innovation is widely seen as a major driver of economic growth and success in the global business environment today. Driving the innovation process is the need to improve efficiency and effectiveness of existing systems or create new ones to drive down cost and improve productivity, reduce negative impact, create a highly competitive market and advance societies worldwide. Africa's new generation of women and youth are credited with emerging innovations that have put a spotlight on the continent. Tapping into growing digital revolution on the continent, women and youth are developing strategies and solutions that are addressing everyday issues and improving socio-economic conditions of people at both local and national levels.

The future of prosperous economies in Africa will rely profoundly on continent's capacity to innovate, embrace new ideas and implement them in order to meet pressing unmet needs and improve people's lives. African youth and women with their innovative minds in the contemporary era represent a powerful source of inclusive and sustainable socio-economic growth. The youth and women in Africa are critical to an African renaissance. Banking on the great potential, dynamism, resourcefulness, resiliency, and aspiration of major stakeholders, a unique opportunity awaits Africa in harnessing the enormous potential of this critical social capital. It is therefore essential to scale up investment in youth and women to enable them play an active role in development and contribute to addressing persisting challenges.

# POLICY WITHOUT PRACTICE

By Dr. Nicholas Ozor and Dorothy Njagi

**H**ave public policies become a paradox characterized by enormous rhetoric from institutions and organizations involved in biodiversity information generation and implementation with very little efforts to substantiate their impacts? This appears to be the case for biodiversity policies in sub-Saharan Africa. Different institutions have explicitly declared their commitments in creating conservation policies; legislation, institutions and international agreements on biodiversity, which is, quite a remarkable step. However, the impacts of these policies are yet to be felt, putting into consideration the fact that we are living in the wake of catastrophic climate change phenomena.

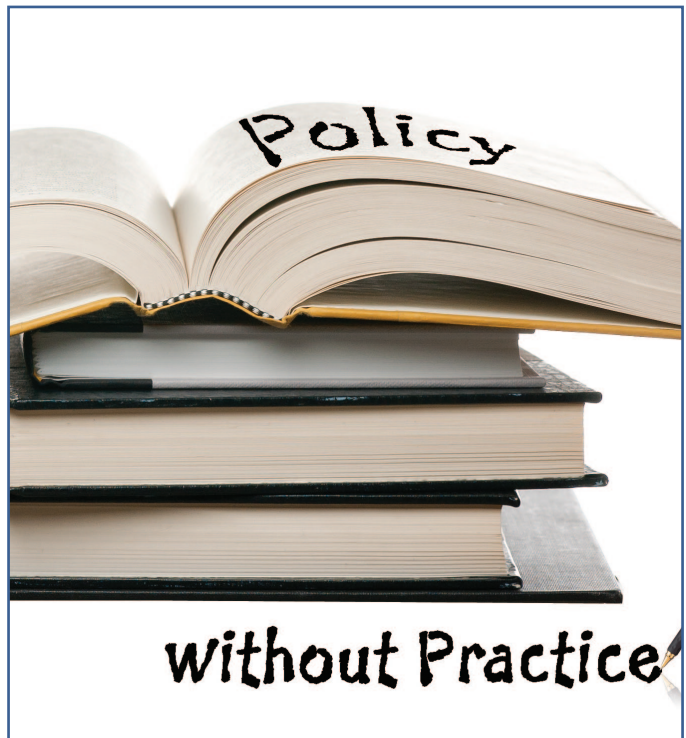
Sub-Saharan African countries have established a remarkable number of policies following the emergence of several international environmental agreements, protocols and conventions. Majority of these countries have gone a step ahead to separate these policies to specifically address different biodiversity features such as forests, wildlife, environment, marine, and agriculture among others. It is notable that apart from the primary benefit of conserving the environmental balance, there is also the economic achievement that is drawn from the implementation of these policies.

Africa in particular should ultimately seek to reconstruct biodiversity conservation activities as a matter of urgency as it stands the most vulnerable to the climate change threats. The rate at which activities such as poaching of wild animals, urbanization, overexploitation of mining fields, the growing population, deforestation, unregulated development and anthropological misuse is taking place is alarming and needs to be addressed without delay to avoid further losses.

National biodiversity strategies need to be thoroughly adhered to by member countries. Indicators such as global warming should not be ignored and ecosystem based adaptations need to be harnessed so as to protect the future generations from negative effects of ecosystem integrity.

Urbanization and industrialization have been seen to be the major threats to biodiversity as many countries are investing in energy and infrastructure in a bid to develop their economies and eradicate poverty. These countries are quickly moving to address hurdles like unemployment, growing youth population and insecurity by investing more in technologies and industrialization. However, for sustainable development to be achieved, a balance needs to be struck to ensure that one area of the economy does not progress at the expense of the other.

It is time to move from plan to action, from policy to practice in the area of biodiversity conservation using data, information and technologies to leapfrog transformations on the African continent. A holistic approach is for all relevant actors including policymakers, private sector, researchers and other drivers of change to get involved in implementation. Considerable efforts are being done to educate the people



on the intrinsic value that biodiversity resources hold both environmentally and economically.

Africa has enormous potential and is well endowed with abundant living things, agricultural potential, fresh water sources, arable lands among other biodiversity resources. However, it still stands at a crossroad simply because the policies are still stacked in files with no strong commitment for implementation. The time is now to put policy into practice.

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# CHINESE AFRICAN BABIES- A TICKING TIME BOMB?



Photo courtesy bwamu2.ning.com

By Dr. Joe Ukemenam

**H**istory has it that the present unresolved issues become the problems of tomorrow, thus it is paramount to remain aware of the consequences attached to a particular event or phenomenon. Chinese men in Africa are increasingly fathering children and leaving women, usually unmarried and vulnerable girls, as single mothers. As a result, it is estimated that over 400,000 children have been left without fathers and the number is likely to increase if the trend continues without being critically addressed.

As several commercial Aircrafts fly hundreds of Chinese workers daily into African cities, a Chinese interpreter informs that these workers (pre-dominantly males) arrive usually unaccompanied by their families or partners and have an average of twelve months' initial contract, in most cases without a break clause or absence from the African theatre. Unlike other international organizations where staff must take leave at appropriate times or annual leave to visit family, the Chinese largely use a different system that does not promote regular or frequent leave such as that of other experts and missions staffs in Africa.

Currently, there is a visible increase in the number of children fathered by Chinese men in Africa with women who are either under age or poor being the most vulnerable. In Kenya, there is evidence of these Chinese footprints in areas along Thika Road where numerous of them had been contracted by the Kenyan government to construct the infamous, Thika Super Highway. With more Chinese contracted projects being commissioned, like the Lamu Port- Southern Sudan- Ethiopia Transport (LAPSSET), this challenge is likely to get out of hand more quickly than foreseen. What is more worrying about these Chinese men menace, is that they do not take ownership of their paternity responsibilities.

Reform Corporation UK - an International Development Agency with support from the United Kingdom Parliament and in collaboration with ATPS UK has established that the most significant and worrying issue is the fact that most of these babies are left without the parental care and no inheritance rights from their Chinese fathers. As a result, the African communities often ostracize these unmarried mothers. When the Chinese fathers leave the African theatre at the end

of their work contracts, no formal or legal arrangements are put in place for the welfare of both mothers and/or the children.

Inadequate knowledge on the extent of such problems means that no formal support mechanisms are being developed for the women and children and as a result the promotion of good public health sexual practices are missed. These are raising key issues and fundamental questions under the United Nations Convention on the Rights of the Child (CRC). Unlike the USA and the Vietnamese GI children, China has no policy to assimilate these African children as citizens, leaving them more vulnerable in Africa where culture can have its own adverse effects on the right of these children. All these dilemmas and emerging problems could possibly be the next Africa's time bomb.

Further more, serious concerns are expressed for the increasing number of females and underage girls that are involved in the saga. Apart from these sexual activities resulting in increased unwanted and un-planned pregnancies that are not being taken care of, the fight against HIV/AIDs is also undermined and not supported by these behaviours. In addition, no one knows exactly the pattern, extent or the mutation of this phenomenon in Africa today. Paradoxically, very little is currently thought of the density of this dynamic phenomenon resulting in the neglect and rejection of these African babies fathered by Chinese men by either or both parties.

A survey shows that very little has been published regarding this phenomenon although there are records of increasing marriages and resultant children between Chinese men and African women. Chinese men who are not in marriage situations remain sexually active in any event but the patterns have not been seriously explored, documented and explained for its compliance with local child protection legislations and public health policies. This important omission must be a wake-up call for Africa's policy makers and child protection agencies around the world and demands urgent comprehensive study.

There is an urgent need to investigate the pattern, extent and consequences of this emerging paradigm. In addition, properly establish current and future policy requirements, cultural, legal and humanitarian issues emerging from the phenomenon. Such phenomenon could include those, which if not addressed now, could amount to the next African 'time bomb' in the near future. There is need for greater knowledge of the potential dangers to the society of these uncontrolled associations, the inherent public health challenges and compliances under the United Nations Convention of the Rights of the Child (CRC).

In order to fully confront the dilemma posed by this challenge, a deeper and systematic analysis is required urgently in order to understand the pattern and extent of this emerging paradigm, set out adequate interventions (policies or otherwise) that will safeguard these vulnerable children, their vulnerable and child mothers, girls and other new potential victims.

**China has no policy to assimilate these African children as citizens**



# STRIDES IN FILING OF PATENTS IN KENYA

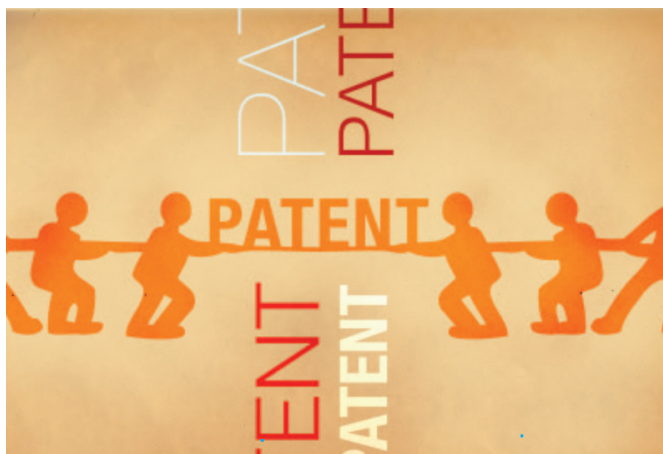


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**By Duncan Mboyah**

**T**he rate of youth unemployment in Kenya accounts for over 40% of the youth population. Every year, we witness graduation ceremonies where thousands of graduates leave institutions of higher learning with hopes of joining the job market. However, these numbers do not translate to the number of available jobs in the market. This situation has prompted the youth to establish their own employment opportunities to avoid years of endless 'tarmacking'. The number of youths in Kenya venturing into entrepreneurship activities has remarkably increased forcing them to come up with start-ups/innovations especially in science and technology. The number of innovation hubs and youth empowerment organizations has also increased with an aim to build capacity and empower the youth.

At the same time, it is imperative for the youth to be informed about patenting their ideas so that other people do not claim to own them, which would kill their dreams. Kenya has made tremendous progress in patent applications since the year 1994, the first time when a patent was granted in the country.

Previously, patent applications in Kenya had a negligible contribution to the growth of worldwide patent applications as it accounted for approximately 0.011 percent of the patent applications worldwide in 2012. But a lot has changed especially during the period 1990 – 2013, where a total of 2,388 patents were filed in Kenya and 633 patents, representing 26.5 percent of the total applications were granted.

"The long-term trend shows that there has been a continuous growth in the number of patent applications filed in Kenya, with exception of 1994, 1997, 1999, 2000, 2006 and 2013 in which there was a decline in patent applications from the previous years," the Director of Scinnovent Centre, a policy and development think tank in Kenya, Dr. Maurice Bolo said during the launch of the study in Nairobi.

He said that even though there were indicators of a decline of 6.9 percent from the number of patents applications filed in 2012, it shows that Kenya is on the right track. He observed that this low rate in terms of patents granted formed the basis for the determination of the duration taken for a patent to warrant grant.

In 2007, for the first time, the patent applications in Kenya exceeded the 100 mark, a trend which has been maintained since.

This trend is consistent with the worldwide patent applications trend, which also experienced a continuous growth between 1995 and 2012 with exception of a slight decrease in 2002 and a more pronounced decrease in 2009, which was associated with the global financial crisis.

"Our analysis reveal that majority of the patents (21.96 percent) took duration of between 25 months and 36 months (2 years to 3 years) to be granted, while the longest patent application took 183 months to be granted, Dr. Bollo said.

By Kenyan law, patents filed through the national route take a minimum statutory period of 18 months. In cases where it has taken less time, these were applications filed before the Industrial Property Act (2001) came into force; hence the 18 months period was not applicable then.

During the period under review, companies filed 1,375 patents, out of which 496 were granted representing 78.4 percent of the total patents granted.

The government filed 8 applications and was granted 2 patents which is 0.3 percent of the total patents granted.

At the same time, public research institutes filed 69 applications and were granted 25 patents, which represent 3.9 percent of the total patents granted. Universities and other learning institutions filed 69 patents, and were granted 10 patents, which is 1.6 percent of the total patents granted.

Individual inventors filed 581 applications and got 60 patents granted, representing 9.5 percent of the total patents granted in this period.

"A total of 278 patent applications were filed by various forms of partnerships, 40 of these were granted patents representing 6.3 percent of total patents," Dr. Bollo noted.

Dr. Bollo noted that out of the 633 patents granted, 73.6 percent were Patent Cooperation Treaty (PCT) while only 26.4 percent were national patents.

He further revealed that from the study, only 42 of the 396 utility models filed were granted, while 714 of the 1,392 industrial designs filed were granted.

Dr. Bollo further revealed that some utility models were rejected due to failure to meet the protection set criteria for an invention, failure to submit the required fees and lack of response to the past correspondences.

Intellectual property rights are seen as important in economic development because they provide a mechanism of turning knowledge from a public good to a private good that can be traded and subjected to market forces and also help to make freely available technical information since full disclosure is a requirement for granting the protection.

However, the awareness about, application for and use of intellectual property is characteristically low in developing countries. Kenya's patents are handled by Kenya Industrial Property Office (KIPO), a body that was formed in 1994.

# AFRICAN WOMEN PARTICIPATION IN SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM): WHY SO FEW?

By **Ayodotun Oluwafemi Bobadaye**

**T**he importance of science, technology and innovation (STI) for sustainable development and peace building in Africa cannot be over-emphasized. The quest for natural resource control is one of the major causes of civil unrest and conflict in most African countries. The continent accounts for three-quarters of the world's platinum, half of its diamond and chromium, and one-fifth of the world's gold and uranium supply. Many African countries are fast becoming home to major oil and gas production sites, with about 20 countries now producing crude oil.

STI is important for the discovery, exploration and transformation of the natural resources in the continent to finished products. African leaders realizing the need to transform Africa from natural resource based to a knowledge based and innovation led economy through massive investment in STI adopted the Science, Technology and Innovation Strategy for Africa (STISA 2024). For STISA 2024 to achieve its mission, the gender disparity between men and women especially in Science, Technology, Engineering and Mathematics (STEM) courses and professions must be addressed; this is because STEM training forms the bedrock for producing scientist, engineers and innovators that will drive the continent's STI agenda.

Women account for over 50% of the available human resources in Africa. In order for the continent to achieve its goal of transforming Africa to knowledge based and innovation led society, it has to maximize the inherent potential of the African woman. Research has shown that higher female earnings and bargaining power in Africa translate into greater investment in childhood education and health and nutrition. This in turn leads to economic growth and development in the long term.

Despite the clamor for increased female participation in the STEM related courses and professions, there seems to be a slow uptake in STEM activities when compared to other fields of study by women in most part of the world. Societal beliefs and learning environments affect the girl child interest in mathematics and science subjects. In Africa, one major reason for gender inequality in math and science education is a child's early environment. Boys tend to be brought up to be independent and solution driven, while there is a propensity to call on girls to be subservient and affectionate. The mode of teaching STEM courses in most schools are also gender biased; most math and science teachers are male; math and science books including the examples and illustration in them are male authored.

In addition, the issue of differences in cognitive ability based on sex, particularly in mathematics remains hotly contested. One area of gender difference where cognitive abilities are disputed is spatial skills, which are believed to be important for engineering and other scientific field. There is the belief that boys perform better in tasks using spatial orientation and visualization while girls outperform boys on tests relying on verbal skills. However, research has shown that similar up

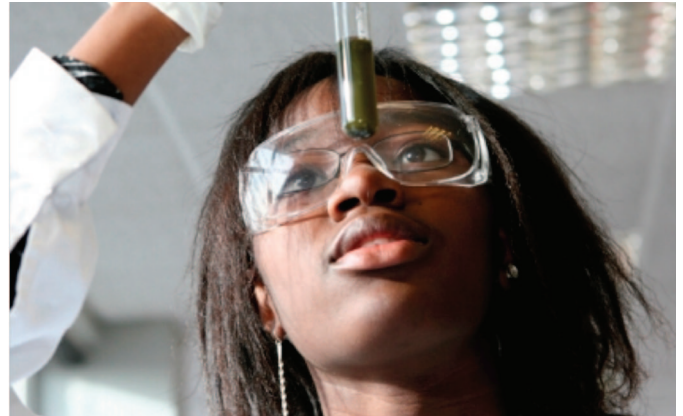


Photo by Monica VR gallery /CC BY 2.0

bringing and simple training improves spatial skills.

African women also have peculiar challenges, which include traditional norms and beliefs like, women should be responsible for taking care of the children, elderly and sick, which reduces their chances of going to school. Sexual and reproductive health issues also affect female education in Africa. About 530,000 African women die every year from childbirth and about 80% experience complications during pregnancy.

To address the issue of women participation in STEM fields in Africa, there should be gender mainstreaming in STI policies and strategies in African countries. Policies should take into account customs, tradition and peculiar needs of women in the region. These policies should include gender-based affirmative action, which ensures appropriate representation of women in decision making at all levels, reviewing of the educational curriculum from elementary class to the university to remove gender bias, gender awareness training for science and mathematics teachers should be an important part of the school curriculum in African countries.

There should be increased mentorship and sponsorship programs for girls in STEM fields, increased representation of female role models, celebrating of female scientist in Africa so as to serve as role models and networking amongst female scientists in Africa through publications, meetings and virtual discussion groups. This will promote collaboration with fellow scientists and also create new opportunities to make it easier for the exchange of ideas, knowledge and information.

There is also the need to conduct research that collects and analyzes gender-disaggregated data for informed policy decisions. Further, proper monitoring of policy and strategy implementation; the constraints and progress of the policies and strategies should be documented and best practices should be identified through impact assessment and evaluation. Finally, there is the need to launch national and regional campaigns that will raise awareness about the important contribution of women in science, technology and innovation in Africa. All stakeholders in Africa should be involved in charting a new era of development for African women.

# DIFFERENCES IN GENDER INVOLVEMENT ALONG CASSAVA VALUE CHAINS

By **Olajide O. Adeola**

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The continued changes in the social roles and responsibilities of men and women have called for the documentation and appraisal of gender roles and relations in value chains. This is to enable development intervention agencies such as; Food and Agriculture Organization (FAO), International Institute of Tropical Agriculture (IITA) and policy makers in the government institution to target the right beneficiaries when incentives and resources are to be delivered to actors like; cassava farmers, processors and marketers. It is against this backdrop, that a study chose to appraise the gender roles along the cassava value chain in some areas of Oyo west in Oyo state, Nigeria.

Evidence from the research showed that most of the actors were male, with poor education. Information on the mode of acquisition of the major factor of production employed indicated that at least half of the sample depended on other actors to rent processing machines; some inherited theirs while others depended on their spouses. The prevalent tasks for males and females were also examined and it showed that the production node was dominated by men particularly for strenuous tasks such as land preparation while females were more involved at the processing node. But some complementary roles which involved the physical aspects of processing such as water expressing were mainly handled by men. Contrary to expectation the tasks at the marketing node involved more men than women; the assumption was that women should be the ones handling cassava sales since they dominated at the processing point. In terms of labour employment, more jobs were created for men than for women.

The constraints that these actors faced include inadequate supply of input materials, credit inaccessibility, high cost of production materials and poor pricing of products. Challenges faced by processors are, inadequate capital and storage facility, spoilage during processing, cost of labour, transportation to processing site, lack of improved processing equipment and time spent on processing. These problems are at varying degrees. Marketers were constrained by inadequate supply of cassava tubers for purchase, high cost of transportation, poor pricing of products, credit inaccessibility and high cost of facilities such as vehicles. However, farm inaccessibility was not a constraint, meaning that they all had access to the farms they purchased cassava tubers from. Educational exposure, credit constraints and the sphere of influence in decision making with respect to the business enterprise are factors, which limit productivity hence profitability.

Food sufficiency and security can only be guaranteed by



Photo by Creative Commons / CC BY 2.0

removing the bottlenecks faced by actors and an equitable participation of both men and women along the nodes of the chain.

Oluwafunmiso Adeola Olajide is a lecturer in the Department of Agricultural Economics, University of Ibadan. She specialized in Farming and Rural Systems Economics and her research interests include Food Security, Living Standard, Climate Change and Gender issues. She is a member of several professional associations including the African Association of Agricultural Economist. She is currently a visiting scholar at the United Nations University-Institute for Natural Resources in Africa, Accra, Ghana..

**Food sufficiency and security can only be guaranteed by removing the bottlenecks faced by actors and an equitable participation of both men and women along the nodes of the chain**



# OPPORTUNITIES

## 2015 Clean Cooking Forum November 10-13, 2015 location: Accra Ghana

Join 400 global leaders and practitioners gathered to help accelerate adoption of cleaner, more efficient cooking solutions. The bi-annual event will bring together stakeholders to share knowledge, learn best practices and forge new partnerships during four-days of informative sessions, networking, site visits, and clean cooking demonstrations. The Forum theme Accelerating Markets. Scaling Solutions will mark the Alliance's 5th Anniversary and convene global stakeholders to share best practices and business models, forge new partnerships, and strengthen the sector toward a 100 million household clean cooking adoption goal by 2020.

<http://cleancookstoves.org/events/154.html>

## 6th Africa Day for Food and Nutrition Security Oct 30 2015, Location: Kampala, Uganda

The 6th edition of the ADFNS will be commemorated under the theme, "Empowering Our Women, Securing Our Food, Improving Our Nutrition". This theme ties neatly with the declared 2015 "Year of Women Empowerment and Development towards Africa's Agenda 2063". As substantiated in the foregoing section, it is obvious that empowering women on the continent is a catalyst to improving the continent's status of food and nutrition security, vis-à-vis contributing substantially to ending hunger and reducing stunting to the desired level.

<http://nepad.org/conferences/6th-africa-day-food-and-nutrition-security>

## Inaugural Conference of the Specialized Technical Committee (STC) on Agriculture, Rural Development, Water and Environment

**Oct 5 2015 - Oct 9 2015, Addis Ababa, Ethiopia**  
**Theme: Advancing concerted action for improved livelihoods in Africa**

The overall objectives of the Inaugural Conference of the AU Specialized Technical Committee on Agriculture, Rural Development, Water and Environment is to review relevant strategic goals, facilitate mutual accountability and Identify synergies, linkages and complementarities in on-going agriculture, rural development, water and environment related initiatives, and their implications on the achievement of the overarching goals of Africa Accelerated Agricultural Growth and Transformation (3AGT) agenda for attaining food and nutrition security, reduce poverty, boost intra-African trade, and enhance resilience of production systems and livelihoods to Climate Change and related shocks.

<http://www.nepad.org/foodsecurity/inaugural-conference-specialized-technical-committee-stc-agriculture-rural-development>

## 21st session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21)

**Nov 30 2015 - Dec 11 2015, Location: Paris, France**

In 2015, France will be hosting and presiding the 21st Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21/CMP11), otherwise known as "Paris 2015" from November 30th to December 11th. COP21 will be a crucial conference, as it needs to achieve a new international agreement on the climate, applicable to all countries, with the aim of keeping global warming below 2°C. France will therefore be playing a leading international role to ensure points of view converge and to facilitate the search for consensus by the United Nations, as well as within the European Union, which has a major role in climate negotiation

<http://www.cop21.gouv.fr/en>

## CALL FOR PROPOSALS

**To host a side event and exhibit in the Africa Pavilion  
November 30th - December 11th 2015 Location: Paris, France**

The African Union Commission (AUC), the UN Economic Commission for Africa (UNECA), the African Development Bank (AfDB) and the NEPAD Planning and Coordinating Agency (NPCA) are pleased to call for proposals to host side events at the African Pavilion during COP21/CMP11 in Paris from November 30th to December 12th, 2015.

The organizing committee invites proposals to host 90-minute climate related side events in Hall 3 of the "Africa 1" area of the Africa Pavilion at the Paris-Le Bourget site where the COP21 will be held

<http://climdev-africa.org>

## NEW APPOINTMENT



**Ms. Thecla I. Akukwe** is a Research Assistant at ATPS. Her responsibilities include; desk studies, developing proposals, field works, data analysis etc. She holds a B.Sc degree and an M.Sc (Environmental Management) degree in Geography from the University of Nigeria, Nsukka. She won the University of Nigeria, Nsukka and Chief Enoch Ifediora Oli prizes for the Best Graduate in the Department of Geography for the

2006/2007 Session. She also took a short course in Flood Risk Management at UNESCO-IHE, Delft, The Netherlands and she is presently pursuing a Ph.D programme in Environmental Planning and Management, at the University of Nairobi.

Miss Akukwe has 6 years teaching and research experience and has published articles in reputable journals and has also participated in some sponsored research/projects including; Resilient Agriculture-based Livelihoods and Resilient Agricultural Landscape (RESALL) among others.

# ATPS NEW BOARD OF DIRECTORS



**Prof. Banji Oyelaran-Oyeyinka** is the Director, Regional Office for Africa (ROAF) UN-HABITAT. Banji is also a Professional Fellow in Technology, Innovation Policy and Development at United Nations University-MERIT, Maastricht, the

Netherlands and a Visiting professor; Innovation Policy and Development at the Open University, Milton Keynes, UK.

He holds a PhD in Science, Technology Management and Innovation Policy from SPRU, University of Sussex, UK and MSc Chemical Engineering from University of Toronto, Canada. His main areas of interest include Innovation Systems in Comparative Perspective, Sectoral Innovation Systems in Industry and Engineering, Innovation and Economic Development and Industrialization and Latecomer development.



**Dr. Peggy Oti-Boateng** is the Senior Programme Specialist for Science and Technology for Africa and Coordinator, African Network of Scientific and Technological Intuitions (ANSTI), UNESCO, Regional Office for Southern Africa.

She has over 30 years professional experience in teaching, research and development and consultancy service in Science, Engineering, Technology and Innovation (SETI), science-policy-society and sourcing for funding.

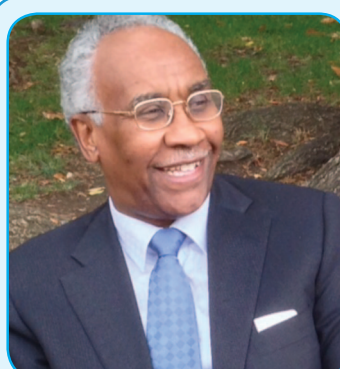
Peggy has a passion for harnessing SETI for solving basic needs of food, energy, water, health and sustainable environment for the poor and the promotion of technologies. She holds a PhD in Food Technology and Nutrition from University of Adelaide, Australia and BSc Biochemistry from Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.



**Mr. Chuma Ikenze**, is the CEO & Founder of Kenzel, LLC, a Technology and Financial Management Solutions firm, with over 35 years of experience in private as well as public sector activities. Chuma is an International Business Development expert who has assisted companies

seeking opportunities in the sub-Saharan African Market.

His passion is to facilitate effective transfer of technology and management know-how into the African economies. Chuma holds an MBA degree from Cornell University, Ithaca NY. He is also a registered Certified Public Accountant in the United States of America and an Enrolled US Taxation (IRS) specialist.



**Dr. El Tayeb Mustafa**, has been President of Future University-Sudan since 2011 and is the former Director of the Division for Science Policy & Sustainable Development at UNESCO, member of the Sudanese

National Academy of Sciences, member of the Arab Academy of Sciences and corresponding member of the Royal Academy of Science (Belgium).

He is a member of the Governing Board of the International Research and Training Centre in China, a member of the Governing Board of the International Center for South-South Cooperation in STI in Kuala Lumpur, and a member of the organizing committee for the Daejeon Global Innovation Forum, Korea.

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