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Highlights

ATPS Wins Top Advocacy Award in Open Contracting

Smart Villages- A New Holistic Development Paradigm

A New Real World Skills MBA Programme for the Future of Africa

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

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

Overall Objective:
To build Africa's capabilities in science, technology and innovation for sustainable development.

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

Inside...

Chairman's message

I am more than pleased to welcome you to the eighteenth edition of the Technopolicy Africa newsletter. The ATPS continues to witness remarkable progress in its endeavours to build Africa's capabilities in Science, Technology and Innovation for sustainable development.

As we draw closer to the end of the year, we continue in our resolve to aggressively implement our Phase VIII Strategic Plan (2017-2022) which is the core of ATPS's five-year strategy in using Science, Technology and Innovation (STI) as a means for achieving sustainable development in Africa. We continue to strive to make sure that all our Programmatic Strategic Objectives and Sector Priority Areas are fully implemented. The current phase VIII Strategic Plan aligns with the Africa Union's Agenda-2063 that recognizes STI as one of the major drivers and enablers for achieving development goals in the AU and its member states. Additionally, the plan mirrors the global Sustainable Development Goals (SDGs), that call for actions to eliminate hunger and poverty, promote good health and well being, ensure environmental sustainability and global inclusion.

It is difficult to speak about the year 2020 without taking note of the dire consequences and effects posed to humanity by the COVID-19 pandemic. However, amidst the confusion, anxiety and fear occasioned by this pandemic, lies even stronger signs of hope, optimism and an acute desire for solidarity and togetherness. I call upon the global Science, Technology and Innovation fraternity to keep vigil and continue to endure and draw comfort and solace from stories of hope and solidarity. I implore on them to continue seeing value in the positive and encouraging lessons that are emerging for our post-COVID world.

Prof. Crispus Kiamba, ATPS Chair of Board

The ATPS will continue to serve its wide range of stakeholders even better, in spite of the disarray brought about by this scourge. In this regard, we 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.

Lastly, on behalf of the Board, I take this golden opportunity to thank all those who have supported us this far through development grants, linkages, partnerships and in the implementation of our numerous programmes. We welcome new partners to join us in our work as we develop Africa's STI capacity for sustainable development and the betterment of the future. In conclusion, I gladly take this opportunity to wish all our stakeholders and network members a merry Christmas and a Prosperous New Year, 2021.

Executive Director's message

Dr. Nicholas Ozor, ATPS Executive Director

It gives me great pleasure to welcome you all to the eighteenth edition of the Technopolicy Africa newsletter. I am delighted to announce to you that we continue to make remarkable strides towards becoming the leading international centre for excellence and reference in Science, Technology and Innovation systems, research, training and capacity building, communication and sensitization, knowledge brokerage, and policy advocacy.

During this period, a number of our projects came to a close: The Bridging Climate Information Gaps to Strengthen Capacities for Climate Informed Decision-making that was funded through the ClimDev Special Fund (African Development Bank), the Development of Implementation Index and, Monitoring and Tracking Tools for the Nationally Determined Contributions (NDCs) in Selected Eight Countries in Africa that was funded by Pan African Alliance for Climate Justice (PACJA), and the Civic Engagement for Open Contracting that was funded by Hivos East-Africa. We remain confident that the significant number of proposals and partnerships that we have submitted and engaged in will bear positive outcomes.

The ATPS won the top award on Innovative Advocacy Approach, under the Civic Engagement for Open Contracting project funded by Hivos East-Africa. The award was presented in a virtual award ceremony held during the programme close-out week that ran from 21st September till 24th September 2020. This significant achievement goes a long way in cementing our top position as a leader in matters of policy advocacy in Africa.

The ATPS in collaboration with its partners recently hosted the First Southern Voices Network for Peacebuilding (SVNP) Eastern Africa Regional Policy Conference in Nairobi, Kenya from the 7-8 December 2020. The conference was held in conjunction with the Center for Media, Democracy, Peace & Security, Rongo University, Kenya; the Women's International Peace Centre, Uganda; the Centre for Conflict Management, University of Rwanda; the Institute of Policy Analysis and Research, Rwanda; Addis Ababa University, Ethiopia; and the Wilson Centre, USA. The conference themed "Preventing and Countering Violent Extremism in the COVID-19 Era" was borne out of the fact that there is need for coordinated efforts at the level of research, policy and practice in order to formulate workable regional interventions that put into consideration changing dynamics occasioned by the COVID-19 pandemic. Participants were drawn from relevant governmental non-governmental organizations, the civil society,

the Diplomatic Community, organized private sector, and the academia from countries in Eastern Africa, USA and beyond.

Despite the COVID-19 pandemic, we have continued to perform to standards and the desired expectations of all our stakeholders. We pledge to continue to push on with the full implementation of all of our Programmatic Strategic Objectives and the Sector Priority Areas as contained in our current Phase VIII Strategic Plan (2017-2022). We continue to further seek for financial funding assistance to enable us undertake more activities that advance the course of Science, Technology and Innovation (STI) in Africa. We call on all our stakeholders to continue harnessing STI as one of the greatest potentials for addressing the key societal challenges in the continent including food insecurity, poverty, climate change, energy crisis, unemployment and other social ills.

We welcome more development partners and donors to support us in our work. We pledge to remain astute in the delivery of our mandate with the highest value for money. Lastly, I do take this opportunity to wish all our stakeholders, network members and the entire global Science, Technology and Innovation community a merry Christmas and a Prosperous New Year, 2021.

ATPS hosts the First Southern Voices Network for Peacebuilding (SVNP) Eastern Africa Regional Policy Conference in Nairobi, Kenya.

By **ATPS Team,**

The African Technology Policy Studies Network (ATPS) in collaboration with its partners hosted the First Southern Voices Network for Peacebuilding (SVNP) Eastern Africa Conference under the theme "Preventing and Countering Violent Extremism in the COVID-19 Era" in Nairobi, Kenya from the 7-8 December 2020.

The ATPS partnered with the Center for Media, Democracy, Peace & Security, Rongo University, Kenya; the Women's International Peace Centre, Uganda; the Centre for Conflict Management, University of Rwanda; the Institute of Policy Analysis and Research, Rwanda; Addis Ababa University, Ethiopia; and the Wilson Centre, USA in organizing the conference. The conference explored critical issues under the following sub-themes:

1. Understanding Violent Extremism in East Africa – Issues, Drivers, Facts and Figures
2. Regional Mechanisms in Countering Terrorism and Violent Extremism: Strategies and Policies in Eastern Africa
3. Violent Extremism in the context of COVID-19: Issues, Impacts and Lessons
4. The Place of Technology in Violent Extremism in Africa: Promoting Or Countering?
5. The Role of Youth in Countering Violent Extremism in Eastern Africa
6. Challenges in preventing/countering terrorism and violent extremism in Africa
7. Religious radicalism and violent extremism in Africa
8. Strengthening Eastern Africa's capacity for PCVE: Options for the Way Forward

The conference sought to achieve the following objectives;

- Increased understanding and shared knowledge on preventive efforts of countering violent extremism in East Africa
- Reaching consensus on the best collaborative approaches in research, policy direction and practical interventions in East Africa
- Analyses of capacities and gaps of existing mechanisms, action plans, institutions and structures for countering and preventing violent extremism in East Africa
- Underscoring the potential role of technology (social media) in radicalization and recruitment
- Exploring the use of social media platforms in preventing and countering violent extremism and digital peace building
- A plan of action for the SVNP annual conference

Mr. Moffat Kangi, Principal Administrative Secretary for Interior and Coordination of National Government (who represented the Chief Guest Dr. Fred Matiang'i Cabinet Secretary for Interior and Coordination of National Government) officially opened the two-day hybrid conference. Mr. Kangi, called on the need for more research based policy approach in the fight against violent extremism and radicalisation across Africa. He went on to reinforce the Government of Kenya's commitment in supporting the efforts of all the actors in tackling violent extremism.

The keynote speaker, Mr. Onno Koopmans from the Embassy of the Kingdom of the

Onno Koopmans, Embassy of the Kingdom of the Netherlands delivering the keynote address at the conference

Netherlands, delivered the keynote address on "Preventing and Countering Violent Extremism during and Post COVID-19 Era". He went on to underscore the impact that COVID-19 brought to the social media space that has impacted on the speed of recruitment to insurgent groups like the Al-shabaab. He added that due to the significantly large amount of time being spent on social media as a result of government curfews, a lot of individuals were being lured to these insurgent groups via the social media platforms. Mr. Onno Koopmans also noted that the conference was focused on Eastern Africa and that we had high level Government representation underscoring the importance of the forum. The conference was graced by participants comprising of high-level representatives in the counterterrorism enterprise including the National Counterterrorism Center, National Crime Research Center, Scholars for Universities, Non-Governmental Organizations, Science and Technology Institutions, Diplomatic Community (Embassy of the Kingdom of the Netherlands), SVNP members among others.

At the end of the two-day forum, a communiqué was adopted. The delegates noted that the issues of violent extremism and radicalization have been a major issue in the East African Region. This has grown to even cross border sites not traditionally known for recruitment. The emerging new sites include Migori in Kenya where extremist groups are targeting to recruit new members. There have been complaints by parents about teenagers joining strange groups and disappearing for certain periods or even calling themselves strange names characteristics of children becoming recruited or radicalized. Another observation was that religious literacy is a major issue- Misinterpretation of Religious teachings is very common and the Clergy have a big role to play to prevent this. Extreme religious ideologies need to be addressed through Inter-faith dialogue groups. The action plans need to involve all actors on the ground such as opinion leaders, bloggers, business people etc.

ATPS Scoops Top Advocacy Award in Open Contracting

By **ATPS Team,**

The African Technology Policy Studies Network (ATPS) won a top award dubbed the **Innovative Advocacy Approach**, under the Open Contracting Programme funded by Hivos East-Africa. The award was presented in a virtual award ceremony held during the programme close out week that ran from 21st September till 24th September 2020.

The main aim of the Civic Engagement for Open Contracting programme is to ensure that citizens have equal and inclusive access to public goods and services and can meaningfully engage in public resource allocation and policy decisions. Under this programme, the ATPS was specifically mandated to:

- Conduct an in-depth review of the state of open contracting in ten (10) African countries (Kenya, Uganda, Tanzania, Nigeria, Zambia, Malawi, Ghana, Senegal, Côte d'Ivoire and South Africa);
- Conduct a comparative analysis of the state of open contracting in the selected African countries to identify and document what works, what doesn't work and why in the implementation of open contracting in the respective countries; and
- Conduct lobbying and advocacy activities through the use of knowledge products to advocate for the uptake of open contracting in African countries.

The ATPS has been one of the partners running the programme from November 2019 till July 2020 having been awarded a grant of EUR 35,000 by the donor (Hivos East-Africa) to undertake the study.

Courtesy Call by the ATPS to the National Commission for Science, Technology and Innovation (NACOSTI)

By **ATPS Team,**

A delegation from the African Technology Policy Studies Network (ATPS) paid a courtesy call to the Director-General of the National Commission for Science, Technology and Innovation (NACOSTI) Prof. Walter Oyawa, in Nairobi. The delegation was led by the ATPS Chair of Board, Prof. Crispus Kiamba, Executive Director, Dr. Nicholas Ozor, Communications and Outreach Officer, Felix Musila, and Finance and Administrative Officer, Rachel Maluki.

The meeting sought to discuss modalities and areas of collaboration for the development of Science, Technology and Innovation sector in the country. The ATPS also used the opportunity to reaffirm its support to NACOSTI in its pursuit to regulate and assure quality in the Science, Technology and Innovation (STI) sector and advise the Government of Kenya in matters related thereto. The meeting also sought modalities of operationalizing a MoU signed between the two organizations in the year 2015.

The meeting was also attended by Dr. Stephen Karimi, Director, Research, Accreditation and Quality Assurance (NACOSTI) and Ms. Emily Ongaga - Director, Corporate Services (NACOSTI) among other top officials from NACOSTI.

ATPS Executive Director, Dr. Nicholas Ozor (fourth from left), Ms. Rachel Maluki (second from left), Prof. Crispus Kiamba, ATPS Chair of Board (fifth from left), NACOSTI Director-General, Prof. Walter Oyawa (fourth from right) together with top officials from NACOSTI

Digital Technologies and COVID-19 – Opportunities, Lessons and Blind Spots

By **Tebogo L. Mogaleemang**- Founder/CEO, Spectrum Analytics-Botswana

COVID-19 has left a huge marker on the history of our civilization. Despite its heavy toll on human lives, businesses and economies, the pandemic may be the ultimate eye opener on so many things, all at once. Mark Twain once said "Time is what keeps everything from happening at once" but COVID-19 defied on many levels. At some point it felt like we had time-travelled into the future in just a few months. COVID-19 forced us to stare ourselves in the mirror as a global village. For once, every aspect of how we live and work came under the focus of a high-resolution magnifying glass. Lessons that would have taken 20 years plus to pick instantly became available. Everything that is limited with our ways stared at us right back in our faces. Many things that can be improved with digital technologies became self-evident. I doubt humanity may ever get a better opportunity to stare at itself. Systemic defects that would have taken a lifetime or two can no longer be ignored.

Without digital solutions, the impact of COVID-19 on our lives could have been perhaps more catastrophic. Globally, many governments used digital solutions to identify vulnerable communities and provide them with emergency relief. In my beloved Botswana, we had a COVID-19 Food Relief Programme, which was all manual and paper-based though, missing out on many benefits of digitization. With schools closed due to lockdowns, educators leveraged on e-learning platforms for learning.

Businesses finally caved in and gave a nod to the idea of working from home, something that wouldn't have been possible without the integration of digital technologies. With all the movement and travel restrictions that came with the pandemic, digital communication platforms have kept friends, families and online communities connected. The need for digital solutions for business continuity and global competitiveness has never been more pronounced. The message to all the service providers has been simple; transform or go under. By now, anyone in the tech space who hasn't received a meme peddling COVID-19 as the biggest catalyst for digital transformation is perhaps out of times!

Technology as a Global Enabler

With technology now a global enabler, Africa saw a sharp rise in the demand for local solutions in almost all African countries. African youth stepped up and provided solutions to their community challenges. With 60% of its population under 25 years, Africa is the youngest continent in the world. With enabling policy environments and evidence-based interventions, Africa has the potential to mobilize its young human capital to address its overwhelming dependence on imported solutions. COVID-19 sent a loud and clear message that there is a new breed of Africans that is emerging. Africa's youth finally seem to care more about the impact of their solutions in their communities, and with African countries beleaguered by socio-economic challenges, empowering the continent's youth to be problem solvers is essential to the continent's future prosperity and sustainable development.

This has been a continental chorus for years now, but COVID-19 has put the issue in the spotlight, and for the right reasons. It is time for

Aiport officials using thermal scanners to screen passengers arriving at an airport

the African youth to shape the post COVID-19 agenda of the continent. Our leaders need to accommodate perspectives of the youth into policy making. How many African countries are genuinely having such conversations? Something must give in on this one!

The buzz around emerging technologies and the Fourth Industrial Revolution sometimes conceals the fundamental fact that technology is just a tool. COVID-19 reminded many innovators and wannabes on the need for human-centred solutions. What we need to see is the use of technology to solve Africa's community challenges in agriculture, health-care, education, manufacturing etc. This also exposed the most downplayed danger of digitalization; it stands to widen the digital divide and magnify economic inequalities.
Access to the internet is still a challenge in many African communities. We cannot achieve sustainable development on such a trajectory, hence, African governments and the private sector should re-think collaboration to provide connectivity infrastructure and connect the continent to e-services and platforms. With e-commerce now booming, as we adapted to purchasing what we need online, ensuring that no one is left behind on access to the internet means even the lady who makes traditional products can list her items online and access the global market.

A New Normal or Derailment by Old Habits?

Talks of the new normal without acknowledgement of our attitudes and habits that created the old normal! The pandemic has not just accelerated our technological transformation, but also provided a desperately needed mirror for us to discover what is broken with ourselves. It is increasingly becoming clear that our current economic model driven by endless consumption and exploitation of resources is unsustainable. The fact that this

came with widening inequalities and economic exclusion in many countries makes it difficult even for neutrals to ignore that something is broken with our economic system. In January 2020, during the World Economic Forum at Davos 2020, Yuval Noah Harari, an Israeli public intellectual warned the world's leaders about existential threats humanity faces in the 21st century.

There are talks of the new normal without acknowledgement of our attitudes and habits that created the old normal! The pandemic has not just accelerated our technological transformation, but also provided a desperately needed mirror for us to discover what is broken with ourselves. It is increasingly becoming clear that our current economic model driven by endless consumption and exploitation of resources is unsustainable. The fact that this came with widening inequalities and economic exclusion in many countries makes it difficult even for neutrals to ignore that something is broken with our economic system. In January 2020, during the World Economic Forum at Davos 2020, Yuval Noah Harari, an Israeli public intellectual warned the world's leaders about existential threats humanity faces in the 21st century.

There are talks about a 'new normal' almost everywhere. Technology as a tool cannot address the systemic challenges of our 'old normal'; we did not get derailed by technology but our learned habits and beliefs. [Scale of Tech Disruption – Yuval Noah Harari's point.] Technological advancements without human transformation would tear the world apart. We witnessed the dark side of this through COVID-19 misinformation; the inability to separate truths from fiction made the containment of COVID-19 a harder challenge. Our responses to COVID-19 addressed systemic symptoms as they emerged, but a sustainable approach may be to re-think our ways from a systemic level. What responsibilities should we take in how the world has become? Can the world change while we remain the same?

Our culture may perhaps need to accept that despite all the advances we have made, we still do not know how to take care of our planet. The time has come for us to admit to ourselves that our actions have an impact; we cannot live as if our actions have no consequences. Maybe we should humble ourselves before natives everywhere and learn about harmonious co-existence with nature, they have done it for thousands of years in all continents. Thanks to COVID-19, the myth that 'modern means better' has been debunked.

Smart Villages- A New Holistic Development Paradigm

From Horizons (**https://www.cirsd.org/en/horizons**) by permission

By **Sir Brian Heap,** CBE SCD FRS, Honorary Fellow, St Edmund's College, Distinguished Fellow, Centre of Development Studies, University of Cambridge

Sir Brian Heap

What is a smart village?

Could smart villages - a sister of smart cities - shift the balance of opportunities between cities and villages through technological advances and game-changing innovation? The concept is that access to renewable forms of energy when linked with digital communication technologies (ICT) can act as a catalyst for development.

'Smartness' comes from capturing energy from accessible and renewable sources such as photovoltaic solar power, wind power and biofuels combined with mobile telephony and the internet. Electricity supplies basic needs such as lighting and cooking and facilitates better health and education. But more importantly it leads to productive uses for pumping water, mechanised farming, small businesses and shops, and finally the luxury of cooling and heating, electrical appliances and industrial employment typical of a modern society.

Example of a smart village

Gram Oorja is a social enterprise that created a micro-grid in a remote hamlet of 39 households and 220 people located 140km from Pune, India and an example of a smart village. A solar power plant provides power to a flour grinding mill and two water pumps. Villagers have electricity throughout the day, with power for television sets and computers. The Build-Operate-Transfer model has now been used for over 200 households in 10 villages with micro-grid costs that are recovered over 5-7 years.

This is but one of many examples.

What is the problem?

Extending the grid to rural communities can be prohibitively expensive with estimates ranging from $6,000/km in densely populated areas to $19,000/km in countries like Mali. Geography and size of demand determine the cost per kWh so for public authorities or impoverished utilities the economic case is weak. An unplanned grid extension can undermine the confidence of investors by creating uncertainty. A national energy access plan is needed to integrate national grid and off-grid planning setting out which areas are planned to get national grid access and on what timescale.

A case for off-grid solutions

'Off-grid' solutions can be implemented worldwide on much shorter timescales. A realistic opportunity for 'off-grid' smart villages is the 15kW minigrid, a quick way towards developing a distribution network for clusters of villages. Small scale electricity generation can be produced from solar photovoltaic panels, wind turbines, hydropower, biomass, traditional fuel generators using kerosene or diesel, and hybrid systems. Further investment gives a more sophisticated smart minigrid with a management system that measures, monitors and controls electric loads coupled with a remote operation that optimises the operation.

Minigrids also appeal because they overcome the problems of blackouts and help villagers to take a step onto the energy escalator. Minigrid solutions have now entered the mainstream and are here to stay, with $28 billion invested so far in more than 19,000 products across 134 countries.

Six elements of smart villages

The central premise of the smart villages concept is integration - modern energy services harnessed to give the appropriate enabling conditions for development and poverty alleviation as indicated in the following categories.

Health: Energy poverty has a very real and significant negative impact on the health of many villagers. Households lack access to potable water and a nutritious diet due to the cost of boiling water and cooking food. They resort to kerosene lamps and traditional cook stoves which result in extremely harmful indoor area pollution and a high incidence of respiratory disease, particularly in women and children. The success of the Oorja cookstove in India inspired the development of other innovations and women entrepreneurs have witnessed a substantial increase in incomes.

Education: A solar-powered internet school equipped with ICT technology provides an increasingly important medium of information for schools in the modern age and a definite pull-factor in terms of school attendance and the retention of good teachers. The mobile network coverage of many developing countries is extensive with more than 100 educational learning platforms listed on the World Wide Web.

Food security: Approximately one in every seven people in the developing world is food insecure and unable to have access to enough food to sustain a healthy and active life. Smart villages have the potential to improve food security if farmers take advantage of solar-powered pumps for irrigation systems, weather forecasting, cold-storage infrastructure, and agronomic and market information. Electricity access provides the opportunity to use ICT for the timely delivery of crops advised by information on market conditions.

Economic activity and productivity: Energy poverty hinders the development of rural industries through the inability to provide suitable lighting to extend working hours, while the lack of ICT access limits the ability to transport and distribute goods and services. The tracking of products and inventories can be improved upon by radio frequency identification tags. The RFID tags can also be used to monitor the conditions of perishable foods, such as temperature and humidity, which benefits both the consumer and the rural seller. These tags are quickly becoming ubiquitous and the global RFID industry is worth over $13 billion.

Environment Smart villages seek to produce and use biomass in ways that are sustainable and renewable, that do not deplete resources, and that utilise them efficiently. 'Smart' in this context means the sustainable intensification of food production by high-quality seed, the best practices of agronomy, and the protection of genetic resources. Smallholder

farmers can exercise a stewardship role for their local environment by remotely monitoring environmental indicators such as forest diagnostics, water quality, soil conditions and landscape changes.

Quality of life: Patterns of behaviour associated with tradition, value systems, ideologies and heritage come under scrutiny during periods of deep societal change. A coffee farmer and journalist in Uganda writes of the arrival of electricity in his village. 'Nowadays' says Michael Ssali, 'many farmers safeguard milk by keeping it in refrigerators, farmers' groups have set up coffee hullers and maize mills which use electricity - adding value to their produce'.

What are the solutions to barriers that persist?

The 'Smart Villages Initiative' started in 2014 gives a disaggregated and simple breakdown of an individual's energy requirement as a useful first step to see what energy is required in a smart village for each person.

Level	Electricity use (or equivalent)	kWh per person per year
Basic human needs	Lighting, health, education, basic ICT	50 – 100
Productive uses	Agriculture, rural industry	500 – 1000
Modern society needs	Domestic appliances, cooling, heating, advanced ICT	2000

Common barriers and ways to break them down are summarised as follows:

Integration: All stakeholders - villagers, entrepreneurs, NGOs, civil society organisations, policy makers and regulators, development organisations, financiers, researchers, decision makers - have important roles, but need to achieve much better levels of coordination and collaboration going forward. The smart villages concept is seen as an integrated approach to rural development rather than a 'technology-fix' only. The drivers should be the villagers themselves.

Investment: Symbiotic private and public sector investment with enterprise growth capital funds are needed to de-risk and bridge the financial 'valley of death'. Investment is needed for practical appliances such as sewing machines, food mixers, and bread bakers, and at the village cooperative level for grinding equipment, welding tools, refrigerators, and water pumps. At the company level accessing affordable working capital is essential as the banking sector's lack of familiarity with off--

grid energy adds to the perception of risk and consequently high interest rates.

Access to finance: The financial community needs to familiarise itself with the issues associated with off-grid energy schemes. Enhanced rates of financing with affordable interest rates and innovative approaches to risk mitigation help to build the confidence of the private sector to invest and maximise the leverage of government and donor funding. All stakeholders should work together to reduce the transaction costs for companies seeking finance.

Policy and regulatory framework: Clear, supportive and stable policy and regulatory frameworks bring together the interests of the relevant ministries. Effective indicators of short- and long-term impacts are required for both the public and private sectors. Simplification of licensing frameworks, reduction in red tape, allowing sufficient breathing space in respect of taxation regimes for businesses to get off the ground are needed.

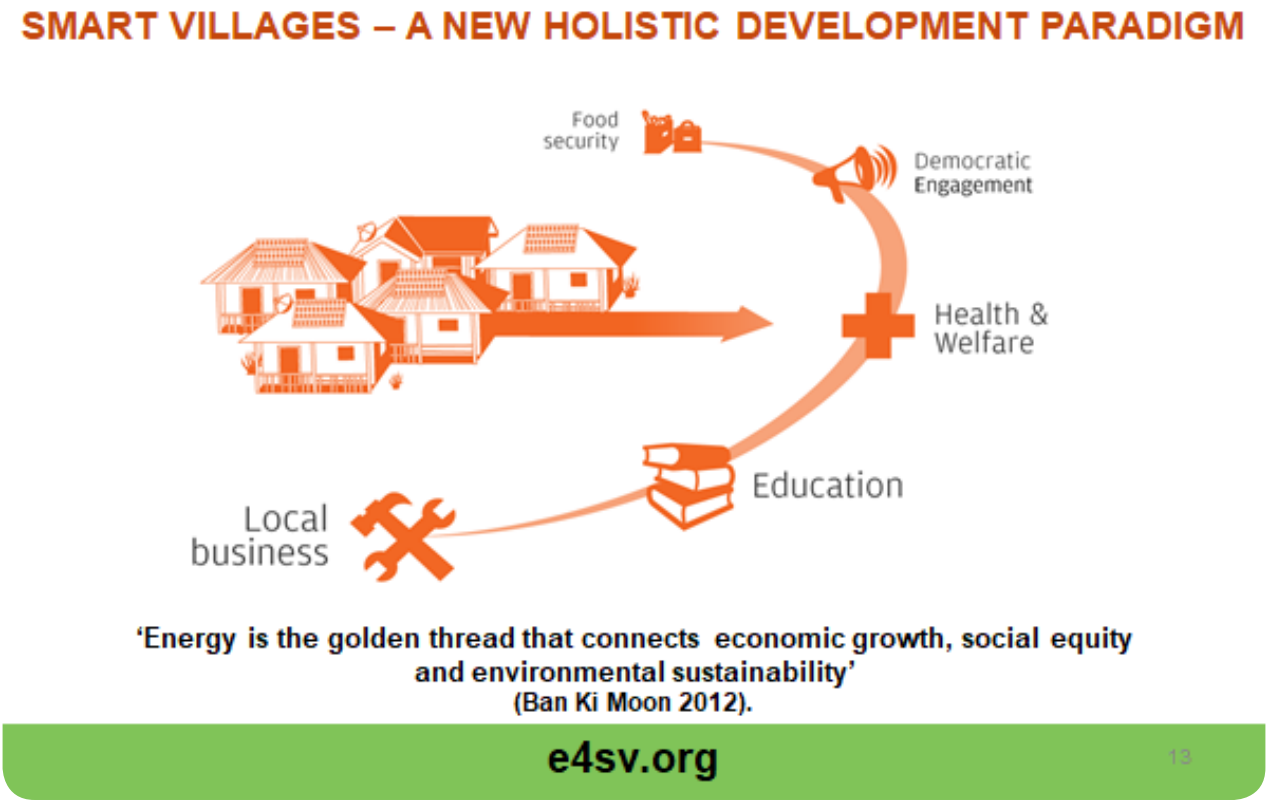
Can smart villages help to stem the migration flow?

For smart villages to thrive, agricultural development is key to developing stability in much of sub-Saharan Africa, where farmland is producing below its capacity and wise investments stand to reap great rewards. Smart villages could help to address the migration issue by making rural communities places where people can prosper, and many governments are beginning to realise this with policies to improve rural infrastructure and services and pro-poor laws and regulation.

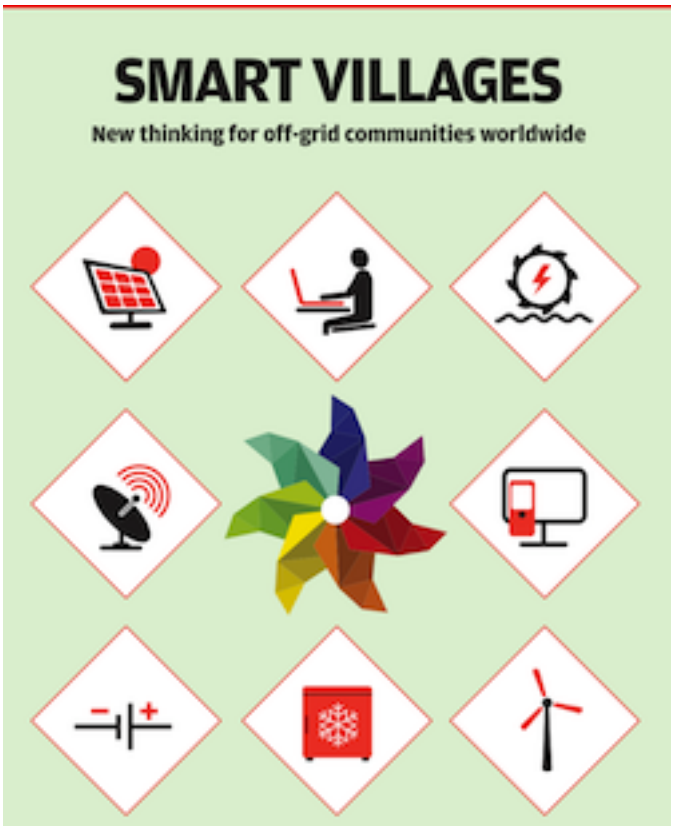
Investor opportunities

Proto-smart villages are under construction in several developing countries though as yet not all elements of integration have been incorporated into a single prototype. Sunmoksha Ltd. was one of the first to launch a smart village in Chhotkei in Orissa, India, a small remote village situated amidst rich natural resources. It was previously without electricity and had a primary livelihood of rain-fed paddy cultivation once a year. Private investment provided a 30kW solar-powered Smart Nanogrid™ to meet the energy demands of 140 households, 20 streetlights, a temple, and three community centres. Electricity is available for irrigation pumps and microenterprises such as poultry, stitching, price-puff machines, refrigerators, and welding machines that enables value-addition to agriculture and employment for local youth to help ensure sustainability of the project. A mother in the village aptly summarised developments - 'now, we have hope for the future!'

Many organisations still fail to grasp the significance of energy as a catalyst of development, or the value of an integrated approach. Perhaps this explains why impact investors have been slow to see the potential opportunities of community-led smart villages initiatives that foster innovation, wealth creation, entrepreneurship, social development and markets. Nonetheless, the Financial Times remarks on an emerging revolution among asset managers in 'splashing of cash' to gain a foothold in the environmental, social and governance (ESG) investing sector now that clients demand that their money is used to do good as well as to generate returns.



An image depicting how energy connects to the various aspects of smart villages



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A New Real World Skills MBA Programme for the Future of Africa

By **Prof. Adonis-Emmanouil Fragkakis** (President Zurich Elite Business School) **and Dr. Akanimo Odon** (Zurich Elite Business School, Switzerland; Email: **akan.odon@zebs.ch)**

The problem of un-employment is a huge African issue. The Africa Development Bank estimates that more than half of the over 420 million young people in Africa are either unemployed or vulnerably employed and whether this is due to lack of practical industry skills, limited university support systems, or the gaps between academia and industry, it's the graduates who suffer from this.

With Africa's rapidly increasing youth population which is projected to be over 830 million by 2050, and an average age of youth population estimated to be 25 years of age by 2046, the problem of unemployment would most likely continue for longer except there is a change. As a matter of fact, statistics show that these young graduates will make up nearly half of the population of many African countries in the next three to five decades. As such it is a ticking time bomb but at the same time an incredible resource to invest in. Yes, Africa's young talents are the continent's most important asset.

US Tech Giants are hiring candidates who don't have the traditional degrees but are looking primarily for job-related skills set and not just theoretical knowldedge. Additionally a US survey showed that the majority of 750 HR leaders undertake effort to de-emphasize degrees and prioritise skills. There is a big change currently taking place in the gobal job market and Africa and it's talents must align with this new change to be relevant in this fourth industrial revolution.

Over the years, there has been several talent development initiatives which includes working with different African universities to roll out knowledge transfer schemes including students doing their dissertations as a practical research driven by a SME's need; delivering several training programmes on models of developing practical work experiences and skills acquisition; supporting mentoring and industry partnerships in curriculum development and delivery All of this is an attempt to bridge the ever-growing gap between academia and industry. On top of this, we believe in the entrepreneurial capacity of the African youth and so all this expertise has culminated in the development of a new disruptive MBA programme known as the

A picture of a student in a graduation gown

The programme has been developed by Prof Adonis-Emmanouil Fragkakis, the Founder and President of the Zurich Elite Business School (ZEBS) in Switzerland, a reputable, internationally accredited and multi-award-winning business school in Europe and Dr. Akanimo Odon, the Chief Executive of Envirofly Consulting UK Limited, a top consulting firm that supports the development of strategic partnerships between European and African institutions in the educational space.

For several years, the Founder and President of the Zurich Elite Business School, has engaged with several young African managers, professionals and entrepreneurs who have complained about the current economic situation and the lack of real-world business knowledge to suceed as managers or entrepreneurs. He realised that with many traditional International MBAs being too theoretical, far away from real corporate life, too expensive, non-flexible, requiring qualification from top universities and extensive work experiences, the huge opportunities and potentials of the African youth and future business leaders will not be realised. As someone who has worked as a management consultant for global companies as Mercedes Benz and Siemens in projects dealing with strategy, re-organization and process optimization, business development and sales, he understands the work place. The fact that he is also a Professor of Leadership, Strategy and Entrepreneurship with academic background in Engineering, Business and Finance, means he fully understands what the new global work environment needs. His business engagement and network spreads over Japan, Germany and the US – a transverse of three continents.

On the other hand, Dr. Akanimo Odon is the Africa Strategy Adviser of several international Universities including Lancaster University, the University of London and has worked as a consultant and adviser to global universities, businesses and governmental organisations in Europe and especially Africa including the Africa Development Bank, the British Council, City and Guilds UK etc, His project portfolio and networks spreading over 30 African countries. He specialises in cross border education and innovations in research and he is an expert in navigating, developing and managing relationships between universities and industry in Africa for economic viability, research impact and graduate employability.

Together, the Real World Skills MBA was developed. It has been designed as an online MBA with a difference and is a practical business programme with faculty made of top global experts from industry. It has an incredible low tuition fees of 2,500 dollars which beats most international online MBAs of this nature because the programme tries to make it as inexpensive as possible for Africans to be able to afford it. On top of that, it is coming with an extensive scholarship scheme for all students up to 1,000 USD.

There is an opportunity also to enter into a special African Entrepreneurship Fellowship which will support graduating students with business support from an extensive network of global partners, and a seed capital for them to start their business. The programme aims to educate future African leaders and entrepreneurs and to prepare African talents through their acquired business know-how to transform the African continent, create innovations and successful, sustainable businesses, which will lead Africa to a brighter future.

With due understanding of the importance of getting the programme to as many young graduates and professionals as possible, the Real World Skills MBA programme is partnering with the African Technology Policy Studies Network (ATPS), one of the most reputable think-tank network bodies in Africa with chapters in 30 countries. It is clear that ATPS vision and mandate to empower the Africa youth through special programmes

aligns with the vision of the programme and we wish to work together to make it a reality.

After engaging with more than 100 Universities and their Vice Chancellors and over 100,000 academics, students and professionals in Africa in the last three years, it has become obvious that one of the biggest challenges they all face is the huge gap between academia and industry. This disconnect between the 'town - society' and 'gown - academia' has far-reaching consequences and stands out as one of the major factors resulting in less impactful and solution-driven research and increased unemployment in many universities' graduates.

The triple helix model of innovation suggests that for true social and economic development and transformation to occur in societies, there needs to be interactions and engagement between academia, industry and government. These interactions cannot be left to chance and needs to be orchestrated through the right strategies and interventions for sustainability. We hope to achieve this in the Real-World Skills MBA. Registration is now open for the April 2021 cohort. Register now at **www.zebs.ch/africa/mba/registration.** However, to discuss an institutional partnership in order to make the programme available to your organisations, contact the ATPS.

A picture of students in a graduation ceremony

Media in a Pandemic: Technology to the rescue

By **Chibuike Utaka** – Senior Producer, BBC Media Action Nigeria/Development Journalist

Physical distance will for a while remain one of the most popular vocabularies of the year 2020. The world was getting smaller with an increased demand for the internet, social networking, global commerce and international transportations. The year 2019 recorded a significant increase in the number of scheduled passengers boarded by the global airline industry reached over 4.54 billion people.

All of that was going to change with the unannounced entry of the COVID-19 onto the global stage that would dictate the turn of events for the rest of the century. The media across the world had one of the most daunting tasks at the onset of the pandemic. News of corona virus first threw in a lot of confusion, profound anxiety, and an unimaginable proportion of misinformation across the world. Novel Corona virus it is. Nobody readily had the accurate and adequate information about the virus. Institutions of state and global economies were greatly threatened and shaken from the pre-existing stability they all enjoyed. Information and directives evolved in a speed of light.

The global media was thrown right into the middle of it all. An average journalist had the responsibility to help people figure out everything irrespective of the fact s/he exists in the same circle like everyone else. Everyone wanted information to stay sane, protected and updated. Global demand for news and social media information grew above 60% especially during the intense lockdown.

Challenges on the Ground

Prior to the pandemic, I travelled an average of 1300km/week to gather content and interact with people whose voices are crucial in my media programmes. I produced a popular town hall meeting show where people gather in a hall to discuss and ask questions to their public office holders. So, in the wake of the intense restrictions and lockdowns, everyone had to be isolated from colleagues and communities. That became the most challenging time to be a media personnel. Just like myself, a lot of journalists and media professionals reporting on COVID-19 had to rediscover new ways of staying within the health protocols while still living up to expectations of keeping up with an increasing demand for information in a fast paced moment. When most offices and establishments shut down, besides the frontline health workers, the media never blinked.

Technology to the Rescue!

Technology provided the much-needed answers and solutions when it mattered the most for the media in this pandemic. Some of the ways in which technology was deployed are:

Information and Training-Keeping up with the pace of information about the pandemic and accessing adequate skills wouldn't have been easier without the technology. Media professionals were able to access the right and accurate information/skills through the dedicated websites and training portals. That

The author conducting a media interview in Nigeria

made alot of difference in terms of coping with the huge task of informingand educating the masses about the pandemic.

Meetings-Various technological applications made newsroom editorial and administrative processes very seamless. Microsoft teams, Zoom, Whatsapp and other meeting platforms connected everyone and made sharing of information and updates about COVID-19 less cumbersome.

Contributors: In the moment when everyone was keeping away from contacts and gatherings, getting interviews and contributions became even tougher. Media practitioners innovated the use of the phone calls to get voices of audiences unto their programmes. The studio recordings, which weren't possible anymore, migrated to phone conversations.

Gatherings-Town hall gatherings and such media events were not possible and they may never be for a long time. The Zoom App revolutionized the way media did a lot of remote video conversations as well as meetings. Holding of large gatherings for radio and television was not possible. No wonder the drastic rise in number of users of the Zoom App globally from 200 million to 300 million users in April 2020.

While the world awaits the promising breakthrough with the COVID-19 vaccines, the media have long adjusted to the new life/ normal, thanks to technology.

Consequences of COVID-19 and the Way Forward

By **William Owande**- ATPS Research Assistant Intern

In the early 1980s, a dreaded pandemic was reported in the African continent. It took time for it to manifest itself among people who became curious to see the victims of the ''longest living pandemic"-HIV/AIDS. Several myths were populated in a bid to understand the origins of the pandemic. In many health facilities, the victims of HIV/AIDS had a special ward for isolation and admission-ward 8 where people interested in seeing the victims would visit and interact with them freely.

In the year 2019, a strange 'anti-social' pandemic was reported in the Wuhan province of China. When the alarm was raised across the globe, many thought it would just be in the East, and perhaps Europe. Soon it caught up with the 'black continent' of Africa. This time round, no one was interested in interacting with the victims of COVID-19. In fact, everyone tried as much as possible to avoid travelling closer to COVID-19epicentres just to avoid getting closer to what would be called the 'polluted environment'.

The Double Tragedy

Just before a cure is discovered for HIV, COVID-19 pandemic has gone round the globe like wild bush-fire in the Harmattan. This triggered the enforcement of the now common term, lockdown, by many governments in order to contain the spread of the virus. While Africa is still grappling with HIV/AIDS challenges, the consequences of the COVID-19 pandemic have since overshadowed the former. For the first time after Noah's biblical flood, learning institutions, places of worship, markets and workplaces were totally closed. Access to healthcare was paralyzed with some care providers abandoning patients for fear of contracting the dreaded virus. HIV/AIDS, hypertension and tuberculosis patients among others were the worst hit by the virus, as they could not attend their clinics routinely owing to the fear of contracting the virus.

Social Life Amidst COVID-19

Recreational facilities, worship services, one-on-one or group interaction, all have a bearing on well-being of an individual's life. Without these, life becomes socially incomplete, as witnessed during the lockdown and curfews in Kenya. Basic needs must be met too. Right at the household level, trouble brewed slowly as couples begun to disagree on social rights issues. Children also expressed their rights to be allowed to interact and play with their peers, as would have been the case. For spiritual nourishment, large traditional trees played host to worshippers who gathered to continue praising their creator, despite the directives against such gatherings. Some worshipped in designated homes without fearing the consequences of breaking the laws. Spiritual, physical and emotional nourishment became rare but had to be searched through thick and thin.

COVID-19 and its Economic Sting

Many employers have had to send their employees on compulsory leave, retrench/ downsize or completely shut down their businesses during the pandemic. The worst economic bite was experienced in the private sector where many lost their jobs. Teachers in private institutions were also hit. Private companies and other institutions closed down fully or partially, sending hundreds of thousands home without a penny. The effects rippled back

to their families and dependents. Since there was no movement, communities like the Maa who depend on tourists visiting game reserves and participating in their cultural activities had to lose their source of livelihoods when no tourists buy their artefacts. The clergy alike cried foul as they could no longer depend on the congregants while keeping worship places closed. It became a 'struggle for survival and survival of the fittest'.

COVID-19 and Innovation

Everyone has had to accept changes in the way of life. There was a big shift towards manufacturing of COVID-19 related goods such as the facemasks and hand sanitizers. It also led to increased innovation, especially in the health sector where university students from Kenyatta University in Kenya invented a ventilator for use in hospitals by COVID-19 health care service providers. Another area of innovation was seen in the application of simple technology to make hand washing equipment that minimizes chances of contracting COVID-19 by reducing contamination of the hand with the virus during hand washing. A public health student at Jaramogi Oginga Odinga University of Science and Technology, Kisii Campus invented a foot-operated hand washing machine. The equipment dispenses soap and water without the user touching it.

A pictorial of how COVID-19 is spreading around the world

Not Yet Freedom

As global leading scientists have put it, COVID-19 is here to stay. Everyone has to work hard to contribute to strategies that will help the world to get rid of or completely contain the pandemic. This is only possible through intensive innovative research, with governments and financial institutions coming in handy, not just playing the second fiddle. This will enable citizens to discover new technologies to handle challenges caused by COVID-19.

Innovation Feature Interview

Innovator: **Mr. Bronson Eran'ogwa** (Executive Director, The SOURCE PLUS)

Lead Innovator, Productivity Innovation through Early Identification, Surveillance, Disease and Pest Reporting Control

1. How would you best describe yourself?

I am a highly effective team leader with experience in executing and running of public/community interest projects. My focus is on networking, exploration and the development of scientific refinement solutions to solve global challenges like food security and climate change. I have been recognized for my collaborative leadership style, active approach and keen ability to effectively translate complex operational concepts into tangible action plans.

2. As the Executive Director of the SOURCE PLUS, briefly tell us what your organization is all about?

The SOURCE PLUS is an agricultural innovation for Profit Company that was formed by a group of youthful volunteers to support marginalized individuals and communities in Sub-Saharan countries. We solve human-centred agricultural problems through novel technological innovations and big data services. We find solutions to the root causes of agricultural problems and how they arise, then develop technologies to address these problems, thereby creating a sustainable agricultural practice and providing long lasting solutions.

3. Briefly expound on what is "Productivity Innovation through Early Identification, Surveillance, Disease and Pest Reporting Control"?

This is an innovative system that is built on innovative research on automatic crop disease detection using modern technologies (e.g. big data/data analytics, machine learning/ AI, advanced image pattern recognition and cloud/mobile computing).

It is a technology that incorporates spectral system designed explicitly for plant studies and with focus on early disease recognition system for visually asymptomatic disease phases. The technology is anticipated to deliver an innovative, scalable, non-invasive diagnostic system for crop disease detection using large multi-modality images from smartphones, drones and satellite imaging. The system will enable a deep multi-scale diagnosis at both leaf and field scales. In simple lingo, it is a system that uses data captured from digital devices to diagnose crop diseases/pests that are normally asymptomatic.

4. What was the motivation behind this amazing innovation?

Agriculture is the engine of economic growth in Kenya. About 75% of Kenyans earn all or part of their income from this sector. Agriculture accounts for 33% of the nation's gross domestic product (GDP). Despite continuous population growth, agricultural productivity has stagnated in recent years partly due to crop diseases and pests. However, crop production has been more constrained by pest & diseases resulting in low yields and returns (30 –40% annually) amongst the small-scale farmers. Small-scale farmers supply 92% of the foodsuffs that are consumed globally, and yet they are among the poorest in the world. These imbalances neccesitated us to come up with this innovation.

5. How does this system work?

The mobile App uses a deep learning convolutional neural network (CNC) algorithm to classify 4 different cassava diseases that express themselves through leaves marking abnormal appearance, shape or colour of the leaves. We analysed 3000 cassava leaves handpicked from the JKUAT farm. A disease consultant helped us in identifying and labelling of the leaves affected by different diseases; cassava blight, cassava mosaic, etc. The labelled images are then transferred to a window OS computer for analysis and classification. The algorithm gives 95% accuracy that means it is able to classify each disease effectively. The algorithm is then transferred and deployed into an Android phone. One can use a phone camera to capture affected cassava images and predict accordingly the specific disease and the percentage or level of infection in percentage form.

Ways in which a mobile phone can add value in a farm

6. How has the journey been, right from coming up with this innovation till now?

The journey has had its fair share of challenges and triumphs. First of all allow me to acknowledge the team that participated in the project. All my team members participated in co-designing the system, data processing as well as in writing out the manuscript. Dr. Nahondo carried out the plant pathogen analysis (proper identification of the biotic disease-causing agents), Elias Baya developed the User Interaction Interface (UII), feature classification (Diagnosis Mobile App) and the overall model of the project. Nicholas Musa engineered the data set/analytics. Thomas Masibo developed the mathematical modelling/reconstruction techniques. I developed the feature selection and support vector classifications (algorithms) and the overall model of the project. All the team members were also involved in the trial designs. We also sought the technical advice of our lecturers in Jomo Kenyatta University of Agriculture and Technology (JKUAT) namely; Prof. Antony Waititu, Prof. Stephen Kimani, Dr. Jane Aduda and Dr. Nahondo to help us fine-tune the model.

After all the components were developed and assembled, it was then developed into one final model/kit.

7. Who is best suited to use/apply this innovation?

This innovation best suits the rural and often disadvantaged African small-scale farmers, Agri-business professionals, extension services providers and also Government entities involved in agriculture.

8. Have you commercialized this innovation as yet?

This innovation has not yet been commercialized, but we are in process of doing that. There is need for a rapid commercial adoption that requires a simple consumption model. A significant business model is being developed, creating the right commercial proposition and also a go-to-market strategy. Funding also remains to be a huge challenge to the commercialization of the model.

9. In November 2019, your innovation won the top prize in the inaugural HatchHack Hackathon competition held by the Jomo Kenyatta University of Agriculture and Technology (JKUAT) Main Campus. Congratulations are in order for that achievement. Tell us more about that?

It was an honour that my team and I were crowned the overall winners of the inaugural 2019 HatchHack Hackathon competition, held at the JKUAT Main Campus. The Kenya Airports Parking Services (KAPS) and JKUAT organized the Hackathon.

The competition, held on November 21, 2019 saw 17 groups pitching against each other for the top prize of a full year academic scholarship, a cash prize of KES 175,000 and trophies. We did use part of the cash prize money to improve our innovation.

10. Has your innovation secured any regulatory approvals?

We are yet to secure any regulatory approvals for our innovation due to financial constraints on our part. The current scourge that is COVID-19 has not made the situation any better. We do hope to secure funds to enable us to swiftly proceed with this endeavour.

11. In closing, what is the future of this innovation…and how do you see it transforming agriculture in Kenya?

The precision farming technology is increasingly gaining popularity as it holds the potential to increase crop yield by exploiting advanced e-based agriculture approaches, enabling farmers to accurately manage variations in

the field, increase productivity, and reduce production costs.

Current major players in precision farming are farm equipment vendors, such as Deere & Co, and satellite/GPS service providers such as Trimble Navigation, drones providers DJI (China), PrecisionHawk (US), Trimble Inc. (US), Parrot Drones (France), etc. Amongst the market leaders mentioned, there are no Big Data specialists.

This project is a multidisciplinary project, bringing together global experts from both industry and academia in big data analytics/ machine learning, cloud computing/mobile computing, and agricultural science to design a novel data-driven approach using proven methodologies to tackle the major challenge to food security in Kenya. There is currently no similar service available on the market based on available information. This technology will fill the gap and add significant value in precision farming industry for both Kenya and Africa at large.

Through our innovation, we hope to improve the livelihoods of small-scale farmers in the region. We also anticipate that our technology will:

- Increase yields and productivity in the farms and hence alleviate poverty
- Offer more widespread and affordable foodstuff availability & higher returns from farming by providing agricultural technology diversification

A drone being used to spray pesticides in a farm

New Grants/Scholarships

New Grant

During the reporting period, the ATPS Executive Director, Dr Nicholas Ozor received a Consultancy Contract worth USD 82,500 from the African Development Bank (AfDB) to develop an Analytical Note on "Higher Education Science, Technology and Innovation, Research and Development (R&D) and Entrepreneurship in Africa". The Analytical Note will provide insights to inform how the AfDB can support the re-skilling/upskilling of Africa's workforce with demand-driven science and technological skills, strengthen relevance of R&D to industry and build resilient enterprises that can weather economic shocks and pivot businesses to models that meet the changing demand of market. Ultimately, the result would be synthesized to inform the development of a continental Skills Development Strategy 2021-2025 of the Bank.

Scholarships

- **MasterCard Foundation Scholars Program at McGill**

The central goal of the MasterCard Foundation Scholars Program is to create a globally educated and highly qualified group of future leaders, who, upon graduation, can return to Africa to help foster the region's development. Towards these ends, McGill complements Scholars' education with a comprehensive support system that includes mentorship, tailored support services, community service opportunities and sustained programming relevant to their personal development.

Towards these ends, McGill complements Scholars' education with a comprehensive support system that includes mentorship, tailored support services, community service opportunities and sustained programming relevant to their personal development.

Application deadline: 31st January 2021

For more information please visit:
https://www.mcgill.ca/mastercardfdn-scholars/apply-program

- **MSc in Transition and Innovation and Sustainability Environments Scholarships**

Building on a Complexity Science fundamental, the program presents an inter and cross-disciplinary view of Socio Cultural Studies, Social Sciences, Economics, Technology and Design, but also integrating communities of practice and the tacit knowledge of practitioners in order to address "real-world" complex problems. The program promotes Transdisciplinarity as an innovative approach towards the challenges encountered by social systems today.

Application Deadline: February 28, 2021

For more information, please visit:
https://www.tise-master.eu/

- **Royal Society Africa Prize and Rising Star Africa Prize-(Call for nominations)**

The Royal Society Rising Star Africa Prize is meant to recognize early-career research scientists based in Africa who are making an innovative contribution to the physical, mathematical and engineering sciences. The prize was established in memory of Paul O'Brien FRS his work encouraging excellence

in science and education in Africa. Winners will receive a grant of £14,000 to support their research and a personal gift of £1,000.

Application Deadline: 15 February 2021 at 3pm GMT.

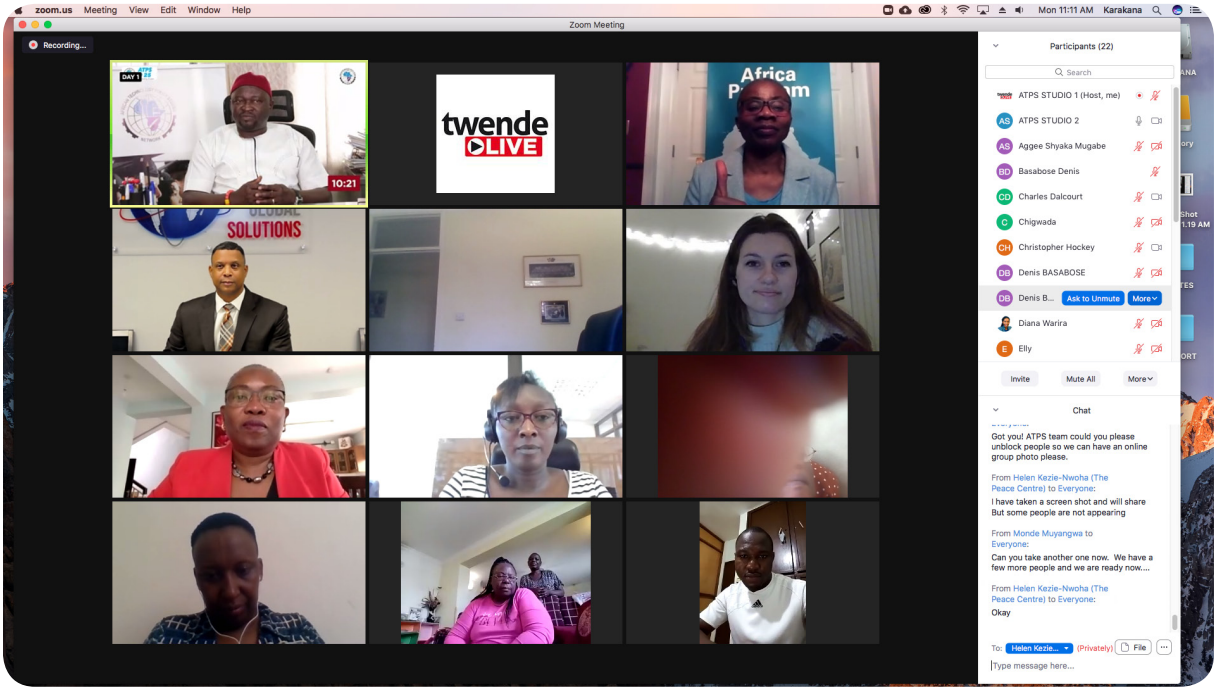
For more information please visit:
https://royalsociety.org/grants-schemes-awards/awards/africa-prize/

First Southern Voices Network for Peacebuilding (SVNP) Eastern Africa Regional Policy Conference in Nairobi, Kenya

A group picture of the delegates at the conference

Mr. Onno Koopmans from the Embassy of the Kingdom of the Netherlands delivering the keynote address

Mr. Moffat Kangi, Principal Administrative Secretary Ministry of Interior and Coordination of National Government addressing the participants when he opened the conference



A screen grab of some of the online participants

Courtesy Call to the National Commission for Science, Technology and Innovation (NACOSTI) at their Offices in Nairobi

ATPS Executive Director, Dr. Nicholas Ozor (centre in red cap), Ms. Rachel Maluki (far right), Prof. Crispus Kiamba, ATPS Chair of Board (first from right) together with top officials from NACOSTI during the courtesy call

ATPS Executive Director, Dr. Nicholas Ozor (left), Ruth Charo (centre) Senior Education Specialist-World Bank and Prof. Crispus Kiamba (right), ATPS Chair of Board during a consultative meeting between the ATPS and the World Bank

Young Scientists Kenya Programmes Officer, Mr. Karagania Mwamlole (left) and ATPS Communications Officer, Mr. Felix Musila (right) after a consultative meeting between the two organisations

Muthoni Nduhiu, (left), Kenyatta University, ATPS Executive Director, Dr. Nicholas Ozor (centre) and Somorin Olufunso, Africa Development Bank (AfDB) (right) during a consultative meeting at the ATPS offices

Hivos and Dutch Embassy Citizen Consortium Agency Cafe`, Nairobi

Dutch Ambassador to Kenya, H.E. Ambassador Maarten Brouwer (left) confers with ATPS Executive Director, Dr. Nicholas Ozor (right) during the event

ATPS Executive Director, Dr. Nicholas Ozor (right) with Makueni County Governor, Prof. Kivutha Kibwana (second left) and other guests during the event

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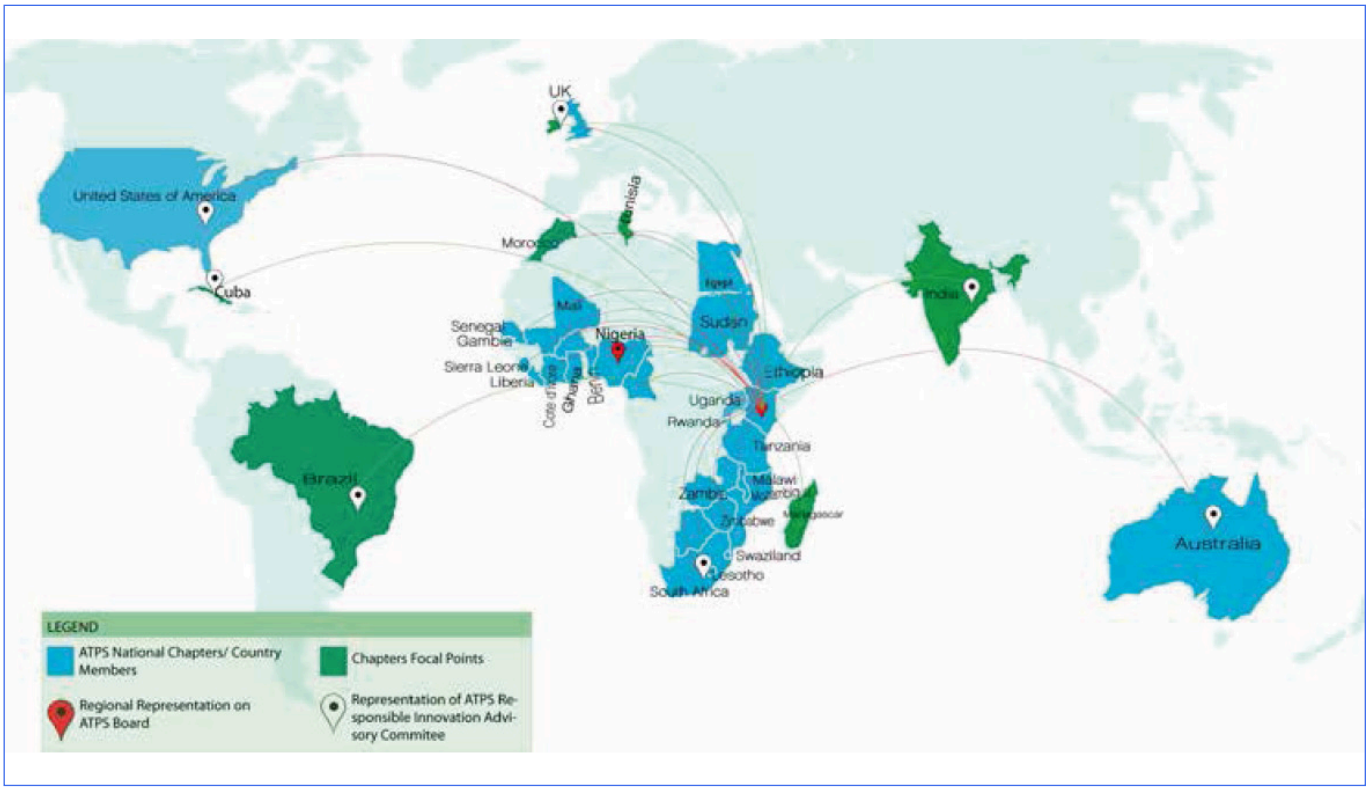

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