

Agenda Knowledge for Uganda

**Strengthening Uganda's Vision 2040
and the UN Sustainable Development Goals**

1st edition

Knowledge Partnership Uganda

facilitated by

knowledge.city
Knowledge Hub Uganda

in partnership with

Knowledge for Development Partnership

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Introduction

The Knowledge Agenda for Uganda is the first concrete output of the Knowledge Partnership Uganda which has been established in August 2018 as an initiative of the Ugandan representatives at the Knowledge for Development Partnership and knowledge.city Uganda. In the meantime hundreds of partners – public institutions, companies, NGOs, international organisations, artists and individual citizens – have joined the partnership and contributed their knowledge, ideas, different views, and commitments.

Based on 4 Ugandan Knowledge Partnership meetings, numerous discussions with hundreds of partners, as well as articles and statements written by more than 30 partners, this 1st version of the Ugandan Knowledge Agenda was developed, facilitated by knowledge.city in Uganda. The principle idea is simple: Knowledge is a fundamental resource in advancing one's own life as well as the economy and overall society. Improving strategies, actions and skills to advance knowledge and its application is beneficial to anybody, but knowledge is not given to one person or institution alone. Therefore partnerships and communities are needed to form a strong knowledge ecosystem in which we all together can achieve more.

The global Knowledge for Development Partnership has given a reference, having presented the global Agenda Knowledge for Development already in 2017 at the UN Office in Geneva, linking knowledge with the sustainable development goals. Uganda is among the first countries in implementing a national knowledge agenda, and establishing a national knowledge partnership.

The current version of the Knowledge Agenda is work in progress. It is a starting point and requires action, review, adjustments, and further development. In the process of doing, we will understand even better the challenges and sharpen the Agenda.

The implementation of this Knowledge Agenda is in the responsibility of everyone – public and private bodies, every citizen and also international partners. There is no obligatory “to do-list”, but it is in everyone's responsibility to identify one's own contribution and to generate benefits for oneself, for the communities and the country as a whole.

We acknowledge all contributions to this first national knowledge agenda and hope that it will envision and guide Ugandans and also encourage other countries to follow this path towards sustainable knowledge societies.

Mary Suzan Abbo, Janet Bagorogoza, Andreas Brandner
Kampala, June 2019

Part I: Agenda Knowledge for Uganda

Preamble

The narrative of the knowledge agenda for Uganda has been shaped by the development paradigm that emerged with the adoption of the 2030 Agenda for Sustainable Development which is grounded on the principles of people, planet, prosperity, peace, and partnerships, all geared towards leaving No One Behind. This development paradigm that Uganda has been pursuing since the 1990s is embraced in Vision 2040. The vision which aims at transforming Uganda from a predominantly peasant and low income country to a competitive upper middle income country “sees” Uganda as a transformed Ugandan society from a peasant to a modern and prosperous country within 30 years. It elucidates development paths and strategies to operationalize the vision and achieve the aims. Uganda’s aspirations towards Vision 2040 are nurtured through the National Development Plan (NDPII) which is the second in a series of six five-year Plans.

Knowledge is a recognized fundamental driver of productivity and economic growth and is a *sine qua non* for the development of societies all over the world. Knowledge in its tacit and implicit forms has played and will continue to play a critical role in ushering the knowledge economy where production and services are based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance. A knowledge economy is largely characterized by greater reliance on intellectual capabilities than on physical inputs or natural resources.

This Agenda has been developed by a coalition of governmental bodies, enterprises, academics, civil society organisations, initiated and lead by the Ugandan representatives of the global Knowledge for Development Partnership. This current version is a work in progress. It is based on initial 40 statements, written by individuals with different societal background, reflecting the diversity of views, issues and considerations involved in knowledge for development. All the different forms of knowledge should be effectively harnessed, managed and deployed if the societal challenges are to be addressed. These forms of knowledge and technologies that are created from them have to be leveraged through established knowledge networks and national innovation systems. The latter being the linkages or web of interaction within the overall innovation system.

The networks should be built around partnerships that harness synergies from the different stakeholders which as government, the private sector, academia, the civil society organization as well as the public.

The synergy created is valuable in addressing the bottlenecks such as weak private sector, underdeveloped human resources, inadequate infrastructure, small market, lack of industrialization, underdeveloped services sector, underdevelopment of agriculture that have constrained Uganda’s development over the last several decades.

We recognize that knowledge and its application are catalyst for any development and progress. The Knowledge Agenda for Uganda is an indispensable component of an agenda for sustainable development.

All challenges identified and action to be taken are condensed to three major objectives and a set of 7 key actions per objective. This is more intended to provide structure, orientation and integration than claiming clearly separated action. The three objectives and 21 actions are linked with each other and when working on one activity the others should be kept in mind.

Objective 1: Happy, knowledgeable citizens

The first objective is addressing the individual citizen – both female and male – for whom knowledge is a source of determining one's own life and future, caring for one's own health, availing oneself of citizen and human rights, developing one's potential, delivering decent work, creating fair income, dealing with unexpected new situations and other cultures, consuming and producing responsibly, competently protecting wildlife and environment, and fully contributing to the social and economic development of the country.

Action point 1: Enable diversity and pluralism

Our knowledge society is built on the best possible development of talents and gifts, which are as diverse as the people in our country. We can get the most out of it, when accepting, loving and fostering diversity and pluralism, the strange and the unknown.

Activities to strengthen diversity include strengthening diversity of educational programmes – from kindergarten to university and life-long learning. They include strengthening the collaboration of people with different colour, language, tribal background, nationality, gender, skills, fashion and passion, religion and tradition in our private organisations, as well as in public bodies. They include any activity fostering intercultural communication and collaboration, freedom of expression and variety of media.

Public and private organisations could develop policies and strategies for diversity and implement them through dedicated people, adequately equipped to fulfill their tasks. Finally it is a matter of everybody's attitude and values.

Action point 2: Provide quality education for all, foster knowledge skills

Knowledge requires foreknowledge. Solid education, providing the fundamental skills to acquire knowledge, to create, share, capture, reflect, understand, apply, reuse knowledge, is at the heart of knowledge societies. Quality education is one of the most relevant success factors for personal development as well as professional career and societal participation.

Actions to strengthen education include increasing the number of schools, increasing the variety of public and private schools, reducing the entry barriers (For example, through fees), increasing the quality of education through higher qualification of teachers, directors, strengthening the collaboration among the teachers/directors/schools through networks and sharing of experiences and resources, improving the national management systems, the legal frameworks and international relations.

Setting up a number of independent and internationally recognized competence centres for education, helping kindergartens, schools, universities, and education

professionals at all levels: to assess their status, improve their strategies, structures, technologies, approaches, and skills, as well as facilitating closer collaboration, is one of many highly recommended actions under this action point.

Action point 3: Empower youth and generation partnership

Globally, Uganda has an outstanding growth rate with the young population taking up the biggest percentage. Empowering young people, providing them opportunities to grow and developing their highest potential is key to Uganda's future.

Actions identified include; the active collaboration of businesses and organizations and public bodies with schools and educational bodies to give young people insights into their work and reality, providing them any opportunity to learn and apply. Not only museums and archives should open their doors widely to young people. Any public institution, as well as private companies, NGOs, and International Organizations should actively involve youth in their activities. Any public and private organisation can develop a policy and strategy on empowering youth, fostering communication and knowledge-sharing, and give attention and resources to Uganda's young future.

Youth organizations can play a vital role in peer learning and growing, specifically when putting values, social responsibility and knowledge at their heart. Generation partnership is key: experienced personalities should be open to share their insights with youngsters, guide and mentor them, giving them opportunities to take responsibilities and demonstrate their abilities. Special media could help youngster to access quality journalism beyond social media.

Participation in international youth networks should be facilitated and strengthened.

Action point 4: Systematically identify and mitigate knowledge exclusion

Access to knowledge is often limited by various factors. Beyond unequal education, it is financial barriers that hamper access to higher education or access to information, literature, technology, and knowledge services like training, consulting, coaching, etc. Language barriers hamper access to numerous knowledge resources. Physical distance to sources of knowledge, specifically in rural areas, hampers access to knowledge. Disabilities of all kinds can make it impossible to use existing resources or even to know about them. Many more barriers exist in reality and create a social divide based on knowledge divide.

Actions could be to set up policies and strategies in public as well as private organisations to systematically identify and mitigate knowledge exclusion. This includes specifically knowledge service providers – like educational/academic institutions, libraries, media, training and consulting organisations – and also infrastructure companies like transportation and hospitals.

Action point 5: Strengthen SDG-related knowledge communication

As Africa moves to attain sustainable development, science journalism and communication remain to play an essential role in which a knowledge society can flourish by providing a platform for debate, accurate and accessible information. Science journalism and communication is indeed growing in Africa, more so in

Uganda, there is remarkable progress with many journalists wanting to cover science.

It is in all our best interests that scientific efforts and results are communicated by science journalists accurately seeking ways to positively change communities' lives.

However, African science journalists still face numerous problems such as; lack of training, low pay, low levels of engagement with scientists in that they cannot effectively critically probe into science stories and instead rely on press releases and statements solely. Many maintain scientific work in technical language with the stories they produce, which is appealing and readable to a few people. There are hostile editors who say politics and sports sells better than science, and the ever busy scientists say that journalists write inaccurate copy and some are unethical, making the work harder.

Scientists and journalists, as well as academia and media as organizations shall cooperate stronger to break down complex issues in a way understandable to policymakers and the general public, support to be given by government through subject-specific funding.

For journalists to break down the information embodied in science to communicate it to a broader audience as already suggested requires training and constant engagement between all players. An academic programme and a rich portfolio of vocational trainings offered at affordable prices would help to improve the situation.

Action point 6: Foster easy and affordable access to ICT

“Give the people access to the web and the doors to the world are open.” Quality access to internet is still limited for various reasons, like energy supply and cost on the one side and fast and stable internet on the other side. Action to be taken is the further public development of internet infrastructure and connectivity at affordable prices.

Adoption of online Government services (e-services) is highly dependent on knowledge that the service exists, knowledge of the regulatory and legal framework, and knowledge in the skills required to access and use the service.

Such knowledge should be documented by responsible parties, stored securely, shared freely with the citizens and updated regularly. Furthermore, all contributions made to the knowledge-base should be evaluated and confirmed by expert teams to ensure trust in the content. Finally, knowledge can be abused to facilitate cybercrime and other unwanted activities. In that case we should all have mechanisms in place to counter such malicious behaviour and sensitize our citizens about the same.

Action point 7: Enable knowledge work and entrepreneurship

Turning knowledge into business requires strong knowledge institutions, strong entrepreneurship, and specifically strong cooperation between them. The transformation of knowledge into new business opportunities and the start-up of new companies based on knowledge, require professional management and support services.

Actions could include the setup and/or professionalization of business development agencies/units by public bodies (national level, county level), facilitating the collaboration of academic institutions, large companies, SMEs, and the community of one-person-companies, which are an emerging and relevant element in the

knowledge economy. The (further) development of affordable co-working spaces providing shared infrastructures for knowledge work with thematic focus areas (e.g. health, energy, digitalization, etc.), strategic orientation, public support and various strategic national and international partnerships and linkages will be a supportive measure.

Special information, training, consulting, coaching, and networking services should be offered to strengthen knowledge-based entrepreneurship. Financial instruments (spanning from grants to business angels) of the public sector and private initiatives, being anchored in such collaborative environments. International partners being actively invited to strengthen international linkages.

Objective 2: Knowledge-based, collaborative organisations

Organisations, including companies, civil society organisations, as well as public bodies, play a central role in the advancement of knowledge in any country. The way organisations co-create, use, share, capture knowledge, shall directly impact the knowledge society as a whole. Anything that helps organisations in accessing, using, sharing and applying knowledge will strengthen the knowledge economy.

Any organisation should be competent to: a) compete in the markets sustainably, b) to provide its staff fair work-conditions and opportunities to learn and grow, and c) to contribute to a sustainable knowledge society by taking responsibility for the country and sharing its knowledge.

Action point 8: Strengthen knowledge-service providers

The knowledge industry, which is the sector of public and private knowledge service providers, like including education & training, research, consulting, engineering, advisory, coaching, testing, media, information, communication and technology development etc., are the critical industry to boost all other industries. Value-creation in agriculture, industrial production, manufacturing or service sector, depends more and more on knowledge and technology provided by the knowledge industry. Exploiting the resources is only profitable with the best knowledge how to do it, so even for the mining/oil/gas industries – paramount examples for exploiting natural resources – knowledge is the key to success.

Actions shall include a strong investment in local knowledge services. Ugandan consultants and trainer shall be paid well for their services, just like teachers and academics, and any pedagogic professional should have high societal recognition, proper education and solid remuneration. Saving money at that point is among the most costly ways to cut cost.

Strong local knowledge service providers are at the heart of knowledge agenda. To develop this sector, its services need to be used and paid for. Too often, international donors provide grants for implementation of projects, but it is their own (international) consultants, trainers who are employed instead of providing local Ugandan companies and institutions the opportunity to provide knowledge services and to strengthen their professional profile.

Knowledge-service providers shall form professional networks, identify strategies for their sectoral development, and advocate for fair market conditions. Trainings, coaching, peer-reviews, conferences and other measures should be taken to make knowledge service providers as effective, collaborative and internationally

competitive as possible.

International organisations should be heavily pushed to strengthen local knowledge service providers and include them in their development projects.

“Help” from outside that weakens local knowledge markets should be refused, active involvement of local experts should be required.

Action point 9: Professionalize Knowledge Management

Knowledge Management is a targeted, systematic, and integrate approach to identifying, acquiring, creating, sharing, applying and capturing of knowledge in order to achieve the specific organizational objectives. It is obvious that knowledge management adds value to knowledge-based organisations and action shall be taken to develop professional knowledge management policies and strategies in all knowledge-based organisations. Training and capacity building for knowledge management and availing adequate resources for the implementation through dedicated, competent professionals are needed.

Any public and private organization shall assess their knowledge management approach, learn from the others, and continually improve its practices. Joining KM-networks (or setting them up if they don't exist yet) and following standards, guidelines and learning from experience are fundamental actions for any kind of organisation.

Good knowledge management definitely includes determining the knowledge that is needed for the operations, maintaining it, and availing it to those who need it if they don't already have it, preventing loss is as important as developing new knowledge this is required for the achievement of future goals. The Knowledge Management for Development Award shall be set up and promoted by government, public and private organisations. A competence centre for consulting, education & training, research, and networking shall be set up to serve the country in its efforts to improve Knowledge Management.

Action point 10: Digitalize public and private processes

Technologies provide a wide range of opportunities to improve the performance of processes. Specifically knowledge processes can gain a lot through up-to-date technology solutions in any kind of public and private organisation. Big data, artificial intelligence, internet of things are just a few topics to boost the digital transformation.

Actions to digitalize processes require attention and investment, but also qualified human resources to create value from technology. Increasing the number of quality education in the field of digitalization, collaboration with international technology leaders, consultants and trainers are essential.

Knowledge service providers, promoting and supporting the digital transformation play a vital role and public authorities should invest strongly, giving these companies opportunities to grow and improve their skills. When collaborating with international partners, the localization of that knowledge in the country shall be a must.

Setting up dedicated digitalization networks of practitioners, academics, service providers, and international partners is recommended.

Process innovation will change job profiles. People with less education shall have

increased difficulties on the job market, whereas those who are competent in digitalization will gain. Improving education in digitalization therefore is just as important as caring for career development and social support for those less qualified. Strategic identification of areas in which jobs will change, and creating targeted requalification programmes, can be a concrete activity in partnership of governments, training institutions, and the business sector.

Action point 11: Put knowledge acquisition at the core of procurement

Every single project with international companies, organisations, and experts provides opportunities to learn, acquire and localize knowledge. Procurement processes shall not only consider low prices or high quality for the products and services, but they shall also include knowledge acquisition as a critical element.

A key action for this would be to form a technical committee creating a knowledge acquisition guideline for public procurement units and processes. This shall provide clear instructions on the best possible ways to transfer critical knowledge, and also to leverage on it for the benefit of Uganda's economic capacities.

Additionally, sector knowledge partnerships could develop sector knowledge strategies and stakeholder knowledge maps to identify key target areas for the localization of knowledge. This would help to identify, where knowledge acquisition can create the highest leverage-effect and boost sectoral value chains. Relevant public projects could be actively identified by sector knowledge partnerships, claiming for knowledge acquisition measures to be integrated in these projects.

Public procurement officers should be trained in knowledge acquisition strategies and concepts. The competence centre for knowledge management (to be set up) can help with the implementation of standards in various public procurement units.

Action point 12: Invest in knowledge services and technology

It requires knowledge to create money, and it requires money to create knowledge. Public and private investment in knowledge, innovation, learning and technology is behind international benchmarks. Investments in traditional institutions like educational, academic and research institutions, are to be increased as well as various measures to better connect with innovative approaches, for example knowledge partnerships, and various cooperation schemes.

A lot of knowledge is provided by international donors, and knowledge services, like training, networking and consulting are often paid by them. This brings about a bad culture of spending money for local knowledge service providers - however, these are crucial to drive the transfer of knowledge to practice and act as agents for the transformation towards a knowledge society.

Actions could include more active investment in Ugandan knowledge services, specifically by the public sector, and to push international donors to involve Ugandan service providers when it comes to any kind of capacity building efforts.

Action point 13: Develop knowledge export and knowledge tourism

Uganda has strengths in various thematic areas, in which knowledge services – like academic education or technology – can be exported. Knowledge and technology export widens the market, increases competitiveness and brings money but also new

knowledge to the country – knowledge service providers always grow with the challenges of the customers.

Actions to achieve this goal could be stronger international marketing for Ugandan knowledge services and technology through international offices – spanning from embassies, commercial centres, investment agencies – or international activities – like participation in events, fairs, platforms, networks, communities and more. Public support to strengthen such export initiatives should be strengthened. Active participation in international knowledge partnerships (see action point 18) can additionally help to internationalize the knowledge industry.

In the international branding of Uganda and its bigger cities, knowledge shall be addressed more actively in order to raise international awareness for Uganda beyond touristic attractions like wildlife and natural beauties.

The development of a marketable “knowledge profile for Uganda” would be a useful instrument to create Uganda’s international reputation for knowledge.

Action point 14: Organisations to partner with schools and academic institutions

Companies play a critical role in the advancement of knowledge, which always requires application and context in order to become functional and valuable. The young and learning population of Uganda needs partnerships with companies, NGOs and public bodies to understand the real challenges, to develop their skills into the right direction, and to become productive while learning.

The various forms of cooperative education – from vocational training to applied academic programmes require active participation of experienced companies in all economic and societal sectors. Developing a wider range of cooperative learning programmes is one key actions recommended, international models shall be reviewed, partners to be informed and trained, innovative educational models to be approved fast and unbureaucratic, accreditation for cooperative academic programmes to be given in short time, based on clear and transparent quality standards.

The responsibility is both with companies/organisations and with the schools/academic institutions, being supported by a national service centre which provides experiences, guidance and support in setting up cooperative models. The framework and support is to be provided by the governments.

Objective 3: Sustainable knowledge society

Uganda as a country should provide the framework for an inclusive, people-focused, collaborative, knowledge-based society and play an active and responsible role in the international community. Knowledge is a key to all these, and a targeted, systematic, and integrated approach is at the heart of this Knowledge Agenda. On societal level knowledge has to be managed through policies and strategies, roles and responsibilities, structures and processes, comparable with the organisational level. Awareness of the Ugandan knowledge identity and building on the strengths are essential. Mobilizing the human and social capital will lead to happiness and prosperity.

Action point 15: Profile Ugandan knowledge identity and capture its heritage

In a process of transformation and adjustment to international practices and standards, it is critically important not to lose Uganda's intellectual and cultural heritage, but to build on it and use it to make a difference.

Actions shall include the systematic identification and capturing of unique Ugandan – traditional or modern – knowledge, making it accessible and promoting it within and outside Uganda.

A generic approach to identifying, capturing and promoting indigenous / specific Ugandan knowledge shall be developed and support given to institutions that care for indigenous knowledge. Schools and academic institutions could play a vital role in the identification, observation, capturing, reflection, and researching of indigenous knowledge, companies to supporting and making use of it by incorporating it in their practices.

A national competence centre with a public movement for the capturing of indigenous knowledge, based on a virtual knowledge platform could give space for the decentralized sharing of knowledge. Events, festivals and awards could raise awareness and give recognition to indigenous knowledge.

Action point 16: Develop knowledge strategies and partnerships in all sectors

Knowledge for the advancement of the society as a whole and of sectors is not given to any singular body – neither public nor private. Knowledge a distributed and social resource and for the targeted, systematic and integrated advancement of knowledge is requires partnership, dialogue, collaboration, joint action and commitment. The Ugandan Knowledge Partnership – established in August 2018 – calls for more active participation and public as well as private and international support.

Knowledge partnerships shall also be initiated in specific sectors, like renewable energy, health, agriculture, education, digitalization, and much more to create common visions and identifying the knowledge needs in all stakeholder groups. Based on a targeted and integrated approach, the knowledge needed can be acquired or developed much faster and more effective. A knowledge agenda could be created in various sectors with a more concrete and specific set of actions, like the development of specific cooperative education programmes, specific competence centres, or specific international cooperation programmes.

Knowledge partnerships could help to identify Ugandan experts in the diaspora and they can help to make best use of their knowledge, experience and relations – in partnership with diaspora institutes.

Assessing the knowledge needs along the sectoral value chain is critically needed, to guarantee that the production processes are not hampered by knowledge gaps in singular process steps. This could be done by sector knowledge partnerships.

The Ugandan Knowledge Partnership can and should play a vital role in promoting and supporting such sectoral knowledge partnerships and identify common patterns, needs and success stories in order to avail them to the other partnerships. Partnerships can also play a vital role in availing international relations to all sector partners.

Action point 17: Make best use of the knowledge of diaspora and immigrants

Ugandans, who have left the country to find better lives and opportunities elsewhere, are often associated with brain drain – and indeed their knowledge and entrepreneurial attitude is needed in the country. Nevertheless, the knowledge and relations of such Ugandans is not lost but at a different place. This knowledge is still valuable and relevant to Uganda's development. Mutual appreciation and respect are at the beginning of such relationship and dialogue is needed to understand each other's needs and potentials. Ugandans abroad often want to help their country but don't know how to do it. Ugandan organisations often could make good use of knowledge from abroad but don't know how to find it.

The establishment of a database for Ugandans in diaspora with information on relevant knowledge (e.g. sectoral or organizational affiliation, qualifications and competences) could help to integrate Ugandans in diaspora in relevant development activities.

Diaspora institutes can help to build linkages and offer services in the knowledge transfer.

Public and private institutions could consider involving diaspora knowledge in projects and activities.

The knowledge of immigrants to Uganda are often seen as a social burden, but they also bring relevant knowledge to the country, and a strategy for the best possible use of this knowledge should be developed. Identification of knowledge, providing access to the labour market and supporting communication between immigrants and the business sector can help.

Action point 18: Connect with and lead in international knowledge networks

International partnerships are essential for the solution of global issues as well as of national and local issues. Goal 17 of the Sustainable Development Goals gives special attention to knowledge partnerships. There is already a huge number of international networks dedicated to knowledge sharing, capacity development, innovation and learning. Active participation in such networks can not only make valuable knowledge accessible, but Uganda can take a leadership role, when taking responsibility in such partnerships and linking up with the top-experts and innovation leaders. When participating actively in global innovation and knowledge networks, Uganda can become an innovation leader or early adopter, specifically when strong in the implementation and application of what is developed and shared in those networks.

It is recommended to systematically identify and prioritize global knowledge partnerships and networks, participate actively and take leadership roles, focussing on knowledge transfer to Uganda and fast implementation. Excellent change management practices are an essential prerequisite for the fast adoption of knowledge. Through a network of national focal points of such partnerships, the overall engagement in global networks can become even more effective and useful to the country. Adequate resources shall be dedicated by government to make best value of international networks.

Action point 19: Public bodies to provide knowledge openly

Public institutions maintain huge amounts of data, information, and knowledge, which can create value to private organisations and companies, as well as media and the citizens in taking action on social problems or in using business opportunities.

Public administration shall develop an open knowledge policy and strategy and integrate this topic in the knowledge management approach.

Information systems shall be developed that are open and responsive to citizens and organisations. Providing data and information should be linked with efforts in increasing the abilities and capacities to make best possible use of open knowledge resource. A competence centre could be established to link with international networks, provide capacity development services and support in implementation processes.

Action point 20: Create public knowledge spaces and profile knowledge cities

Knowledge spaces are providing the framework for communication and knowledge-sharing. Public spaces impact our understanding, our perception of society and community. The public space is dominated by traffic and transportation, and very limited space – if at all - is dedicated to communication and knowledge-sharing. Uganda with its pleasant climate can create public knowledge space that shall be functional all year long: Knowledge gardens, knowledge villages, knowledge spaces and more can put knowledge at the heart of our communities, creating a sense of we, building on our traditions of story-telling, fire-side talks, combines with cultural activities. This tradition shall be revived and modernized. Furniture and technical equipment can add value in facilitate dialogue and sharing, art and culture shall make these spaces lively, authentic and reflective. Knowledge spaces can also include semi-public in-house facilities, like conference halls, training centres, multifunctional facilities, etc. Kampala shall increase the number of international conferences and position as a knowledge city, attracting national and international partners to connect here and develop new knowledge, business, and relations.

The development of an explicit knowledge profile of Kampala - and of other cities – will help in strategically advancing its knowledge infrastructures, and to creating an international brand as a knowledge city.

Action point 21: Religion, art, and culture to co-create knowledge society

Religious institutions or movements, as well as professionals in culture and art, have a relevant impact on society's identity, self-understanding and behaviour. They can raise awareness on the relevance of knowledge, its benefits as well as pitfalls, its opportunities and beauties, as well as critical aspects and threats. Most important is that knowledge is reflected and addressed by religion, art and culture.

Public bodies, companies, cities, art and patrons can invite artists to create works reflecting knowledge, encouraging citizens to advance knowledge, revealing and advancing a knowledge identity of that community, city or county.

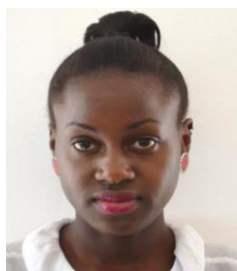
A Knowledge Art Space, combined with regular exhibition and international shall be set up to encourage artists to reflect on knowledge in society, and specifically on a Ugandan knowledge culture. Traditional knowledge formats – like story telling – could be further developed, celebrated and cultivated more actively. Innovative

methods and tools for knowledge, learning and innovation could be design by applied art and designers giving them a Ugandan identity.

Representative sculptures can be positioned at the centres of the cities to address knowledge, complementing traditional monuments of power and war. Architecture of knowledge institutions (museums, libraries, universities, schools, etc.) should get outstanding attention, creating a visible identity of knowledge in society.

Beyond addressing knowledge explicitly, art plays a vital role in any thematic area. The specific knowledge of art can often tell more than 1000 words. A strong knowledge culture shall be based on scientific and applied, cognitive and tacit, emotional, aesthetic, spiritual and cultural knowledge. Just like we humans are, also our national knowledge identity shall be holistic.

Part II: Statements on Uganda's Knowledge Agenda



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Energy and Energy Conservation, Makerere
University**

Renewable energy technologies have an enormous potential in Uganda and that potential can be realized at a reasonable cost. One of the most effective ways to get affordable, abundant renewables is to capture and share knowledge (skills, experience and understanding) that can be used to improve research, raise awareness, and overcome barriers to the increased use of renewable energy. Sharing knowledge also helps to improve industry capability and streamline the process for delivering renewable energy projects. This will ultimately increase renewable energy usage in Uganda and make it more affordable. We share knowledge with industry, researchers, financiers and investors, governments and regulators, and use this knowledge to develop renewable energy technologies that are best suited to Uganda's diverse geography as well as the energy needs of our households and businesses. We also provide relevant information and evidence to develop better policies and projects that can lead Uganda to a sustainable future. Kampala Knowledge City can support this vision of the future.

Keywords: renewable energy, Uganda, technologies, knowledge sharing, knowledge city



Catherine Amulen
Global Health Corps Alumni, Uganda Chapter

If you asked me what it would be if I had to provide one priority action to transform a nation like mine into a modern prosperous country, I would give one answer and that answer would be knowledge management. Needful to say the bible identifies with the fact that knowledge is very important and the equivalent of not knowledgeable is equitable to perishing. 'My people perish for lack of knowledge' Hosea 4:6. I go a long way to defend the importance of knowledge particularly in health and development. I know and strongly believe that educational institutions in Uganda right from pre-primary schools through to universities have a major role to play as change agents particularly in instilling and propagating the positive attitudes, promoting public

awareness and understanding of knowledge-based sustainable strategies for development, and reorienting existing education through curricula reviews, appropriate pedagogies as well as institutional structures.

Knowledge systems in place where media is not excluded cannot be underestimated because media has diverse technologies available for promoting communication for development and hence channeling knowledge and putting it open to the benefit a productive generation. For all these to take effect, aggressive, deliberate and a coherent range of policies need to be well implemented in order to achieve an integrated peaceful and prosperous nation that is chiefly driven by the knowledgeable people/citizens in its habitation. Very specifically, this comes with a knowledge base of a knowledge instrument described in a knowledge city. So why won't we wait for the knowledge city to break the barricades of availability, accessibility, affordability, reliability, usability of knowledge! Why won't we? Knowledge city we await you eagerly!

Keywords: knowledge management, health, education, knowledge cities, Uganda



Hope Matama Bongole
Manager, Exel Estates Limited, Uganda

The need to advance knowledge requires a collective consideration of all institutions, individuals and the public because public acceptability drives political acceptability. Your initiative therefore of bridging the knowledge gap that you are seeking to create if sufficiently well supported and publicised will lead to significant attitudinal and behavioural changes in the people of Kampala. We are willing to cooperate in any way possible and to share our experience with you.

Keywords: knowledge gap, cooperation



Euphrasius Fuorr
Chief Executive Officer, Planit Uganda Limited

Planit Uganda Limited is here to upgrade and carry forward the desire of all communities in the sector of the built environment. The heart beat is to provide technologies that are accessible and affordable, promoting development and sustainability. The target scope of Planit is simply the whole world. The current trend is technological advancement in all sectors for the betterment of the masses and society. One thing that should be a prerequisite is seeking for a good way to access, use, manage and disseminate information and working principles. Without contradiction, this requires acquisition of appropriate and specialized knowledge to address issues of different sectors. Simply put, we need to acquire a profitable condition of knowing things to better our state. We need to get skills, facts and principles. The 'knowledge city' will augment awareness and promote livelihoods. Therefore, I pledge unwavering support for the 'Knowledge City' and assure you of Planit's support to the concept.

Keywords: technologies, information, working principles, built environment



Wim Getkate
Country Manager,
African Clean Energy (ACE) Solutions, Uganda

Knowledge is one of the few things on this earth which multiplies when shared, like happiness and love. Sharing it must therefore be the right thing to do. Doing the right thing is at the core of ACE Solutions. We believe that cooking should not kill and that basic access to electricity should be a reality for everyone. However, since we operate in a complex ecosystem, we cannot achieve this on our own. We need to work together with partners of the quadruple helix: private sector, government institutions, academia and civil society. No single player can boast to have all knowledge and experience to deliver high-impact household energy solutions. Thus, for the local population in remote areas of Uganda - let alone the country as a whole - to enjoy the socio-economic, environmental and health benefits promised by renewable energy technologies, proper management and sharing of knowledge is crucial. This is now considering only one subsector and not even talking about the region, continent or the world at large. Therefore, we at ACE Solutions Uganda fully support the idea of creating a knowledge platform, Kampala Knowledge City, and are very interesting in cooperating and sharing skills, expertise and experiences in this area.

Keywords: knowledge sharing, knowledge cities, cooking, renewable energy, technologies



Suzanne Kiwanuka

Senior Lecturer in Health Policy, planning and management, at Makerere University

According to Hyrum W. Smith, wisdom is knowledge, rightly applied. In order to promote knowledge uptake in a rapidly changing world, the coming decade should be seen to challenge the sanctity of what has been, in many instances, lauded as the hierarchy of evidence. I absolutely concur that evidence hierarchies enable one to appreciate the complex array of evidence generated by a variety of research methods, gauge the trustworthiness that can be placed in the recommendations and, in some instances, alert the practitioner when caution is required. Many proponents of knowledge uptake are, in my opinion, still too heavily biased towards the use of evidence hierarchies determined through the lens of effectiveness. This means evidence used for policies and practices should be based on systematic reviews, randomized controlled trials (RCTs), and other rigorously evaluated studies conducted in controlled settings. Oftentimes this evidence on effectiveness is only scantily clad with information on 'how it works' in different settings. Efforts around knowledge management should go beyond effectiveness to embed measures of appropriateness and feasibility when considering hierarchies. There were no randomized controlled trials conducted during the last Ebola outbreak in Africa, yet priceless lessons were gleaned from this experience. Why should the weight of effectiveness always trump appropriateness or feasibility? Especially since this effect is measured in a highly controlled environment. Clearly, policy and programmes are hardly ever implemented in controlled environments. Why should the tacit knowledge of experts be considered 'weak evidence'? Evidence hierarchies firmly based on effectiveness, appropriateness and feasibility should be promoted as a gold standard for evaluating healthcare interventions because they acknowledge the many facets that have an impact on the success of an intervention. Indeed, the most effective intervention will fail if it cannot be adequately implemented or is unacceptable to the consumer. Knowledge management will progress if a shift is made from the singular focus on effectiveness towards a holistic incorporation of evidence on the appropriateness or feasibility of interventions even though these (seen through a different lens) are erroneously perceived to be lower-level evidence. Besides, without wisdom, one can swim all day in the Sea of Knowledge and still come out completely dry. Knowledge management will progress if it draws from the wise, who have rightly applied knowledge. If this takes place, wisdom management will soon become the buzz word.

Keywords: wisdom, knowledge uptake, evidence, research methods, effectiveness, knowledge management, randomized controlled trials, healthcare, feasibility



Janet Bagorogoza Kyogabiirwe
Professor at Makerere University Business School

Knowledge is the number one and fundamental aspect behind all enterprise activities. It determines the effectiveness and competitiveness of an organisation's operations and behaviour. Knowledge, as opposed to plain data and information, has been increasingly recognised as an engine of competitive advantage over traditional factors of production, such as labour, raw materials, and financial capital.

"Knowledge is power; making our knowledge widely and readily available will empower others to come up with solutions to the world's toughest problems" World Bank Group President Robert B. Zoëlick, April 2012.

I could not agree with him better! *There is enough knowledge in the world to answer most of the biggest questions of global poverty and performance issues, if we used the best approach to share the Knowledge. The* Developing countries have an extensive, untapped base of widely available knowledge, which is indigenous knowledge (IK). This knowledge is mainly acquired and shared through local sources compared to formal sources. It is a locally owned and managed resource. Indigenous knowledge is predominantly tacit and embedded in practices and experiences of the local people. Africa has an abundance of indigenous knowledge, which can be managed and utilised for African development. As the saying goes "wise people store up knowledge" and *"In Africa, when an old man dies, it is a library that burns down"* (Amadou, 2005).

I believe that organisations need to learn from local communities in which they operate to enrich the development process towards high performing organisations. IK is the basis for local-level decision-making in finances, agriculture, health care, food preparation, education, natural resource management, and a host of other activities in rural communities. Therefore, Uganda needs to develop a Knowledge Management Strategy that is focused on creating, capturing and applying knowledge to close the gap between indigenous organisations, communities and systems in Africa for development and growth.

The value of knowledge management (KM) and its impact on high performance are a subject of debate and controversy in theory and practice. The knowledge-management behaviour has been found to be a key issue in performance improvement by researchers. Currently, we assume that knowledge obtains its value through adequate management. The better the management is, the better the knowledge. This idea may result into improved organisational performance.

My major concern is that Uganda is not yet a knowledge economy which has affected the performance of the indigenous organisations, since they cannot easily acquire and share knowledge from the foreign owned organisations to be able to improve on their performance. The current problems may be solved if employees in organisations

understand that they have roles to play beyond their business units. Alternative ways of reorganizing KM will enable organisations in Uganda to use evidence-based knowledge (research outputs) to advocate for appropriate changes in performance management policies and practices.

My vision for the future of KM in Uganda would be to see organisations that can establish KM strategies that can drive innovation, learn how to meet real challenges of KM, and that can learn to establish KM networks that may lead to permanent change in organizational performance. This can be further achieved through the Kampala Knowledge.City which is the hub for the Eastern African Knowledge Agenda. We need to join forces to advance Knowledge societies and knowledge-based development.

Key Words: Indegenous knowledge, knowledge management, organisation performance, innovation



Isaac Mugumbule
Supervisor Landscape,
Kampala Capital City Authority,
Directorate of Physical Planning, Uganda

Uganda has been known internationally as the pearl of Africa. According to the Kampala Physical Development Plan 2012 (KPDP), Kampala was previously referred to as the garden city of Africa. Kampala is a capital city with a rich diversity of natural assets, including wetlands, waterfronts, parks, urban trees and a variety of bird species. As a member of the urban governance structure, the public entrusts us as caretakers of these urban natural assets and to make decisions that should always be in the best interest of the public and not in our own interest. These decisions can only be made from a point of shared knowledge. A point where local authorities engage with the public, and listen to their challenge and solutions. Urban governance in the 21st Century calls for increased citizen participation and involvement. Platforms where new ideas can be shared, challenges presented and addressed, all voices heard, solutions identified and collectively owned is key. Ugandan knowledge society will offer such a platform where people, despite their different background, culture, interests, professions and skills will share and learn from each other. Sustainability within cities can only be achieved if the synergies between the local authorities and public are strengthened. Increased access to this knowledge among the country's population will place this nation on the path to achieving its Vision 2040.

Keywords: Kampala, local government, natural resources, environmental protection, sustainability, cities, local government, Uganda



Nolbert Muhumuza
Awamu Biomass Energy

Kampala Knowledge City is a timely platform that I believe individuals, organizations and corporations need to develop a thriving and prosperous knowledge-based Ugandan economy. I believe the platform will not only leverage on the growing entrepreneurship in Uganda, but also a growing middle income African market. Kampala Knowledge City will help unlock the growing drive towards integration through knowledge sharing and utilization.

Keywords: knowledge city, entrepreneurship



Shira Bayigga Mukiibi
Manager, Renewable Energy Business Incubator

The Renewable Energy Business Incubator's (REBi) mandate is to support the development of local renewable energy sustainable enterprises and improve clean energy access in Uganda. As part of its strategic plan, REBi is set to share knowledge and experiences on proven renewable energy business models through its one-stop centre for information and knowledge exchange.

As such, various stakeholders in Uganda and the East Africa region shall have access to vital information that will provide input towards development of sustainable renewable energy businesses. We therefore value the 'Knowledge Cities' initiative and are willing to continue bringing together various stakeholders during networking events and similar workshops organized by REBi to further enhance knowledge and information sharing within the renewable energy business sector in Uganda. REBi is willing to cooperate and share knowledge, opportunities and experiences in order to accelerate clean energy business development.

Keywords: local renewable energy, sustainable enterprises, knowledge cities, knowledge sharing.

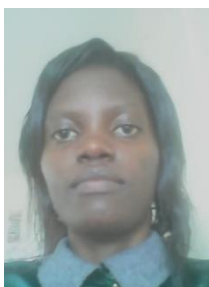
Oscar Nageri

**Information and Communications Technology Managers,
Uganda Health Marketing Group**

True knowledge is transcendental and its value can only be measured against the backdrop of existential purpose. It is a separation of belief from fact, and the division of the plane of independent reason from common traditions and ideologies. To the entire human race, the very reality of life and our inherent awareness of it is a call to a higher purpose, a delineation of the animate from the inanimate. It is incumbent, therefore, on all society – communities, leaders and citizens – to see in themselves the ultimate and divinely inspired office which is the custody of our present habitation. As individuals and as a nation of diverse experiences, talents and outlooks, we must fervently strive to establish a global harmony, casting aside any retrogressive sentimentalities, as we look up towards a greater and more noble goal: the propagation and preservation of life. The sole role of our sentience is the flawless and concise communication of who we are and what we as a species represent from one generation to the next. To achieve this, we ought to purposefully search out, protect and pass on knowledge, laying down foundations upon which enduring civilizations are built. Every heritage is most often underpinned by a collective understanding of the significance of question and disagreement which, indeed, are key factors in the identification of our own individuality, and are the highest forms of schooling for those seeking true education. In this, we must learn the value of entertaining unpopular ideas and cultivating open-mindedness. As a nation, we must individually resolve to evolve from the mire of self and from unfounded fears into one complete organism that is ready to embrace challenge and conflict. How else will society see the holistic realization of its true purpose and divine calling?

There is no challenge so big that a nation with so great a potential cannot rise to meet it. We owe it to ourselves to march on unafraid and, as a unit, be unwavering of mind in order to meet and embrace the unknown, to tread upon new paths and cause knowledge and purpose to become one. Any failures and mishaps along the way are but stepping stones to greater heights. When the people, when the earth, when society's structures call out, we must present ourselves as well-equipped banners and beacons of hope.

Keywords: knowledge, societies, Uganda, open-mindedness



Edith Ruth Nakintu
Statistician at Planit Uganda

The awareness of or insight into a matter by someone hands them over power to attain excellence in the same, through its application.

Time is saved in the attempt to arrive at decisions in the planning process, by reason of clarity/specificity acquired in knowledge, hence aptness in service.

From the consideration of the upshots of the expression “if only I knew, I would/wouldn’t have...” it is clear that knowledge promotes welfare of people in all areas.

Augmentation of one’s knowledge in diverse fields is therefore key, which I sincerely applaud Knowledge.City for promoting.

Key words: Excellence, Planning, Augmentation of knowledge.



Esther Nakkazi

**Freelance Science and Technology Reporter,
Media Trainer and Mentor**

No-one doubts that science journalism and communication is indeed growing in Africa, more so in Uganda, there is remarkable progress with many journalists wanting to cover science.

Many African governments are increasingly recognizing the importance of science in developing their economies and adding some funds to produce home-grown science. Most media are also giving science coverage more dedicated space and I see more young journalists actively reporting on science.

After all, it is in all our best interests that scientific efforts and results are communicated by science journalists accurately seeking ways to positively change communities’ lives.

But African science journalists still face numerous problems like lack of training, poor pay, low levels of engagement with scientists meaning they cannot effectively critically probe into science stories and instead rely on press releases and statements solely as well many maintain scientific work in technical language with the stories they produce appealing and readable to a few people.

As well as hostile editors who say politics and sports sells better than science and ever busy scientists who say that journalists write inaccurate copy and some are unethical makes the work harder.

Indeed, many have pointed out the importance of communication of scientific knowledge through mass media which requires a special relationship between scientists and journalists with the ability to break down complex issues in a way understandable to policymakers and the general public.

For journalists to break down the information embodied in science to communicate it to a broader audience as already suggested requires training and constant engagement between all players.

As Africa moves to attain sustainable development, science journalism and communication remain to play an essential role in which a knowledge society can

flourish by providing a platform for debate, accurate and accessible information.



Noami Martha Nakuya
CEO, Nanamar Fashion House

Every one was made distinctly, uniquely, beautifully different. Something that ought to be celebrated. But many have not appreciated, rather they have taken it lightly due to the fact that they don't know the beauty in it. The fact that we are all different, we all stand out to display art and beauty. One of the challenges the world faces today in the field of design is that now people are defined by the clothes they can afford, not the personality they are or who they are and what they stand for inside. Fashion is the make or form of something, a production. The knowledge you acquire about who you are is relative to what you will display, for the world to appreciate.

Art is an expression. I believe that everyone has the ability to express truly who they are and what they stand for through fashion and that's what I find beautiful and attractive because I know that through this knowledge, every soul is defined. Knowledge city will help to provide a platform for the fashion designers like myself that are in this field and those coming up to have a new trend based on this knowledge, for national, regional and global



Agnes Naluwagga
Coordinator, Regional Testing and Knowledge
Centre, Centre for Research in Energy and Energy
Conservation (CREEC)

Knowledge is a fundamental necessity for any successful achievement.

The knowledge acquisition cycle is a continual process for all individuals, nations and the world at large. For continued sustainable development across all sectors and regions especially in the African region, knowledge is a key catalyst on how fast development will occur and whether any kind of sector development will be sustained. Knowledge transfer and sharing will ensure customisation of already existing knowledge to unique environments and the ability for local application, implementation and maintenance, thus resulting in sustainable development and

overall socio-economic transformation for the African region as a whole. This is a great initiative and we are willing to contribute and share our experience on the clean cooking sector together with great minds globally.

Keywords: knowledge sharing, knowledge transfer, knowledge city



Ronnie Ntambi
Chief Executive Officer, Pictures of Africa

Trend vanes are indicating that advanced economies are being radically altered by dynamic processes of economic and spatial restructuring within the frame of a new knowledge economy. Today, knowledge is addressed as a key driver in urban development hence many cities all around the world are in fierce competition to attract talent and innovation by adopting various policy measures and incentives for promoting the knowledge city concept. Global urban planners see Knowledge-based urban development (KBUD) as a new form of urban development for the 21st Century that could, potentially, bring both economic prosperity and sustainable socio-spatial order to a contemporary city.

We are excited that the concept of a Kampala Knowledge city is being mooted. As a company that helps individuals, institutions, small and large organizations, corporations and companies tell their stories, build their brands and effectively and efficiently communicate with their stakeholder, Pictures of Africa is proud to be associated with the proposed Kampala Knowledge City. We commit our support to the process of making this concept a reality.

Keywords: knowledge city, Kampala, urban development



Stephen Ojulo
Volunteer for the Switch Africa
Green Project, CREEC, Uganda

‘With his mouth the godless man destroys his neighbour, but through knowledge and superior discernment shall the righteous be delivered.’ Proverbs 11.9

The capacity for knowledge as shown in the scripture above is simple enormous, whether for good or for bad. Goodness and progress has always been the produce of

relevant knowledge exposure and application, translating into development. Destruction and misery is a direct consequence of devalued knowledge. The interesting thing is that the agents of this knowledge are not machines but rather people. The architects of this Agenda Knowledge for Development are saviours who are at the forefront of championing the cause of global human enlightenment. Knowledge is directly tied to delivery out of indigence into prosperity and abiding hope. Indeed, the number one vehicle that will catapult our societies at whatever level into genuine prosperity and unceasing progress is knowledge, not even money. Thus, the generation, interpretation, application and management of knowledge is the biggest agenda that we all ought to support. The beauty of it that it places all people at the pedestal of positively serving and contributing to human development across the board.

Keywords: Agenda Knowledge for Development, poverty, knowledge, development



Maxwell Otim Onapa,
Director Science, Research and Innovation,
Ministry of Science, Technology and Innovation of
Uganda

Introduction

The narrative of the knowledge agenda for Uganda has been shaped by the development paradigm that emerged with the adoption of the 2030 Agenda for Sustainable Development which is grounded on the principles of people, planet, prosperity, peace, and partnerships, all geared towards leaving No One Behind. This development paradigm that Uganda has been pursuing since the 1990s are espoused in Vision 2040. The vision which at transforming Uganda from a predominantly peasant and low income country to a competitive upper middle income country “sees” Uganda as a Transformed Ugandan Society from a Peasant to a Modern and Prosperous Country within 30 years. It elucidates development paths and strategies to operationalize the Vision and achieve the aims. Uganda aspirations towards vision 2040 is nurtured through the National Development Plan (NDPII) which is the second in a series of six five-year Plans.

Knowledge is a recognized fundamental driver of productivity and economic growth and is a *sine qua none* for the development of societies all over the world. Knowledge in its tacit and implicit forms has played and will continue to play a critical role in ushering the knowledge economy where production and services are based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance. A knowledge economy is largely characterized by greater reliance on intellectual capabilities than on physical inputs or natural resources. Intellectual capabilities are defined by ability to innovate and create intellectual capital in the form of knowledge or technology, which have to be utilized to address societal challenges.

As the world drifts to the knowledge based economy characterized by abundance rather than scarcity, knowledge products demand will continue to be premium with human capital being a key component while communication will continue to drive knowledge flow.

Science, technology and innovation provide an empirical avenue for knowledge generation and are key cornerstones that can drive development and socio-economic transformation.

National Policies and frameworks that support development of knowledge

Premised on this immutable fact, the government has put in place relevant policies, programs and strategic interventions for ensuring that Ugandans actively participate in the knowledge economy.

Some of the policies and national frameworks that support the development of knowledge society in Uganda, Knowledge Society include: Vision 2040 of 2013, the National Development Plan II (NDP II), the National ICT Policy of 2012, the National E-Government Framework of 2013, the Education Sector Strategic Plan (ESSP) of 2007-2015 and the National Science, Technology and Innovation (STI) Policy of 2009.

The NDP II clearly articulates the role of STI in contributing to Uganda's development aspirations. The creation of a Ministry Science, Technology and Innovation whose mandate is to provide overall policy guidance and coordination for scientific research, development and the whole national innovation system in Uganda is one of the key interventions the government of Uganda has put in place to create effective knowledge networks and a national innovation system.

The NDP III is currently under development while the STI policy is being review. The review and development provide opportunity for Uganda to realign its national development plan and the STI policy with the contemporary and emerging knowledge issues and themes such as artificial intelligence, big data analytics, and robotics among others.

Uganda has not registered much progress in the three industrial revolutions except for a few isolated cases. Technology training, research and development in Uganda are all still low in capacity and quality that although universities produce some significant amount of knowledge, they do not play any significant role in the transfer, diffusion, adoption and development of emerging knowledge and technologies.

The generation of knowledge and knowledge intensive innovations has to be handled in context as this requires intensive investments. In exploring knowledge, Uganda ought to exploit its indigenous knowledge and bioresources, which often offer low cost homegrown technical expertise that can be adapted and modernized to improve particularly, her largely agricultural based economy.

It is worth noting that Uganda's STI policy currently under review seeks to address this by integrating different knowledge systems, including indigenous and local (traditional) knowledge. The policy also envisages a seamless flow of knowledge among enterprises, universities and research institutions. The seamless flow is important for the exchange of both tacit knowledge, and know-how through informal channels, and codified knowledge, or information codified in publications, patents and other sources and is critical for the smooth operation of the national innovation system.

The policy review is being informed by the fourth revolution ushering in artificial intelligence, Big Data analytics, and robotics among others and driven by digital transformation which is an indisputable force; revolutionizing our industries, reinventing our products, redefining our services and reshaping the way we work.

Knowledge society

Knowledge society is borne out of creation, dissemination and effective use of knowledge supported by institutions, infrastructure, norms, social interactions, and culture knowledge as a tool that can be leveraged to unlock Uganda's potential and foster development cannot be overemphasized.

The government of Uganda recognizes the role of Science, technology, and innovation, one of the knowledge society pillars and driver of socio-economic transformation. That countries such as South Korea, Singapore, and China. Innovation, ICT and education are known to be the three critical pillars and key elements that foster development towards a knowledge-based future. Here, the innovation pillar incorporates the fields of Science, Technology, and Innovation (STI) into a single pillar. The education and innovation pillars are interrelated drivers for development while the ICT pillar is the enabler for education and innovation dynamics that drive development towards the Knowledge Society.

Active engagement in the knowledge economy is one of the ways through which Uganda can address its societal create challenges of employment, climate change, and food insecurity among others. The engagement could be an avenue that Uganda could explore to harness the demographic dividend.

The role science, technology and innovation in a knowledge society

The role of knowledge as a tool that can be leveraged to unlock Uganda's potential and foster development cannot be overemphasized.

The government of Uganda recognizes the role of Science, technology, and innovation, one of the knowledge society pillars and driver of socio-economic transformation. That countries such as South Korea, Singapore, and China have leveraged STI through knowledge creation to develop their economies make the importance of STI in fostering development self-evident.

Previous industrial revolutions liberated humankind from animal power, made mass production possible and brought digital capabilities to billions of people. However, rapid advances in knowledge creation, science and technology have ushered in the Fourth Industrial Revolution, which is disrupting almost every industry in every country and creating massive change in a non-linear way at unprecedented speed. The Fourth Industrial Revolution is characterized by a range of new technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries and defining what it means to be human.

However, the fourth revolution illicit concerns which include possible greater inequality particularly in its potential to disrupt labor markets and the net displacement of workers by machines. The anticipated substitution of talent for capital as a critical factor of production will give rise to a job market increasingly segregated into "low- skill/low-pay" and "high-skill/high-pay" segments. It is feared this will in turn lead to an increase in social tensions. Regarding income, technology has already led to stagnation of income and increased demand for highly skilled

workers while the demand for workers with less education and lower skills has decreased. It is also feared that introduction of new technologies that create entirely new ways of serving existing needs and significantly disrupt existing industry value chains.

In view of these phenomenal developments, the World Economic Forum recently identified creativity, people management and cognitive flexibility, which involve creativity, logical reasoning, and problem sensitivity among some of the top 10 skills that will be most desired by employers by 2020.

From a Ugandan perspective, this calls on decision-makers to move away from the traditional, linear (and non-disruptive) thinking to thinking strategically about the knowledge intensive forces of disruption and innovation shaping our future.

Conclusion

All the different forms of knowledge should be effectively harnessed, managed and deployed if the societal challenges are to be addressed. These forms of knowledge and technologies that are created from them have to be leveraged through established knowledge networks and national innovation systems. The latter being the linkages or web of interaction within the overall innovation system.

The networks should be built around partnerships that harnesses synergies from the different stakeholders which are government, the private sector, academia, the civil society organization as well as the public.

The synergy created is valuable in addressing the bottlenecks such as weak private sector, underdeveloped human resources, inadequate infrastructure, small market, lack of industrialization, underdeveloped services sector, underdevelopment of agriculture that have constrained Uganda's development over the last several decades.

Francis Onencan Onek
Finance and Administration Manager,
BOSCO, Uganda

At present, I see knowledge society as a human structured organization based on contemporary developed knowledge and representing a new quality of life support system. This society is based on knowledge distribution, access to information and capability of transferring information into knowledge. Knowledge distribution can take any of the following means; success or failure stories, bulletin board, discussion groups, step by step, reviews, subscription and frequently asked questions in home page or magazine. In all these the digital medium seems to be gaining shape as the most reliable in terms of distribution, accessibility and transferability of information into knowledge in a knowledge society. The challenge, however, still remains in the developing world where the cost of internet is sky rocking, while energy, electricity and even connectivity quality is still poor, coupled to the exclusion of their traditional ideas or cultural preservation. Sharing knowledge on how to design or transfer the knowledge sharing practices in the developing world onto the digital platform would go a long way in dealing with the issues of exclusion, acceptance, boundaries hence a borderless knowledge society. I envision a society where technological development, culture and boundaries are no longer barriers to knowledge sharing for development. Knowledge Development Goals:

- To establish a universal knowledge development framework or guiding principles just like the generally accepted accounting principles (GAAP), this is to standardize knowledge development without having to take away creativity and the sustainable development aspect of it.
- To establish an inclusive knowledge for development working groups across the globe that embraces bottom up approach of knowledge utilization in fostering development while preserving the environment.

Knowledge Agenda: The most relevant and urgent actions to be taken:

- Increase access to ICT, more ICT centres should be established in the rural communities and the local communities trained on the use of ICT for development.
- Increase access to electricity and solar energy by the rural communities
- Developing an actual partnership in between the so called developing and developed countries for creation of a global knowledge society. This will also help to avoid brain drain because of the existence of knowledge without borders.

Keywords: knowledge distribution, developing countries, knowledge sharing, ICTs, communities



Osbert Osamai
**Systems Analyst, National Information
Technology Authority, Uganda**

Knowledge is a vital ingredient in the economic development of any country. In the area of ICT, adoption of online Government services (e-services) is highly dependent on knowledge that the service exists, knowledge of the regulatory and legal framework and knowledge in the skills required to access and use the service.

Such knowledge should be documented by responsible parties, stored securely, shared freely with the citizens and updated regularly. Furthermore, all contributions made to the knowledge-base should be evaluated and confirmed by expert teams to ensure trust in the content. Finally, knowledge can be abused to facilitate cybercrime and other unwanted activities. In that case we should all have mechanisms in place to counter such malicious behaviour and sensitize our citizens about the same.

As a country let us strive to acquire more knowledge in vital areas of our lives by improving our reading culture, collaboration with the global community and sharing our research extensively. I believe that the knowledge city will trigger our desire to learn more both locally and globally and contribute to the wellbeing of our people.

Keywords: knowledge, economic development, IT, trust, cybercrime, knowledge cities, Uganda



Jimmy Osuret
**PhD Research Fellow-Collaboration
for Evidence Based Health in Africa**

The Relevance of Knowledge for Development to Uganda:

The contribution of Makerere University School of Public Health To knowledge Translation to Policy and Practice: Public Health is a broad and complex field that involves the application of many disciplines with the sole objective of improving the health of the communities through research, policy and education. The domains of Public Health practice are Health improvement, improving services, and health protection. Over, the past decades, there was an increase in the intensity of community health problems which impose immeasurable scale of impacts to the community. Many institutions are involved in delivery of interventions to reduce the dynamic nature of health problems in our community. However, there is a shortage in training and using research for evidence based decision making. Acknowledging this need, Makerere Author: Jimmy OsuretSchool of Public Health (MakSPH) was

established with the core responsibilities of training in Public Health, research and service delivery. The mandate of Makerere University School of Public Health is Teaching, Research and Community Service. Our vision is to be a centre of excellence providing leadership in Public Health. In the teaching arm, we offer short courses, undergraduate and master programs (Master in Health Informatics, Masters of Health Services Research, Master of Public Health Disaster Management and the Master of Public Health). Our products are competency based aimed at building the capacity of students who are relevant to the market and who also contribute to improving the quality of life of people in the community.

Under Research, the School of Public Health contributes the biggest percentage of Publications in the entire University (<http://musph.ac.ug/index.php/publications>). Information Generated from these publications goes a long way in guiding decision making level at all levels. Evidenced based decision making is more sustainable in bringing about positive change in health outcomes which benefit the community.

In order to achieve the agenda knowledge for development and contribute to strengthening Agenda 2030 and the Sustainable Development Goals, MakSPH works within a large network of partnerships locally and internationally. To facilitate the impact of research evidence generated, MakSPH fosters public health knowledge translation to practice and policy through provisioning of forums/platforms, and capacity building.

Isaiah Owiunji

**Programme Coordinator, Energy, Climate and Extractives Programme,
World Wide Fund for Nature, Uganda**

The old adage is clear: “knowledge is power” and as human beings we live in a knowledge era. Our work and our lives are centred on the creation, communication, and application of knowledge. What sets us apart as individuals and nations in levels of development is the differences in accumulation and application of knowledge in our places of work, manipulation of the environment and in improvement of our everyday lives. Knowledge is very important element for our development in Uganda since it can be manipulated to create competitive advantage for our country to develop its industries, the rich natural resources and the people.

As Uganda strives to achieve middle income status, knowledge will be crucial to develop its natural capital, create values, unique products and empower its people. The creation of relevant knowledge, its management and accumulation will be critical in Uganda’s development agenda. For instance, the application of knowledge, innovation and ICT will be one of the key factors in ensuring balance between petroleum development and the key protected areas in the Albertine Graben in Uganda. Similarly, practical and relevant knowledge will be required to develop systems, strategies, practices, methods and technologies to help Uganda solve the challenges of low energy access and heavy dependence on biomass which leads to degradation of its beautiful environment and nature – a cornerstone for its tourism industry.

Keywords: knowledge is power, competitive advantage, knowledge, IT, energy, protected areas, Uganda



Obwoya Kinyera Sam
Executive Board Member,
National Planning Authority of Uganda

Knowledge is a fundamental catalyst to economic development. The fact is that the things we buy, and the methods we use to make them, rely more and more on knowledge, and less on trial and error. Thus, the development of a nation therefore hugely depends on what it knows, and consequently will determine how it develops. Indeed, knowledge, not capital, is the key to sustained economic growth and improvements in human well-being. Access to financial, technical, and medical knowledge would improve the health and living standards of the poor. Knowledge is particularly important for planning for development. I can't imagine how planning and the push for development would be without knowledge. National development is most effective if the planning process is evidence based. And therefore, approaching development from a knowledge perspective— that is, adopting policies to increase both types of knowledge, know-how and knowledge about attributes— can improve people's lives in myriad ways besides higher incomes. Developing economies differ from developed ones not only because they have less capital but because they have less knowledge. For planning and development, evidence and data (knowledge) are particularly crucial on three fronts:

- a. First, they provide a basis for strategic prioritization of development agenda;
- b. Second, they answer how this prioritization and agenda can be implemented efficiently; and,
- c. Thirdly, they also help us track our progress and see if there is need for correction.

As such, increasing attention to knowledge demonstrates that its possession and application is a catalyst for any development and progress. More importantly, the Uganda's National Development Plans (NDP) are founded on knowledge, indeed behind the plans are evidence-based papers that informed the strategic direction. The poverty reduction, good health, technological development and clean water all depend on a systematic and integrated approach to knowledge.

Keywords: National Planning Authority, National Development Plans, development planning



Smith Tukahirwa

**Centre for Research in Energy and Energy
Conservation (CREEC), Makerere University**

With the government of Uganda making a deliberate effort towards attaining a middle income status by 2020, strategic knowledge management becomes an indispensable intervention to deliver this much needed socio-economic transformation. Uganda's second National Development Plan (Government of Uganda, 2015) underlines the shortage of prerequisite skills on the labour market.

The mismatch between the curriculum at the training institutions and the labour market requirements best illustrates a huge necessity for a deliberately and sufficiently designed knowledge management system not only for Uganda but the entire region. Until then, identification and quantification of available knowledge and thus establishment of the missing knowledge (knowledge gap) shall continue to present difficulty. It is until knowledge gaps are established that appropriate capacity enhancement interventions can then be effectively undertaken. Such interventions are a backbone to regional competitiveness as well as socio-economic transformation.

Keywords: knowledge gap, government, development planning, Uganda



Richard Walugembe
Head Technical Department
UltraTec (Uganda) Limited

Kampala Knowledge City will bring development as a learning living lab where various sustainable spatial and economic innovations will be shared through the knowledge city campaign. Eventually this should impact the way Kampala develops. This concretely means that we should facilitate sessions with various stakeholders through which inclusive and circular business cases will be co-created that can: 1) Form solutions to the challenges in and around the Kampala city through information sharing; 2) Create new business opportunities for Ugandans and energy enterprises that offer sustainable solutions. Kampala Knowledge City will not only aim to boost sustainable urban development, but also creates a spin-off for local economic activities, as it considers challenges regarding reliable power supply and infrastructure as opportunities for businesses to the people living in Kampala. UltraTec as an energy company will continue giving people the solution through sharing knowledge to enable them to have access to affordable power so that their lives are improved.

Keywords: knowledge city, Kampala, Uganda, private sector, power supply

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Uganda National Science, Technology and Innovation (STI) Policy of 2009.

Acknowledgement of knowledge partners

The Knowledge Partnership is open to all citizens, organisations, public, private and international bodies, joining forces in advancing knowledge in Uganda.

The following partners are supporting the Knowledge Partnership Uganda and have actively contributed to this Knowledge Agenda. They have also committed themselves to support its further development and implementation. Their views and contributions are highlighted below with respect and gratitude.



Knowledge for Development Partnership

K4DP is the global multi-stakeholder partnership in the field of Knowledge Management and Knowledge-based Development. It is acting globally, aimed at fostering the global Agenda Knowledge for Development, and supporting national partnerships like in Uganda.



Knowledge Hub Uganda Ltd.

KHU is the Ugandan partner in the global knowledge.city network, acting as a competence centre and driving force for the advancement of knowledge in the country. KHU is initiator of the Knowledge Partnership Uganda and the Knowledge Agenda and facilitates the continued dialogue and its implementation.

National Planning Authority

The National Planning Authority has been the first organisation and public body to become partner of the Ugandan Knowledge Partnership. The achievement of Vision 2040 and the implementation of the National Development Plans significantly depends on a systematic and integrated approach to knowledge.



Ministry of Science, Technology and Innovation

The Ministry's mission is to provide leadership, an enabling environment and resources for scientific research and knowledge based development for industrialization, competitiveness and employment creation leading to a sustainable economy. This goes very well with the principles and objectives of the Knowledge Partnership as a multistakeholder-platform for dialogue and cooperation and the ministry will be an major player in the implementation of the Ugandan Knowledge Agenda.



Makerere University Business School

Makerere University Business School is the leading provider of Business and Management education that facilitates professional development, promotes Entrepreneurship and Leadership in the region. Knowledge Management is a relevant research project and together with knowledge.city and Knowledge for Development Partnership a competence centre for knowledge management and knowledge-based development is currently being established.



Austrian Development Agency

ADA is co-funding the activities of knowledge.city and Knowledge for Development Partnership in Uganda to build capacities and infrastructures for a sustainable knowledge economy and society. ADA is the operational unit of the Austrian Development Cooperation with a long-standing strategic focus on Uganda.



Centre for Research in Energy and Energy Conservation

CREEC is a knowledge-based organisation established at Makerere University. With its research and its knowledge centre CREEC provides practical knowledge for the advancement of renewable energy in Uganda. It has been an active partner of K4DP from the beginning and driving force for the Ugandan Knowledge Partnership. We believe that knowledge is the key resource for Uganda's development.



Mandulis Energy Ltd.

Mandulis Energy is a developer of renewable energy projects in emerging markets. We started in Uganda, where our pilots are operational. We develop both on-grid and off-grid power projects. Knowledge is our core resource and working in partnerships makes us stronger – as a company and as a country. We are committed to the K4DP and to the Ugandan Knowledge Agenda.

