TheScinnoventCentre
SCIENCE, INNOVATION AND ENTERPRISE

STRATEGIC PLAN 2013-2017

Science, innovation & enterprise in Africa

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List of Abbreviations

EAC	East African Community
GMOs	Genetically modified organisms
ICTs	Information and Communication Technologies
M&E	Monitoring and evaluation
NGOs	Non-governmental organizations
PMR	Progress Monitoring Reports
R&D	Research and Development
RTSC	Regional Technical Steering Committee
S&T	Science and Technology
SME	Small and Medium Enterprises
SSA	Sub-Saharan Africa
STI	Science, Technology and Innovation
YPASTE	Young professionals in agriculture, science, technology and engineering

1 Why Do We Care? A Message of Commitment

As young boys and girls, we grew up doing the ordinary chores including herding the family livestock (goats, sheep, donkeys, cattle); accompanying our parents to the farm (ploughing, weeding, harvesting), fetching water and firewood and other such duties characteristic of African village life. We would wake up in the wee hours of the morning to accompany our parents to the farms, then by six in the morning run to school. That was three decades ago…

Three decades ago, each family would be having an average of 10 – 15 heads of cattle; about 20 sheep and a similar number of goats and a few donkeys. Each household would have about 6 oxen for ploughing and we could harvest up to 15 sacks of maize, three granaries of millet; about 4-5 sacks of beans and two or so sacks of cowpeas – all from the same piece of land. Streams of clean water flowing were a common site; forests were dense and firewood was plenty. Food was adequate and variety and diversity was not in question.

A short three decades later, most of these things remain only in distant memory. In the same villages, you would be lucky to find a household with just three heads of cattle. Goats and sheep that were plenty are fewer in number. The site of three or more traditional granaries per homestead has all but disappeared. Rivers have dried up and if not, then they are heavily polluted, forests have been depleted, the soils are barren and badly degraded and some of the traditional vegetables have gone extinct. This situation is repeated in several villages across Kenya, the wider East African region and perhaps across the African continent. You ask anybody who grew up in the rural areas and the story is always the same – across counties, regions and even countries – poverty levels have increased; environmental degradation has worsened; the ecosystem has become more fragile; sustainability has been compromised and livelihoods threatened.

The irony is that over the same period, sophisticated scientific and technological tools intended to address the same problem have been developed. Tremendous progress has been made in in biotechnology and genomic sciences; there has been renewed emphasis on green technologies to address climate change and environmental degradation; uptake of information and communication technologies (ICTs) has increased. However, these scientific and technological advancements, the huge investments in research and developments; changes in policy approaches and other high-level initiatives seem to have had very little impact across the rural villages. So the big questions remain: why have the developments in science, technology and innovation not made any significant difference in the lives of the rural communities? How come our rural spaces have become worse off despite the strides we make in the development efforts? Why have STI policies not translated into practical change on the ground? How come pockets of success piloted across rural villages have not scaled?

We know more today than we did 30 years ago; we have better tools than we did 30 years ago; we have a better trained and better skilled population today than we did 30 years ago. So why are we hungrier? Why is a larger percentage of our populations still faced with starvation? Why

is our environment getting worse despite the new knowledge, skills and tools to address the problem? Why are our people still dying of treatable diseases?

These questions are at the core of the Scinnovent Centre's approach and existence. We believe that there's a gap between the developments in STI and the translation of these developments to practical action that can bring meaningful change to the lives of rural communities. We believe that a lot of good new knowledge is being generated in the research community but this knowledge means little to those who need it the most – the rural communities, the business communities and decision-makers. We believe that decision makers are detached from the people whom their decisions/policies affect the most. We believe that the knowledge, resources, ideas and commitment we need to bring change to our communities already exist within these same communities.

Our starting point is that there already exist a great deal of science, technology and innovation out there in the universities, research centres, amongst communities and even in the international sphere.

However, a majority of this science, technology and innovation is not being translated into practical solutions for societal problems. As a result, the good STI developed either through modern R&D techniques or traditional knowledge refined through many years of application and adaptation by communities sit idle in the laboratory benches, library shelves or is tacitly held in the heads of individuals. The undesirable outcome is that those who need the STI the most (whether these are rural communities, business entities, other researchers/innovators or decision-makers) don't use it.

Our underlying assumption is that those who need the science, technology and innovation the most do not apply it because:

a) They don't know about it
b) They don't know what to do with it
c) They don't know how to use it
d) They don't have the resources to translate it into action
e) There's no market (demand) for it

The primary goal of the Scinnovent Centre, therefore, is to link the ends (societal needs) with the means (science and technology-enabled innovations). We hope to be the bridge that closes the gap between advancements in research in science, technology and innovation on the one hand, and the deepening rural poverty on the other. We hope to marshal the resources, knowledge, technologies, skills and tools available in our research centres, universities (both nationally and internationally) and help rural communities, businesses and decision-makers translate these knowledge, technologies and skills into practical action that changes lives. We hope to close the gap between decision-makers and the people whose lives their decisions impact. Finally, we hope to inculcate the entrepreneurial mind-set and attitudes amongst our young scientists and innovators.

In so doing, we shall tap into the drive, enthusiasm and creativity of our young professionals and encourage and facilitate them to champion the application of STI to address the challenges in our society. We shall proactively harness the vast traditional knowledge within these rural communities and fuse it with the modern scientific knowledge for better livelihoods in our society. We want to be the champions of rural transformations in Africa through science, innovation and entrepreneurship. **Please join us in this journey.**

2 About The Scinnovent Centre

Who we are

We are a non-partisan, non-political policy research and training Centre incorporated in Kenya as a not-for-profit company. We work around the synergies between science, technology and innovation and entrepreneurship and focus on the creation of value (financial and non-financial) from science, technology and innovation (products of R&D) and finding sustainable frameworks for their applications to solve societal problems.

Our work focuses on three main themes namely: (i) **Policies and legal frameworks** that influence the creation of value from science, technology and innovation (ii) **Institutional and behavioural change** including the rules, norms, attitudes and mindsets and (iii) **Competencies and Capabilities** i.e. the skill sets – including the technical, organizational and managerial skills - required to turn science, technology and innovations into businesses and social enterprises

Our **core objectives** are to (i) facilitate interactive and joint learning; networking and dialogue (ii) strengthen skills and shape attitudes and mindsets; and (iii) generate evidence to support policymaking and implementation.

Our vision

To be the leading policy research and training Centre linking science, innovation and enterprise in Africa.

Our mission

To equip young professionals, end-users and decision-makers with the knowledge, information, tools and skills that enhances their capabilities for innovation, decision-making and wealth creation.

Our motto

Linking the ends (societal needs) with the means (science, technology and innovation) through business and social enterprise models

Our history

The history of the Scinnovent Centre can be traced back to late 2007 starting with a group of young African post-graduate students undertaking their doctoral studies in the diaspora (Europe, Asia, New Zealand and North America) who were concerned about the potential contribution that the young professionals could make to African development. The group held several brainstorming sessions, discussing how the training and knowledge they were gaining could be channelled to bring change in Africa. These discussions repeatedly highlighted the limited opportunities available to the youth and young professionals to contribute to contemporary developmental and policy debates.

Similarly, the group recognized the challenges faced by their colleagues back in the continent including limited publication outlets; inadequate business networks and professional contacts; limited networking opportunities and the need to enhance scientific and non-scientific competencies of young African researchers.

The group was further concerned that despite the advances in science, technology, innovation and engineering, rural poverty seemed to be worsening and there appeared to be a widening gap between the generation of knowledge and its application to create the much needed change in people's lives.

Following several online meetings/discussions held using skype calls; emails; facebook and teleconferencing; several options came up but thoughts coalesced around forming a "research/working group" to allow for continuous interactions/experience sharing. Members also resolved to continue working in a loose association harnessing the powers of information and communication technologies.

In early 2010, after operating in loose association sharing information and exchanging ideas with colleagues back in the continent, a decision was reached to concretize the "research/working group" into a viable institution that can champion the issues/concerns identified by the members. Finally in 2011, The Scinnovent Centre was incorporated in Kenya as a not-for-profit, non-partisan organization dedicated to policy research and training linking science, innovation and enterprise.

Our governance structure

The Scinnovent Centre has three levels of governance and decision-making:

The Secretariat headed by the Director assisted by a lean team of professional and support staff. The role of the Secretariat includes the day-to-day administration of the Centre's programmes; providing leadership and coordination to the programmes; spearheading resource mobilization including staffing and infrastructure; developing new programmes; initiating and managing collaborations and partnerships with other organizations and stakeholders; initializing and executing advocacy and public outreach activities and monitoring progress of programmes. The Secretariat organizational/management structure is shown in figure 1.

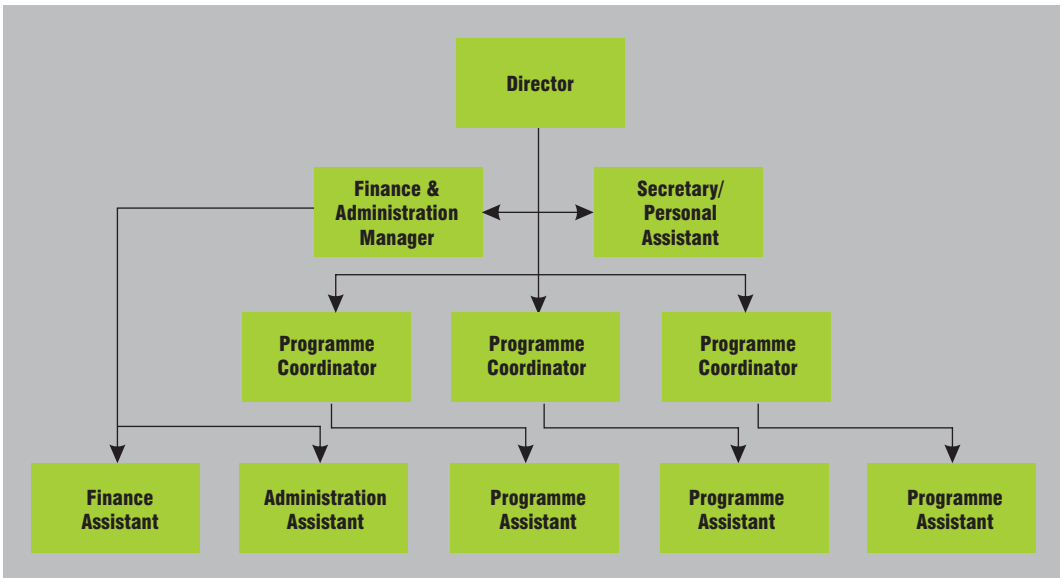

Figure 1: The Secretariat Structure

The **Regional Technical Steering Committee** headed by a chairperson elected from amongst its members, the RTSC is responsible for program quality and focus. They provide quality assurance to the Centre's programmes and are involved in monitoring and evaluation to ensure that the programmes meet the international standards in quality and rigour but also help the Centre's management in tapping on-going national level or regional debates on science and technology thereby ensuring that our programmes have local relevance and address real needs of the stakeholders.

The **Advisory Board** responsible for policy and administrative oversight. The Board consists of senior experts and specialists in the Scinnovent's thematic and programmatic areas whose ideas, contributions and devotion to science, technology, innovation, and entrepreneurship have inspired the work of the Centre. They are a people whom the Centre looks up to for advice, coaching and mentorship. They are leading thinkers in their fields and their contribution to knowledge has shaped thinking, policy and practice. They have international exposure and constitute "Scinnovent ears and eyes" on changes and developments in the international landscape. They point out new initiatives which Scinnovent could learn from, hook up to or build alliances with. They give advice on the overall management and strategic direction of the Centre.

Our target audience

Our target audiences are organized into five broad communities: (i) the young professionals community (young professionals in agriculture, science, technology and engineering (YPASTE); (ii) the rural communities (particularly smallholder farmers, fisherfolk and pastoralists as end-users); and (iii) the policy community (including policymakers, analysts and implementers) (iv) the business community (including business leaders and industry practitioners) and the R&D community (including researchers and research managers).

The young professionals' community includes agriculturalists, scientists, technologists, innovators, entrepreneurs, engineers and researchers who are aged between 18 – 40 years. They constitute the larger percentage of the population (upto 70 % of Africa's population is below 30 years old) and are better educated and have access to better scientific and technological tools. Yet, despite their big numbers, their potential and competencies have not been fully tapped for development. They are ill-equipped for leadership roles that await them; their attitude towards entrepreneurship and employment creation has been questioned; though often highly skilled in technical fields, their non-technical (enabling) competencies are wanting and they have limited professional and business networks.

We support these budding professionals unlock their potential by (i) providing a platform that supports continuous, interactive learning and exchange of ideas (ii) offering tailor-made training in skills and methods that enhance their capabilities for innovation (iii) providing opportunities for mentorship in business/entrepreneurship; scholarly research and leadership.
The rural communities comprise of smallholder farmers; fisherfolk; artisans, pastoralists etc. In most cases, these rural communities are marginalized and voiceless in determining the focus of R&D agenda (demand articulation) and are often detached from the science, technology and engineering knowledge produced in research centres (access).

Because they are not organized, their voices are rarely heard in policy debates. As a result, they fail to harness the opportunities afforded by advances in science, technology and engineering and the policy initiatives hardly address their real needs. Our focus on these rural communities has a twin objective: (i) close the gap between decision-makers and rural communities by

facilitating interactions and dialogue and (ii) strengthening local voices - empowering the communities to demand for services by ensuring they have an organized and united voice, and providing them with the necessary skills, tools that enhance their participation in policy dialogues.

The policy community comprises government departments, legislators and state leaders as well as (in some cases, political parties, interest groups and lobbyists). This community have the onerous task of designing and implementing policies from competing interests and limited resources. To support their decision-making, we provide them with evidence-based options derived through objective, in–depth (policy) research and analysis. We shall also support them by translating scientific results from peer reviewed journals and making them accessible in easy-to-read, easy-to-apply formats.

The business community comprises business leaders; industry practitioners, budding entrepreneurs. Their links with the R&D establishments are often weak leading to sub-optimal tapping of inventions/R&D products from the R&D institutes. Besides, sometimes their preferred intellectual property models such as trade secrets are inconsistent with IP appropriation strategies of the R&D institutes which largely rely on patents and publications. While our research programmes inform their decision-making; we also tap into their skills, networks and experience to support the young professionals in science, innovation and entrepreneurship.

The R&D community generate innovative products most of which hardly get beyond the laboratories and libraries. As a result they don't translate into money (wealth creation) but at the same time they don't impact the lives of those who need them the most – the rural poor. This situation leads to innovation pile-up, clogging the R&D pipelines resulting in wastage, duplication and demotivation for the researchers. We provide an outlet for these R&D products by linking them to the end-users resulting in wealth creation and meaningful impacts on human development.

Our core principles

As a not-for-profit, non-partisan organization, our work has public interest as its focus and even though we necessarily have to engage with other stakeholders, clients and sponsors; we maintain intellectual independence that ensures objectivity in our work. Our programmes are designed in consultation with a wide range of stakeholders and we maintain close interactions with these stakeholders during implementation to ensure the practicality of our recommendations. Quality, rigour and relevance are our defining features and within the Centre's scope of operations; these attributes are defined as follows:

Quality

We strive to ensure that all our research programmes contribute to advancing wider knowledge and understanding about the policy, practice, or theory of development. To achieve this, we have instituted a rigorous research quality assurance process and our multi-disciplinary approach enables us to conceptualize the research from a wide variety of perspectives, draw on different theoretical foundations and synthesize our analysis and conclusions into a coherent whole.

Rigour

We strive to ensure that our research makes only credible claims by generating enough evidence to justify the conclusions we reach, while demonstrating that the evidence has been obtained properly (ethically), and that any evidence to the contrary are unconvincing.

Relevance

Our work focuses on real world problems affecting young professionals, rural communities and decision-makers. We strive to offer practical options and advice that contributes to our overall goal of enhancing capabilities for innovation, decision-making and wealth creation.

3 The Context & Our Strategic Intent

The Scinnovent Centre is entering the scene at a time when there is a changing social context for science, technology and innovation policy in Africa. These changes are witnessed at the scientific and technological front as well as in the socio-cultural arena. They include organizational, institutional as well as governance changes. As science advances and its influence on society increases, the structure of the society and its culture, demands, preferences and ability for self-mobilization are also undergoing dramatic changes.

At the scientific and technological front, we are witnessing new technologies that are increasingly enabled by 'basic science' for example biotechnology, information and communication technologies (ICTs) and material science. These platform technologies are transforming conditions for material production leading to hitherto unprecedented levels of productivity. At the same time, there's an increasing shift towards 'customization' of production and this is quickly replacing mass production. From ringtones on cell phones to jerseys, there's more attention to the products being customized to individual tastes/needs. Thanks to globalization, the resources to achieve such level of customization can be obtained from anywhere in the world.

New technologies are enabling innovation in ways that were unimaginable just a few years ago. In the internet, we are witnessing the emergence of virtual products being traded in novel ways that change the conceptualizations of markets and opening up new trading opportunities. The advances in science and technology (particularly, ICTs) have also placed more power in the hands of consumers and we are beginning to see more of user – and user-driven innovations as opposed to the producer-driven innovations that has characterized innovation for a long time. Young techno-savvy innovators are harnessing the benefits of these technologies to develop software applications that are transforming lives in grand ways. Slowly but surely, a new society is emerging aided by new science and technology.

These changes present opportunities as well as challenges that call for, at a minimum, a rethink of the set of policies and programmes required to harness the advances in science, technology and engineering and manage the risks associated with such advancements to ensure equality in distribution of benefits and ecosystem sustainability.

At the socio-cultural front, the impact of science and technology is manifested through modifications of social behavior and the choices available to individuals. For example, advances in reproductive health sciences, biotechnology and genomic sciences enable people to identify, perhaps change the sex of their unborn children. Such technological possibilities are challenging the long-held societal norms and beliefs. Those opposed to genetic modification and its possibilities argue that such advances in science are compromising the uniqueness and integrity of human life.

We are witnessing a constant struggle between the 'experts' and the citizenry and depending on how the debates are handled, the benefits and/or risks are sometimes overlooked and sacrificed at the altar of vested interests and unfounded fears.

The advances in science and technology are re-shaping the industrial age social constructions for example, spatially, there's very little difference between rural-urban spaces. Innovations such as mobile money transfer (such as Mpesa) and the unprecedented spread of mobile telephony, especially in Africa, reduces dependence on physical infrastructure such as banks and landline telecommunications. In terms of social organization, social technologies such as facebook and twitter (amongst others) have transformed possibilities for shared experiences and managing collective action. Recent political uprising in several countries are a testimony to the powers of ICTs in organizing and managing collective action. Decision-making and socialization have moved from physical meetings to virtual spaces.

Knowledge economy is taking root but knowledge management remains a challenge: Increasingly our societies are organized around the availability and manipulation of knowledge. As the World Bank (1999: iii) notes, "economies are built not merely through the accumulation of physical capital and human skills but on a foundation of information, learning and adaptation. Because knowledge matters, understanding how people and societies acquire and use knowledge – and why they sometimes they fail to do so, is essential to improving people's lives, especially the lives of the poorest." This quote underscores the importance not just of the amount of knowledge available to people and societies (even though this is critically important), but moreso on how every society/ community generates, applies, stores and shares knowledge. This emphasis points to the importance of understanding knowledge management and appropriation strategies available to communities and ensuring that the society and communities derive maximum benefits from their stock of knowledge

Innovation is happening everywhere but challenges remain in managing innovation in ways that enhance wealth creation. Innovation often involves interactions between different actors and is influenced by the institutional context. As such, understanding the various forms of formal and informal interactions and their influence on innovation is key. Various organizations, firms and other actors use various forms of partnerships, collaborations, alliances to achieve innovation goals.

Stimulating innovations requires understanding the organization of these collaborations, their constraints and opportunities. Similarly, managing innovation processes means understanding and managing relationships within partnerships, collaborations and alliances. There's as yet little understanding of innovation and innovation processes in African industries and yet developing appropriate policies to promote innovation requires appreciation of the processes and models that are relevant to the African industries, particularly the small and medium enterprise (SME) sectors.

African governments are beginning to take science and technology seriously but a lot more remains to be done: In many countries, governments are beginning to pay real attention to the importance of science and technology in economic development. Investments in S&T are still low, the density of scientists and engineers are still below threshold levels in many countries and the outputs of S&T, measured in new inventions, innovations, patents or publications are still far behind other regions. Yet, in the recent years there has been increased focus on science and technology policies in many countries; the long-term development plans such as Kenya's vision 2030 are increasingly anchored on science, technology and innovation; and a number of countries are beginning to put innovation infrastructure in place such as incubation centres

(Rwanda) and science parks e.g. Kenya's proposed Konza technology city. While still insufficient, these are indications that African governments are embracing STI and beginning to invest in it. Efforts must be maintained to nudge them to invest even more and this requires that the performance and progress and measured, tracked and monitored.

Equally important is ensuring that the public is carried along in this STI journey. Particular emphasis is required in ensuring that the private sector is looped in to take advantage of the governments' policy incentives to champion economic development. Similarly, there's need to nurture entrepreneurial attitudes amongst the young professionals to harness their innovations and create new business enterprises.

The youth constitute a great resource that remains untapped: Africa is the youngest continent with the youth aged under 30 years comprising where 70 per cent of the population. In SSA up to 70 per cent of youth live in rural areas. This generation is better educated; with more scientific and technological tools; better competencies. The bigger challenge is their attitudes towards entrepreneurship as well as the lack of networks and opportunities. For example the World Bank report titled: Youth and employment in Africa: The potential, the problem and the promise has noted that, "they [youth] have less capital in the form of skills, knowledge and experience, savings and credit and more difficult access to business networks and sources of information. Weak representation of young people in policy and decision-making is another issue. They lack the influence and the connection with representative business associations and networks that generally work on relevant government policies. Enhancing their capacity in association building and policy advocacy can address this disadvantaged position."

Regional integration is presenting new opportunities but S&T governance remains a sticking point. African countries are increasingly coming together into economic blocs and in some cases such as the East African Community (EAC), there are negotiations towards a political federation. This integration offers many opportunities including expanded markets, freer movement of goods and labour and cooperation in science and technology. Increasingly infrastructural and technological projects are taking a regional dimension.

The integration should result in cross learning and knowledge sharing amongst the participating countries. However, the internal differences within these countries mean that in most cases their national interests do not necessarily match regional priorities. Moreover, when countries take opposing stance on major development issues such as whether or not to adopt genetic modifications or pursue nuclear science a source of power, the governance structures for S&T face unprecedented challenges that may undermine trade, knowledge and technology exchange.

4 Our Strategic Response

In order to respond to these changes, challenges and opportunities, there's need for a strategic shift in emphasis and the Scinnovent Centre will pursue the following strategic shifts in response to the changing landscape enumerated.

Towards a stronger focus on STI policy implementation and impact analysis: this shift is motivated by two key observations including (i) that policies undergo changes during implementation whereby policies get modified, and interpreted in various ways; and (ii) that while many governments have good policies (at least on paper), implementation of those policies remain a big challenge. While in most cases there are resource constraints, many analysts have also pointed out problems with accountability, participation and lack of incentives to draw on available evidence during policy implementation. Some commentators have also argued that the government officials at the local levels are often ill-equipped with the capabilities required to implement these policies. While the Centre will continue with efforts at influencing policy and decision-making; we shall also accord due attention to the implementation of the policy processes and draw out lessons that would help countries avoid implementation failures.

Towards a greater emphasis on shaping attitudes and mind-sets: This strategic shift in emphasis is motivated by the observation that while a person may have the competencies required to innovate, create wealth or change policies, that does not mean that the person will have the desire (attitude) to do so. Whereas the focus on training gives us the ability to perform (competencies), the changes in attitudes give us the desire to perform. The higher education sector is churning out graduates with relevant competencies (in agriculture, science, technology and engineering) but the question as to whether they hold the right attitudes towards entrepreneurship, innovation and wealth creation remains unanswered. At the same time, scientific breakthroughs have led to improved crop varieties, water purification techniques, safe reproductive methods etc but the attitudes, cultural preferences have hindered active uptake of these technologies. Our advocacy programmes are designed to shape the attitudes of Africa's young professionals and rural communities towards self-reliance, entrepreneurship, job/wealth creation.

Towards greater emphasis on citizen participation in STI governance and policymaking: Democratic governance is beginning to take shape in many African countries creating greater opportunities for citizen participation/engagement in policy processes. In many of these countries, such as Kenya, citizen input into major policy debates/processes is now a constitutional requirement. For the citizenry to have informed participation into these debates/processes, they need to have an "organized voice" and efforts need to be made "to turn up the volume" of their voices to be heard in such processes. Policymaking being a negotiation between different interests, different approaches and different emphases, there's need to equip the citizens with participation skills as well as ensuring that those charged with facilitating such participation are well trained in multi-actor processes geared towards generating a negotiated policy focus regarding emerging development challenges.

5 Strategic Objectives

Our strategic response leads to three interrelated objectives (see figure 2) namely:
Facilitating interactive learning, networking and dialogue: Interaction allows actors to learn new things, new ways of doing things and different ways of organizing to achieve better results. From these interactions emerge better ideas, formation of new partnerships and sharing of experiences. Our programmes focus on promoting dialogue and networking amongst different end-users and decision-makers. We facilitate and promote dialogue and networking in three broad categories: (i) Linking multiple scientific/professional domains e.g. connecting social and natural sciences; intra- and trans-disciplinary collaborative teams (ii) linking institutions/networks/consortia from different backgrounds and orientations e.g. non-profits, private sector, civil society, public policy etc (iii) linking young professionals, rural communities and decision-makers from across geographical regions e.g. from different African countries; north-south and south-south collaborations/networking.

Strengthening skills and shaping attitudes: Innovation and wealth creation are anchored on the ability of actors to adapt to a continuously changing environment. In order to compete, young professionals, end users and decision-makers need to constantly learn new skills and update their knowledge bases. The emergence of new technologies, new methods, new processes, new policies and a changing business climate produces new challenges and opportunities that make capability building an ever present need. We collaborate with national and international partners (particularly R&D actors; universities and other training institutions) to conduct relevant, tailor-made training aimed at strengthening both individual and institutional capabilities.

At the same time, we recognize that strengthening skills alone is not enough. We also need to inculcate the culture of creative thinking, innovation and entrepreneurship amongst our young professionals and end-users. We seek to shape these attitudes and mind-sets through (i) attitude formation resulting from continuous exposure and interaction with successful innovators and entrepreneurs (ii) positive reinforcement including recognition and rewarding of excellence (iii) persuasive communication – reaching out to each segment with the right messages, right content and in the desirable formats.

Generating evidence to support policy and decision-making: Policies and decisions that support innovation and wealth creation must rest on a solid foundation backed by concrete evidence. To achieve their intended impacts, such policies must be implemented, monitored and their impacts evaluated. Lessons learnt from such monitoring and evaluations are critical in making adjustments and avoiding similar mistakes in future.

Our research programmes aim to generate credible, defensible and coherent policy research and analysis that can guide public policy and practice.

Our research design and methods are founded on strong theoretical foundations; informed by

the existing problems; attuned to the local contexts and taps into the local/traditional knowledge and wisdom of the various actors to ensure that the recommendations are implementable. We keep to high standards of integrity, ethics and rigour, and our research is always open to public scrutiny. We are dedicated to improving the quality and significance of scientific research results in advancing knowledge, providing appropriate guidance policy and decision-making and achieving development impacts.

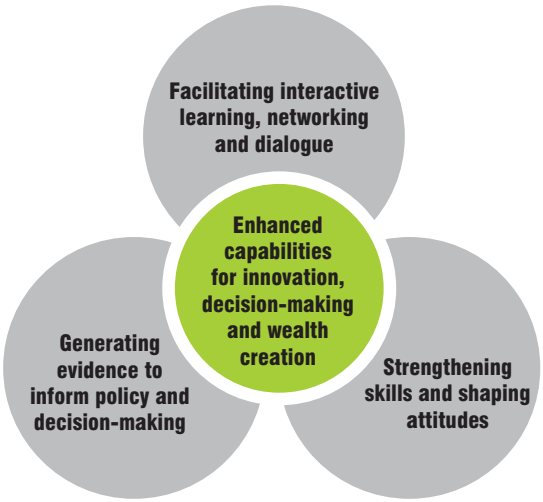

Figure 2: Inter-related Strategic Objectives Framework

6 Programmes

To achieve its goals, the Centre's programmes, projects and activities are organized along the three strategic objectives.

6.1 Strategic Objective 1: Generating Evidence to Support Policy and Decision-making

There are two thematic programmes and two cross cutting programmes under this objective. The thematic programmes include: (i) Agricultural Innovation and food security; (ii) Health Innovation and healthcare delivery. The cross-cutting programmes include: (i) Intellectual Property and Knowledge management and (ii) Entrepreneurship and Governance. Figure 3 below shows the relationships between these thematic and cross-cutting programmes. Brief explanations and specific projects under each are provided. Figure 4 shows our results-focused strategy which relates the programmes to the activities, outcomes, target audience and intended impacts.

Figure 3: Key Programmes

6.1.1 Thematic Programme 1: Agricultural Innovation and Food security

Several analysts have attributed the failure of the African continent to feed itself to the inability to harness the power of science and technology to spur innovation and transformation of the agricultural sector. As a consequence, in many African rural villages poverty levels have increased, environmental degradation has worsened, the ecosystem has become more fragile, sustainability has been compromised and livelihoods threatened.

At the same time, there have been new scientific and technological advancements in biotechnology, ICTs and renewable energy aimed at easing the poverty burden. This begs the questions: why have the developments in science, technology and innovation not made any significant difference in the lives of the rural communities? How come our rural spaces have become worse off despite the strides we make in the development efforts? Why have the policies not translated into practical change on the ground?

As part of our programme on agricultural innovation and food security, we shall marshal the resources, knowledge, technologies, skills and tools available in research and development centres, universities as well as industry and help rural communities translate these knowledge, technologies and skills into practical action that changes lives. The following projects are proposed under this thematic programme:

Project 1: Promotion of sustainable cultivation, conservation and commercialization of edible insects for improved health and nutrition security.

Hundreds of insect species have been used as human food, including grasshoppers, caterpillars, beetle grubs, winged termites, bee, wasp and ant brood (larvae and pupae) as well as winged ants, cicadas, and a variety of aquatic insects. The consumption of these insects is widespread in Africa, Asia and Latin America.

Research has shown that insects are a key source of proteins, vitamins and some minerals and provide even more calories than corn, chicken or beef. Some studies have also shown that the nutritional and calorie content of these insects could be quite helpful to pregnant women, lactating mothers and young children. It has also been reported that some edible insects also have medicinal properties for example, grasshoppers are reported to help in fighting of avitaminosis and honey ants can help prevent fever etc.

This project will address the very complex relationships between nutrition, health, food security, natural resource management, innovation, entrepreneurship and policy change. Its overall objective is to address the nutritional challenges facing rural communities, particularly HIV/AIDS patients, pregnant women, lactating mothers and young children by promoting the sustainable cultivation, conservation and commercialization of edible insects.

Specifically, we shall:

(i) Address the numerous problems associated with seasonality of the insects; habitat degradation, climate change, perishability, cultural biases/nutritional preferences/lack of awareness.

(ii) Focus on value addition; post-harvest technologies; sustainable harvesting technologies and sustainable cultivation/propagation to ensure availability;

(iii) Emphasize training and sensitization including information on the nutritional values and developing small scale enterprises and strengthening rural innovation and institutions

Project 2: Innovation in Low- and Medium Technology Agro-based Industries

Much of the literature on the innovative behavior of industries has been disproportionately focused on the activities of the hi-tech (HT) firms with low interest in studying the low and medium technology (LMT) firms. This situation has been largely attributed to the imminence of the linear model of innovation that emphasizes the scientific content of technological knowledge applied in firms. This linear model focuses on formal R&D as the source of innovation and neglects the vital role played by other activities and behaviours such as design, training and the use of advanced machinery and tools (Santamaria et al, 2009).

Yet, studies have also shown that unlike in HT industries, innovation in LMT industries involves internally experimenting with and adapting technologies and learning that are not necessarily rooted in formal R&D (Santamaria et al, 2009). This observation recognizes that innovation goes beyond the formal R&D and is further supported by a broader conceptualization of innovation as the "the search for and discovery, experimentation, development, imitation and adoption of new products, new processes and new organizational set-ups" (Dosi, 1988:222). Similarly studies have shown that innovation in LMT is not usually the result of the latest scientific or technological knowledge; instead it is often based on transforming the general stock of knowledge into economically useful knowledge (Bender and Laestadius, 2005). They further note that in LMTs, the main platform for innovation processes is not technological knowledge, but creativity and innovation-enabling capabilities, which are related to the abilities required to identify and assimilate the potentially relevant knowledge and translate it to fit specific conditions of the firm. The specific objectives of this project include:

Objective 1: *To explore innovation mechanisms in agro-based LMTs beyond the conventional measures of formal R&D intensity*

Literature based mostly in the developed countries show that besides formal R&D, innovation in LMTs is driven mainly by design, use of advanced machinery/tools and training. This project will explore the extent of use/application of these key drivers of innovation in LMTs in agro-based low and medium technology firms.

Objective 2: *To explore how agro-based LMTs access innovations that are external to their boundaries.*

In addition to doing internal R&D, firms typically tap knowledge sources external to the firm through technological consultants, R&D outsourcing, cooperative agreements or hiring of qualified researchers with relevant knowledge (Arora and Gambardella, 1990) This objective will seek to understand how the LMTs have organized themselves to access such knowledge/innovations and their main sources of external knowledge/innovations. The project shall consider the use of contracting mechanisms, use of technology consultants and collaborations as examples of mechanisms employed by these LMTs

Objective 3: *Use the findings from these case studies to train small and medium enterprises (SMEs) and policymakers on innovation and business strategy*

This project will employ firm-level case studies, industry surveys and ethnography (firm/farm/factory visits) and will focus mainly on the:

i. Poultry industry
ii. Meat processing
iii. Fish processing
iv. Horticulture industry (fruits and vegetables)

6.1.2 Thematic Programme 2: Health Innovation and Healthcare Delivery

The enormous cost of health care, lack of effective drugs, high costs of medicine and lack of access to affordable drugs, weak health care systems, drug resistance and slow pace of behavioral change ensures that a huge proportion of the population are faced with the reality of early deaths from potentially preventable and treatable diseases. At the same time, recent reviews have shown that most of the African countries are unlikely to meet the health-related Millennium Development Goals (MDGs) and Africa continues to be weighed down by a huge and growing disease burden which undermines her quest for rapid and sustainable economic development.

Our programme on health innovation is a response to the need for a holistic approach to strengthening the healthcare delivery systems in Africa. It will address the linkages between health and development by focusing on policies and institutions; strengthening human (and institutional) capabilities; the generation and application of science, technology and innovation processes. While we shall generate and collate policy-relevant research on healthcare delivery and management, the program will have special emphasis on (i) strengthening the linkages, interactions and joint learning amongst the different actors in the healthcare sector and (ii) spearheading uptake and utilization of policy research outputs by the policymakers. The following projects are proposed under this thematic programme area:

Project 1: International Agreements and Health Technology Transfer to Developing Countries: Case studies of the Malaria Vaccine Initiative in Kenya and Tanzania

The transfer of technology to developing countries has been a topic of scholarly interest and foci of development initiatives for decades. Developed countries' commitment to transfer technologies to developing countries is explicitly stated in the Trade-Related Intellectual

Property Rights (TRIPS) Agreement introduced in 1994 to provide new minimum Intellectual Property (IP) protection standards for WTO members. Article 66(2) of the TRIPS agreement states that: 'Developed country members shall provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country members in order to enable them to create a sound a viable technological base'. Similarly article 67 provides that: 'in order to facilitate the implementation of this agreement, developed country members shall provide on request and on mutually agreed terms and conditions, technical and financial cooperation in favour of developing and least developed countries'.

This project will interrogate the implementation/application of the provisions of article 66 (2) and 67 of the TRIPS agreement by carrying out a case studies of Vaccine clinical trials in Africa including the malaria vaccine initiative and other clinical vaccine trials. The project will cover the two East African countries where Malaria Vaccine Initiative Clinical trials have been conducted namely: Kenya and Tanzania. Wherever possible we will compare the impacts of the Malaria Vaccine Initiative with the African Malaria Network Trust (AMANET), a South-South collaboration initiative in malaria research and development. Some of the planned activities include: (i) *policy analysis* to interrogate how the national policies (particularly the IP policy, the industrial policy and the Science, Technology and Innovation (STI) policy) take/do not take account of the TRIPS provisions, particularly articles 66 (2) and 67; (ii) *Case studies of knowledge and technology transfer within MVI:* We shall interrogate the application or otherwise the provisions of the TRIPS agreement, specifically article 66(2) and 67 to the Malaria Vaccine Initiative clinical trials in East Africa. These case studies shall focus on human and institutional capacity building and technical/financial assistance (iii) *Capacity building for high-level policymakers and implementers on IP and technology transfer and public health and (iv) publication of policy briefs and guidelines.*

Project 2: Ethno-veterinary medicine, Traditional Knowledge and Intellectual Property Rights in Eastern Africa

Ethnoveterinary medicine refers to traditional animal healthcare practices. Poultry and small ruminants form the majority of livestock owned by the majority of rural communities. These communities occupy marginal areas where access to modern veterinary services remains a key challenge. As a result, the communities rely heavily on traditional animal healthcare practices. However, even though ethnoveterinary medicine is popular, accessible and affordable; it faces a host of challenges including lack of recognition in national policy; loss of biodiversity (ethnoveterinary medicine is heavily dependent on plants, herbs and shrubs); over-exploitation; climate change; bio-prospecting and bio-piracy as well as the loss of traditional knowledge through death of the TK holders and waning interest of the younger generation in TK and ethno-veterinary medicine.

With a strong focus on the Nagoya Protocol, (traditional knowledge; access and benefit sharing, community protocols etc), our project on ethnoveterinary medicine and intellectual property will:

> Assess the national policy environment (including IP policy, livestock policy, fisheries policies and STI policies) with respect to ethnoveterinary medicine with a view to highlighting the challenges, gaps and inconsistencies that may undermine the full utilization of the traditional animal medicine practices

> Identify the various forms of intellectual property rights protection accorded to traditional animal healthcare knowledge and assess their effectiveness, efficiency and shortcomings

> Conduct case studies on access and benefit sharing (ABS) between communities and bioprospectors/new sciences such as biotechnology. We shall give special emphasis to

traditional tools for ABS as well as any modern tools being applied in these cases. We shall document in detail, the successes as well as the failures of each case.

> Assess the effect of climate change on these traditional animal healthcare practices and how different communities are coping/adapting to the changes
> Highlight and document best practices in conservation and sustainable use of plants and forest resources being harvested as livestock medicine
> Empower the grass-root communities through training and awareness creation.
> Conduct trainings on value addition and commercialization of these traditional animal medicines in liaison with research institutes and universities.

6.1.3 Cross-cutting programme 1: Intellectual Property and Knowledge Management

The increasing technological complexity and knowledge intensity of production and competitiveness has focused attention to the important role of knowledge as a key resource in firms and organizations as well as to individual actors. The sources of knowledge, its generation, content and structure as well as how it is disseminated and utilized have thus become key concerns for organizations, firms and individuals. This growing importance of knowledge in development has elicited questions of equity and social impacts of intellectual property regimes on marginalized groups. There has been particularly fierce debate in the wake of advances in (agricultural) biotechnologies and the likely impacts of IPRs on the access to seeds, technologies and innovation by resource poor farmers. Our projects under this programme will focus on impacts of IPR regimes and knowledge appropriation strategies on marginalized communities (such as resource poor farmers), taking into considerations gender and social equity issues.

Project 1: Intellectual Property Appropriation Strategies in Industry, Universities and Research Institutes

There has been over-reliance on patents and publications as tools/mechanisms for knowledge transfer within the academia/university systems. Measurements of university's innovative performance have largely been influenced by the number and impact of publications arising from its scholars as well as the number of registered patents. Beyond these tools, universities are increasingly required to engage/interact directly with their stakeholders including firms, other organizations and communities.

This over-emphasis on patents and publications creates a number of problems including:

> This lack of focus on the various forms of IP that universities can use means that universities and policymakers have not paid attention to the existence of and need for the different models that go beyond patents and publications
> Lack of understanding of the various forms of IP used/required by industry means that a model of technology transfer/sharing based on patents and patent licencing from universities may not fit with the firms business models and in effect undermine the knowledge/technology transfer between universities and industry. Our proposed project will focus on four questions namely:

1. Whether or not more than one form of IP (patent, copyrights, open source and non-patented technical innovation) is exchanged at the same time i.e. whether universities and firms apply multiple methods of protection
2. Whether different forms of IP are used for different strategic objectives of the universities and industry e.g. knowledge transfer, competitive positioning, innovation, financial gain
3. Which forms of IP do universities and industries find more effective in conferring certain benefits?
4. Which forms of IP do universities and industries find more efficient to use i.e. they find less (market) obstacles when exchanging that form of IP?

Entrepreneurship has been shown to have beneficial impact on governance by encouraging decentralization of power as a result making both governments and markets function more efficiently. It helps to reduce the power of incumbents by increasing consumer options and facilitates the introduction of technological and organizational innovations into the economy. By so doing, entrepreneurship serves to pile pressure on incumbents (both governments and corporates) to improve the quality of goods and services provided.

At the same time, increased public engagement in decision-making helps to improve governance and regulation in general and of science and technology, in particular. Projects under this programme will:

(i) Examine the impacts of entrepreneurship on governance as well as interrogate the tensions between ordinary citizens and experts in the governance and regulation of science with a special focus on ICTs, renewable energy; nuclear power and biotechnology (particularly GMOs) and genomic sciences.

(ii) Explore how standard quantitative approaches to risk assessment influence environmental and technology policy decision-making and whether or not these approaches to risk assessment fully address citizen's concerns about the dangers inherent in these technologies.

(iii) Focus on the shift of regulatory power from the social science/policy domains to the production domain occasioned by the increasingly technical nature of the platform technologies such as biotechnology, nuclear science and material science and investigate whether such power shifts have led to tension between the social sciences/policy domains and the bio-physical sciences, and if so, how are such tensions manifested and how are they managed? What impact, if any, are such tensions having on service delivery?

(iv) Examine the institutional and organizational aspects and relationships amongst the different actors involved in governance of science and technology.

Our Goal: Enhanced Capabilities for Innovation, Decision-making and Wealth Creation

OUTCOMES What Are T he Results?	**Learning** - Knowledge - Attitudes - Skills - Abilities	**Action** - Practices - Behaviours - Social Action - Decisions - Opinions	**Conditions** - Changes in policy, economic, social and environmental conditions - Improved Healthcare
	Short	**Medium**	**Long**
OUTPUTS Activities & Participants	- Research - Training - Advocacy - Publications	- Building partnerships with local actors - Leveraging diversity of experiences - Plugging into relevant networks	- Young professionals - The Policy Community - The Rural Communities - The R&D Community - The Business Community
	Activities What we Do	**Strategies** How We Do It	**Target Audience** Who We Reach
PROGRAMMES	1. Facilitating interactive learning, networking and dialogue 2. Strengthening skills and shaping attitudes 3. Generating evidence to support policy and decision-making		
	OUR STRATEGIC OBJECTIVES		

Figure 4: Results-focused Strategy

6.2 strategic objective 2: strengthening skills and shaping attitudes

To achieve this strategic objective, the Centre offers a range of training courses aimed at strengthening the skills, sharpening the tools and re-orienting the attitudes of our stakeholders towards innovation, entrepreneurship and wealth creation.

6.2.1 Enhancing active engagement of women and young professionals in science, technology and engineering

It is estimated that women comprise more than 50 percent of the agricultural labour force in Africa, making essential contributions to the rural economy. Empirical evidence suggests that agricultural productivity in Sub-Saharan Africa (SSA) could increase by up to 20 percent if women's access to resources (such as land, seed and fertilizer) would to be equal to that of men. As such, efforts to close the gender gap in science, technology and engineering will generate significant gains for the continent. Similarly, Africa's youthful population remains an untapped resource. There's need to enhance the development of the younger generation of farmers, agri-entrepreneurs and scientists, through targeted policies and programs at regional, national and local levels. The young professionals need to be encouraged to participate effectively in the decision making processes that influence their profession and future.

This project will have three main components including:

(i) Socialization of science and technology: this component will be dedicated to understanding "the making of an African scientist". In other words, we'll be interested in understanding:

(a) The various actors and institutions that influence/shape career decisions of young children, young professionals and women scientists (i) whether these actors and institutions are aware of the extent of influence they exert on these young minds and (ii) how can the desirable influences be optimized/ undesirable influences reduced?

(b) The socialization arenas i.e. where does the influence (socialization process) mostly occurs? Are traditional places/spaces still desirable? What is the impact of ICTs on these traditional spaces e.g. what is the role of social platforms/technologies such as facebook/twitter etc? How are these being viewed by the youth? How can governments/decision-makers enhance/optimize the use of such alternative arenas?

(ii) Identifying, encouraging and rewarding excellence: this component will seek to reinforce excellence in science, technology and engineering and reward positive attitudes towards entrepreneurship, wealth creation and community involvement by the women and young professionals. Targeted competitions will be organized as well as study and exchange tours to showcase good practices that could influence other young professionals towards science, technology and engineering careers.

(iii) Mentorship, skills development and networking opportunities:
The potential of women scientists and young professionals is limited due to lack of opportunities to communicate and disseminate their research; lack of opportunities for mentorship; weak scientific and non-scientific capacities and limited networking opportunities. In our mentorship programme, we tap into the skills, networks and experience of renowned researchers, business leaders, policymakers, entrepreneurs, industrialists and other decision-makers to support women and young budding professionals in science, innovation and entrepreneurship. These renowned leaders help to guide the next generation of African professionals.

6.2.2 Strengthening both scientific and non-scientific competencies

While we appreciate the importance of the ability to conduct scientific activities, we also recognize that budding researchers need non-scientific skills to initiate, manage and carry out projects successfully to completion. Such non-scientific capacities (such as sourcing for research funds, forming collaborative/interdisciplinary teams, writing proposals and publications, public communications, research ethics etc) are often neglected but are critical to the expression and full utilization of the scientific capacities.

The following courses have been developed and will be administered throughout the strategic phase. Additional courses will be developed as demand arises and the current courses will be regularly reviewed to incorporate new insights and adjust to the ever-changing contextual realities. In this phase, the Centre in liaison with its partners will offer the following courses:

(i) Qualitative and quantitative approaches to science, technology and innovation policy research and analysis: principles, techniques and methods
(ii) Applying innovation systems and value chains analysis to science, technology and innovation policy research and analysis
(iii) Protecting and benefiting from your intellectual property rights (IPRs): A practical training course on "what you need to know" and "what you need to do"
(iv) The art of influencing policy and decision-makers: "what works and what doesn't"
(v) Getting published: "why was my paper rejected?" A scientific writing course for young researchers
(vi) Innovation and entrepreneurship for scientists and engineers
(vii) Writing winning grant/research proposals: a practical course for young researchers

6.3 Strategic Objective 3: Facilitating Interactive Learning, Networking and Dialogue

To achieve this strategic objective, the following programmes/projects and activities will be undertaken

(i) Linking R&D to the market through participatory social technologies: The use of participatory social technologies e.g. interactive web-based platforms (popularly known as web 2.0) that allow interactive learning have the potential of solving the problems of learning and access to knowledge between the R&D institutes and the productive sectors (end users). This project seeks to pilot the use of such social technologies to connect R&D to its market and promote interactive learning between the actors.

(ii) Consultative Workshops - "the breaking barriers series": The essence of these workshops is to bring together and facilitate dialogue amongst different sectors/professionals who ordinarily do not talk/interact with each other but who should learn from each other. They are intended to explore areas of complementarities between disciplines/professions and encourage new teams/partnerships between professionals with diverse backgrounds to solve societal problems. They are also intended to bring together people with various needs together with organizations and institutions that can solve their problems.

(iii) Facilitating public engagement: We shall create as well as use existing public platforms for our advocacy initiatives including the use of open forums and the media to engage with our audiences. Examples of open forum platforms include:

> Round tables, talk shows, issue-oriented policy debates
> City fairs, religious gatherings and other community meetings
> Training workshops

We also use the following media outlets:

> Radio/TV/magazines (news, expert interviews, documentaries)
> Video and documentaries
> Internet and social networking

(iv) Publications: Publications form a key tenet of our public outreach activities through which we share knowledge, making it widely available to our range of stakeholders. Our publications series include: Books; policy briefs; discussion papers; leaflets and posters in local languages; videos/documentaries especially for the illiterate populations and international/local peer reviewed journals.

Program Implementation Strategies

To succeed in implementing its programmes, the Scinnovent Centre will apply the following key approaches:

Building partnerships with local partners – For any research, policy or development initiative to make meaningful impact, it must be sensitive to local realities and utilize/strengthen/build on local power structures and institutions. We shall work through partnerships with local organizations who know best their local realities, contexts, institutional as well as political environments. The partnerships shall be negotiated and formalized through memoranda of understanding.

Harnessing and leverage diversity of experiences – The success of our programmes will require a variety of key competencies including but not limited to: technology development; entrepreneurship and leadership development; business incubation and development services; intellectual property/legal support and knowledge management; financing etc. As such, we shall work with a diversity of organizations including business incubators, universities and other research institutions; private sector actors, other NGOs etc.

Plugging into relevant networks – Lack of networks (professional as well as business networks) is a key challenge to most of young professionals who tend to operate in isolation. One of our key objectives would be to link our target groups to both professionals and business networks in areas such as engineering, science, agriculture, business and law. These networks shall provide us with a large pool of experts who can assist the young professionals with concept development, prototyping, and commercialization of ideas advanced by these innovators/inventors.

8 Monitoring Evaluation Framework

Regular monitoring and evaluation is key to tracking progress as well as learning lessons that allow for improvement and adjustment to achieve targets. The Scinnovent Centre will implement an M&E framework (see figure 5 below) that allows it to pick lessons quickly and adapt to changing situations and contexts as it implements its programmes. The strategic plan shall be split into annual work plans for ease of implementation and tracking.

There will be three types/stages of monitoring and evaluation including:
Six-monthly progress monitoring: Each programme will be subjected to evaluation every six months and the programme coordinators will be required to produce progress monitoring reports (PMR) detailing the activities of the past six months as well as setting out the plans for the next six months. These PMRs will be used for internal assessments and will help the Centre's management pick up any unforeseen challenges and adjust accordingly.

Mid-term evaluation: All programmes will undergo mid-term evaluation. This evaluation will involve external stakeholders and where possible will be conducted by independent consultants. This evaluation will advise if any major adjustments are necessary for the success of the programmes. The Centre's management will facilitate but not influence the outcome of such an evaluation.

Final evaluation: There will be a final external, independent evaluation of all the Centre's programmes. The consultants for this evaluation will be selected in consultation with the partners supporting the various programmes.

The Scinnovent Centre's Programme's Logic Model & Evaluation Plan

PROGRAMMES	**Inputs** *What We Invest*	**Outputs** Activities *What We Do*	Participants *Who We Reach*	**Outcomes** Short *What Are The Results*	Medium	Long
	- Staff - Money - Materials - Facilities - Equipment - Technology	- Research - Training - Advocacy - Publications - Workshops - Events	- Young Professionals - Rural Communities - Policy Community - R&D Community - Business Community	**Learning** - Knowledge - Attitudes - Skills - Abilities	**Action** - Practices - Behaviours - Social Action - Decisions	**Conditions** Changes in Policy, Economic, Social, Health and Environmental Conditions
	Monitoring & Evaluation Questions					
	- Were the inputs sufficient and timely? - Was the programme implemented as intended? - Were the inputs utilised efficiently?	- Did the activities occur as intended? - Did the activities achieve the intended outcomes? - Did the participants enjoy the activities?	- Was the target audience reached? - Were the channels used to reach them effective? - Who else was reached?	- Did knowledge increase? - Were attitudes changed? - Have the target gained additional skills?	- Have the programmes influenced decision-making? - Have we influence behavioural change? - Are the actors better organised	To what extent have the programmes made a difference in policy, environmental, social or economic conditions?
	Sample Indicators					
	- # of staff - $ invested - Delivery timetable - Efficiency and effectiveness of the inputs utilisations	- # of research projects - # of people trained - # of training courses - # of workshops - # of events - # of publications	- #, % attending workshops/trainings/ events - # of target audience reached - # of womean reached	- #, % changes in attitude, knowledge, skills and abilities	- Type of behaviours changed - New practices adopted - Evidence of +, - in social action - Evidence of influenced decisions	+, - changes in policy, environmental, economic, health and social conditions and other outcomes

Figure 5: Programme Logic Model & Evaluation Plan

9 Resource Mobilization & Sustainability Considerations

Dependency on donor funding undermines the long-term sustainability of not-for-profit organizations. Quite often when donor funding dries, the organizations risk folding up. Similarly when donor focus changes (in line with their priorities), many donor-dependent organizations are forced to abandon their programmatic goals and adapt to the new changes in the donor funding landscape. In order to make meaningful impact, the Centre will need to be assured of its long-term viability. Only then can it remain faithful to its policy and developmental agenda

In order to do this, the Centre will need to offer programmes, products and services which its clients (whether donors, private corporations, governments, organizations or individuals) are willing to invest in and pay for. We shall operate on a not-for-loss basis i.e. our programmes will operate at the break-even point guided by the principle of cost recovery or better i.e. generate surplus funds which can then be used to further some of the Centre's goals.

In order to operate on this basis, the Centre will provide two types of products and services:

One set of programmes, products and services will be of a "private goods" nature i.e. these programmes will be designed for the benefit of individuals, private companies and organizations. These clients will be required to meet the costs of these programmes, products and services. Such products could include (i) targeted training courses designed with specific clientele groups in mind or as demanded by certain clients; (ii) consultancy services to governments; private corporations; donors etc; (iii) contract research negotiated between different clients and the centre. Besides these "private goods" type of products, the Centre will endeavor to establish (iv) an endowment fund/trust through which to access/accumulate reserve funds from which to meet its fixed costs (such as staff salaries and related benefits; office expenses; capital equipment such as vehicles, furniture, computers etc; costs associated with governance e.g. board meetings, regional technical steering meetings etc;). The Centre will engage in (v) entrepreneurial activities (within the confines of the applicable laws) to generate additional income that will shore its capital base.

The other set of programmes, products and services will be of a "public goods" nature i.e. these programmes will be designed to generate products and services that are for public consumption. Because clients may not derive private benefits from such products; donors, foundations, charities, philanthropists, corporations (e.g. through their corporate social responsibility programmes) and governments will be expected to meet the costs of such programmes. Sources of revenue for such public goods nature activities include: core funding (non-tied) grants; project/programme funding (tied) grants; institutional administration and overhead fees.

10 Risks & Mitigation Measures

There are a number of risks that may undermine the successful implementation of this strategic plan. This section outlines some of these potential risks and how the Centre intends to deal with each and ensure that its success is not interrupted.

(i) Lack of adequate resources to implement the strategy: the donor funding landscape is becoming ever more unpredictable due to changes in the world economy and the likelihood that donors may not avail the anticipated resources to finance this strategy are medium.

Mitigation measure: the Centre appreciates the fluid nature of the current donor funding environment and will respond in the following ways: (a) we shall participate in research consortia, partnerships, collaborations and networks with other organizations, noting that proposals that demonstrate teamwork, collaborations have higher chances of funding than proposals that are developed/championed by single organizations. Such collaborations will be guided by mutual interests, similarity of philosophies and contributing to similar outcomes. (b) the Centre shall engage in contract research, consultancies, trainings and these will constitute additional income streams for the Centre. The Centre shall adopt a favourable consultancy policy that enables its in-house researchers to provide consultancy services to other organizations according to their expertise. Income from such consultancies shall be shared between the researchers and the Centre in an agreed ratio. The Management shall ensure, however, that consultancies do not undermine the fundamental research work at the Centre. In addition to consultancies and contract research, the Centre will mount training courses targeting various specific audiences and addressing real and felt/expressed needs. The trainees in such courses shall be expected to meet part of the training costs and these shall be used to meet the recurrent costs of such training (c) operating on a cost recovery or better basis. The Centre will ensure that all the programmes it engages in are offered on a not-for-loss basis i.e. all programmes will be offered only if there are resources to meet the costs for such programmes.

(ii) Spreading too thinly: Due to the challenges in the funding environment, organizations are sometimes forced to shift their focus to remain afloat. In effect, most organizations become jack-of-all-trades and specialists on none. As such the organizations attempt to fit their specialties in whatever area is in vogue and attracts the largest (or easiest) financing. The great risk in this approach is that while it may ensure survival (in the short-term), eventually the organizations make no meaningful contribution in any of the areas to claim specialty, and the impact of their work (over the long-term) remain invisible.

Mitigation measure: While this describes the reality facing nearly all donor funded organizations, we intend to remain focused in health and agriculture (as the main thematic programmes) and any other cross-cutting or emergent research topics will necessarily address these two sectors to attract our attention. We shall remain flexible to new and emerging issues but will insist that (particularly) in this strategic phase, there must be a clear link between

the new areas and either agriculture or health. This may limit our scope in the short term, but we believe it will result in meaningful impact over the long-term and give the Scinnovent Centre a lasting legacy in these areas.

(iii) Our clients are not enthusiastic/remain indifferent to our programmes, products and services. The bulk of our programming and activities are geared towards the public, even though some activities such as training, consultancies and contract research may address needs of specific clients.

Mitigation measure: We have sufficient reasons to believe that this risk will be quite low. In developing this strategic plan, we have consulted widely with the potential beneficiaries of our programmes, training and consultancies. We have engaged at different levels the young professionals, the decision-makers and the rural communities and we strive to ensure that our programmes address real needs as expressed by these client communities.

(iv) Inadequate Staffing: Policy research and analysis, especially in science, technology, innovation and entrepreneurship is not a common field in Africa and the specialists in this area are still few and far between. Will there be a challenge of attracting highly qualified professionals as researchers with training in policy and development? Secondly, retaining such highly trained professionals are likely to push up the administration costs through salaries and emoluments

Mitigating measure: we recognize that highly qualified professionals in science, technology and innovation policy are not in abundance especially in sub-Saharan Africa and that retaining them at the Secretariat may constitute a huge cost for the Centre. We have taken a deliberate policy of keeping a lean but highly professional secretariat (see organogram) and progressively use consultants, volunteers and interns as well as fellowships to execute some of our programmes. However, whenever such consultants/interns/fellows are used, the Secretriat have the final responsibility of ensuring that the quality, rigour and relevance of the work meets the high standards that define the Scinnovent Centre.

Our Capacity to Deliver

(i) The Scinnovent Core Team

The Centre has a young, dynamic and highly skilled workforce with keen passion and experience in science, technology and entrepreneurship. At the Secretariat level, this team consists of:

Dr. Maurice Bolo holds a PhD in Innovation, Technology and Development Policy from The Open University (United Kingdom) and has over 10 years work experience in the fields of science, technology, innovation and development policy. His work has centered on carrying out research and managing research processes; programme development, managing inter – organizational collaborative projects and coordinating multi-disciplinary research teams/working groups involving various nationalities, race and cultures. He has a wealth of experience in training and capacity building and facilitating multi-stakeholder processes. Dr. Bolo has written and published journal papers, books, technical reports, and international conferences mainly Innovation, Technology and Development Policy. His research work has focused more on agriculture and health analyzing innovation systems and management. His latest book "Learning and Innovation in Agri-Export Industries" published in June 2012 examines the role of partnerships, institutions and governance arrangements in building cut flower farmers' innovation capabilities

Dr. Lydia Olaka holds a PhD in Geology from Universität Potsdam, Germany and an MSC (Environmental Geology and Management) from the University of Nairobi, Kenya. Lydia has extensive experience in water resources conservation and management and her research worked has involved mapping and quantifying dynamics in water resources: in rivers, lakes and groundwater systems within the East African Rift, related to climate change and anthropogenic influences. Additionally, she has also carried out research in changes in land use and land cover and is interested in food security issues in sub-Saharan Africa, developing early warning systems that use multispectral satellite imagery.

Mr. Wycliffe Guya holds a bachelor's degree in education (science) from Egerton University, Kenya and has 10 years' experience as a high school teacher of Mathematics and Physics. He's currently an MSc student at Jomo Kenyatta University of Agriculture and Technology pursuing an Msc in Physics (Renewable Energy Option). He is due to conclude his research work on the "Effectiveness of clay as solar energy absorbers for domestic use". As a teacher, he has been responsible for career guidance and implored on his students on the importance of science in addressing societal challenges such as of energy requirements, environmental degradation and communication through inventions and innovation. Mr. Guya has also attended many in-service courses on the strengthening of teaching of Mathematics and Physics between 2004 and 2009 and has acquired a wealth of pedagogical skills in teaching science, mathematics and physics.

Mr. Stephen Ojwando holds a bachelor's degree in finance from Kabarak University, Kenya and is a CPA finalist. He has three years' experience in financial management, administration, budgeting, reporting to donors and advising programme departments on issues of financial concern with an emphasis on liabilities. Stephen has in-depth understanding of PASTEL EVOLUTION and SAGE PARTNER accounting software plus strong computer skills - MS-Office suite. He's also conversant with donor funding procedures (UNEP, The Dutch Government, The Rockefeller Foundation & EU Framework Coordinated Actions). He has a wealth of experience in grant administration including collecting and reviewing financial deliverables and initiating payment disbursements.

Ms. Dorine Odongo holds a B.Sc (Hons) in Botany and Zoology from the University of Nairobi and is currently pursuing a Msc. in Agricultural Information and Communication Management. She also has a post graduate diploma in Project Management from the Kenya Institute of Management. Dorine has over five years' experience in agricultural research, working with rural communities (particularly smallholder farmers) and carrying out surveys in the rural areas of Kenya. She has previously been involved in conducting farmer trainings on various topics, and has also served as a lecturer in the College of Agriculture and Veterinary Sciences at the University of Nairobi.

Mr. Collins Manyasi holds a bachelor's degree in Biology from the University of Nairobi and has three years working experience mainly in research, community development and marketing. He has recently completed a one year incubation program in May 2012, having worked as a program assistant with Skillnest Research Agency. Part of his work involved building capacity in research and education in universities, organizations, individuals and community support programs.

Besides this core team, the Centre engages consultants; research fellowships and internships to shore up its capacity as needs arise.

(ii) A unique network of young professionals in agriculture, science, technology and engineering (YPASTE)

The Scinnovent Centre is incorporated in Kenya as a not-for-profit, non-partisan policy research and training organization focusing on linkages science, innovation and enterprise. Apart from a dynamic secretariat headquartered in Nairobi, Kenya, the Centre boasts of a strong multi-disciplinary network of young professionals mainly in agriculture, science, technology and engineering. This network of young professionals draws its membership from several countries in sub-Saharan Africa.

The presence of our members in these countries and their affiliate institutions facilitates knowledge exchange and affords us the opportunity to tap into the vast pool knowledge represented by our members. Our members are affiliated to national institutions, government agencies and research institutes including institutions with mandates on agriculture, health and science and technology broadly.

(iii) Collaborating Partners

As part of our strategic orientation, we have emphasized on the need for collaborations and strategic partnerships with institutions pursuing similar ideals. We are in negotiations with a number of organizations spanning the scientific, technological and entrepreneurship domains. While these partnerships will be structured to ensure clarity, consistency and predictability of outcomes, we shall maintain flexibility to allow the inclusion/exit of partners as their skills/expertise is required for the success of the programmes.

TheScinnoventCentre
SCIENCE, INNOVATION AND ENTERPRISE

STRATEGIC PLAN 2013-2017

The Scinnovent Centre is a research and training Centre on science, innovation and enterprise. Our core objective is to respond to the needs of the end-users (including farmers, entrepreneurs, innovators) on the one hand; and decision-makers (including policymakers, technocrats, business leaders and industry practitioners) on the other hand, by providing the knowledge, information, tools and skills that enhance their capabilities for innovation, decision-making and wealth creation.

The Scinnovent Centre
Muhoho Avenue | Mugoya Shopping Centre | South C
P. O. Box 52486 - 00100 GPO, Nairobi, Kenya
Tel/Fax: +254 – 20 217 34 33 | Email: info@scinnovent.org
Website: www.scinnovent.org