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STAKEHOLDERS' CONSULTATIVE MEETING**

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**SENATE BUILDING**

**LEVEL 4**

**Positioning Makerere University as the Centre of Growth for  
National Development**

**Paper Presented to the Mini-Stakeholders Meeting  
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## Executive Summary

The transition to knowledge based economies and the increased use of Information Communication Technologies places universities and indeed higher education at the root of economic development. It has been established that investment in the fundamental areas of human capital development, research & innovations and the capacity to utilise generated knowledge through partnerships with communities within which institutions are placed is one of the avenues towards sustainable growth and development.

The university strategy focuses on three key pillars geared towards:-

1. A research led University;
2. Learner centred problem based instruction; and
3. Knowledge transfer partnerships and networking

*Focus on the Learner: Producing Graduates who are relevant for National Development:*

The shift from teacher centred to learner centred instruction is designed towards enhancing problem solving and versatility of the graduate produced. The strategy provides an intersection between the skilling of graduates as a critical factor for improvement of livelihoods, but also grounded in academic work to take forward knowledge frontiers through research and innovations.

*Research and Innovations: Placing the University at the centre of National Development:*

This research strategy encompasses three interlinked but distinct facets. It nonetheless brings together the core areas that define universities. These include knowledge generation, dissemination of research findings and capacity for utilisation of these findings to address societal needs and improve livelihoods.

*Knowledge transfer partnerships: Beyond the classroom, the interface between Communities and Academia:* Makerere University has enhanced community development through knowledge transfer partnerships and research initiatives. These have involved integration of community development modules or field attachment into the curricular. Staff and students from the various programs are engaged with communities for a considerable length of time. This not only enriches their preparedness to work in the communities after graduation but also directly contributes to service delivery in the communities as well as improving the community - university relationship

Some mileage has been realised towards implementation of the university strategy: The university has since 2010/11 been operating innovative projects under the Presidential Initiative for science and technology in three colleges namely: College of Engineering, Design Art and Technology (CEDAT); the College of Agriculture and Environmental Sciences (CAES); specifically the School of Food Technology, Nutrition and Bio-engineering; plus the College of Veterinary Medicine, Animal Resources & Bio-security (COVAB). Other knowledge generation initiatives through research have gone towards preventive, curative and management health innovations in areas such as HIV/ AIDS, reproductive and mental health in addition to degenerative diseases such as cancer. These have largely been realised through the collaborative research programmes such as the Makerere University Government of Sweden/SIDA

collaborative research linkages and the National Institutes of Health among others. The Institutional development Programme has been the source of meaningful financial support for research from friends and partners such as the Norwegian Government, the Netherlands Government under Nuffic, the Carnegie Corporation of New York and the Rockefeller Foundation, Bill & Melinda Gates Foundation and the Millennium Science Initiative to mention but a few.

The research dissemination process recognizes that these have to advance beyond the publications in academic journals to a research utilisation dictum that integrates the knowledge generation process with application of research results. The university therefore is moving towards enhanced dissemination of research findings.

These achievements provide requisite evidence of the University's position and the contribution it can make to national development. They also provide an opportunity to address to enhance the movement towards sustained growth. Prominent among such opportunities is:

1. Increase in research capacity by, modernising research laboratories, further re-equipping and refurbishing;
2. Development of ICT teaching capacity especially access to band width and e-resources;
3. Strengthening ties with the local government, the NGO world, the private sector and the public sector have to enhance internships and field attachments;
4. Bridging the gender gap especially in the science based discipline for students and higher academic ranks for staff and more female positions at executive level;
5. Developing a framework that will fully operationalise the University strategic direction of a learner centred university;
6. Public relations, communication strategy and networking at national level;
7. Establishing a mechanism for staff attraction, development and retention;
8. Evolution of the investment and resource mobilisation strategy that will enable the university to diversify the resource base and ensure sustainability of the initiatives; and
9. The change management process designed to integrate administrative and financial reforms in the university activities.

We believe that these challenges are not insurmountable especially if we work together with our stakeholders. We believe that the Makerere University is uniquely placed to address national development needs and has demonstrated the capacity in playing this role. We continue with our quest to interface with communities, public and private sectors about the role that the university can have for national development. At the same time, we acknowledge the challenges that have cropped up as a result of the uncertainty in university governance and the negative publicity it has generated. Marketing, branding and image building will continue to be at the forefront of the strategic direction of the University.

Last but not least we wish to acknowledge the contribution of our Development Partners, the Government of Uganda, the private sector and parents, Staff and students who have been with us all the way and enabled us to move this far.

# 1 Introduction

The University strategy is anchored within the context of a competitive and globalised environment. The transition to knowledge based economies and the increased use of Information Communication Technologies places universities and indeed higher education at the root of economic development. It has been established that investment in the fundamental areas of human capital development, research & innovations and the capacity to utilise generated knowledge through partnerships with communities within which institutions are placed. The evolution of economic realities is adequate evidence of the need to devise mechanisms that will ensure sustained relevance of higher education at the community, national and international arenas. It is the universities that are uniquely positioned to champion this development. It is also the bedrock for the university strategy.

The Makerere University strategy is anchored in the University strategic Plan 2008/09-2018/19. The plan documents the intent to reposition Makerere University by leveraging her competencies to enhance governance, financing and human resources development. The strategic plan-2008/09-2018/19, places the University within the national, regional and global context and created the challenge for the University to establish its relevance to the needs of society while taking into consideration issues of quality, equity with specific reference to gender and the current international environment. This is within the framework outlined by the vision and mission

## Vision

*To be the leading institution for academic excellence and innovations in Africa*

## Mission

*To provide innovative teaching, learning, research and services responsive to National and Global needs.*

The university strategy focuses on the three fundamental pillars geared towards:-

1. a research led University where research and teaching/learning are mutually reinforcing
2. moving from teacher centred instruction to learner centred problem based instruction providing experiential and flexible learning
3. knowledge transfer partnerships and networking, because knowledge production and transfer between universities and broad public and private sectors is supposed to be a two -way traffic that calls for cultivation and fostering of symbiotic relationships.

Whereas teaching is designed to build human capital through enhanced access opportunities, promote confidence in the academic provision and meet the Higher

Education expectations at national and international levels; the research thrust is designed to enhance the research portfolio, knowledge transformation and utilisation of research and innovations. In this endeavour the university places itself at the forefront of research within the country, the creation of linkages between academia and industry and an evolution that will generate respect for intellectual property as much as meet the changing needs of society.

The primary goal is to place the university at the heart of development, in the relevant spheres, of health, agriculture, technology development and transfer as well as champion the government intent articulated in the NDP to transform society from peasantry to prosperity within the overall theme of growth employment and social economic transformation.

In order to ensure value for money but also keep abreast with international trends, and the global higher education movement, the university strategy is anchored in three cross cutting areas, of quality assurance, gender mainstreaming and internationalisation.

## **2 The University Strategy**

### ***2.1 Focus on the Learner: Producing Graduates who are relevant for National Development***

Human capital development through undergraduate and graduate programmes at Masters and PhD level remains a key feature of the university. With an approximate annual graduate output of 10,000 students, Makerere University trains the bulk of Uganda's human resource for both the public and private sectors. The breadth of programmes ranging from the fine & performing arts, to the humanities, health basic & applied science not only provides an opportunity for multidisciplinary that may not be available in other university. While this places the university at the heart of the national human resource development thrust, it also generates challenges for innovation in academic provision to ensure that the products meet the expectations.

The shift from teacher centred to learner centred instruction is designed towards enhancing problem solving and versatility of the graduate produced. The strategy provides an intersection between the skilling of graduates as a critical factor for improvement of livelihoods, but also grounded in academic work to take forward knowledge frontiers through research and innovations. Yet it seeks to ensure that the university products are well suited to the receiving world of work. Worldwide the issue of employability of graduates has become a fundamental feature of higher education. Within our context employability has ceased to be limited to formal and

paid employment to the capacity to generate employment independent of the formal public and private sectors.

Learner centred pedagogy has been highlighted at the centre of this knowledge development. The refocus of instruction from the teacher to the learner is a pedagogic concept and inclusiveness of andragogical practices expected to stimulate creative, critical and independent thinking among learners. The shift in the instruction paradigm will in addition enable the University to cultivate in graduates both traditional academic and generalist skills, the skill set necessary to compete in the dynamic labour market of knowledge driven economies of the world.

Although the shift entails creating a critical mass of human capital that has capacity to generate additional income but also through the concept of externalities and social returns it generates capacity to influence other facets of life that impact on labour productivity such as health and social wellbeing. On the other hand, it has implications to the configuration of academic provision.

### **2.1.1 Implications**

1. A retooling of the academic staff to reorient them towards learner centred pedagogy
2. Restructuring the academic facilities to make them suitable for learner centred instruction
3. Re-orient the mind -set of the learners from being recipients of knowledge to active participants in the knowledge acquisition process- This may have to cascade down to the lower levels of education where comprehension and problem solving skills are integrated in the learning
4. Increase in the number of multidisciplinary and generalist courses to supplement the core disciplinary programmes
5. Increased public private partnership-the involvement of the public private sectors in academic provision will increased ranging from Curriculum review and design, field attachments and the provision of real life experiences to the students.

## **2.2 *Research and Innovations: Placing the University at the centre of National Development***

As part of its strategy the university has documented the need to be research led university. This is based on the realisation that capacity for knowledge production, innovations and effective utilisation are now recognized to be key sources for growth and competitive global economy. The university therefore is geared towards creating the environment and capacity for knowledge generation, innovations and utilisation as key drivers in re-positioning Makerere University as a Research-led University.

While the university is in the process of reviewing her research agenda in line with the National Development Plan, the agenda documented under the Poverty Eradication Action Plan (PEAP) still remains relevant. That areas of health & infectious diseases; food & nutrition; good governance & policy as well as engineering & technology development as highlighted by the agenda and impact that these have on the capacity for attainment of the Millennium Development Goals cannot be underestimated.

Research focus in the university therefore has gone towards preventive, curative and management health innovations in areas such as HIV/ AIDS, reproductive and mental health in addition to degenerative diseases such as cancer. These have largely been realised through the collaborative research programmes such as the Makerere University Government of Sweden/SIDA collaborative research linkages and the EU-ACP EDULINK programme. Embedded in these linkages has been the source of meaningful financial support for research. That has come through other institutional development programme supported by friends such as the Norwegian Government, the Carnegie Corporation of New York and the Rockefeller Foundation, and the National Institutes of Health, in addition to DANIDA, USAID, MacArthur Foundation, The Dutch Government, McKnight Foundation for agricultural support among others.

Research horizons have extended to increased agricultural productivity through disease resistant varieties, yet the value chain has been expanded to encompass agro processing, value addition and entrepreneurship for agro based products. The presidential initiative for science and technology has played a key role in the realisation of this strategy. The presidential initiative extends to research in transport technologies and establishment of alternative energy to drive the transport sector. It is under such initiatives that the famous *Kiira EV* was developed. While such initiatives enhance the research portfolio of the university, they have been propped up by national, regional and international networks. For the transport technologies the association with MIT energy efficient project provided the impetus for research. Staff and student research capacity still is and will continue to benefit from such networks.

In the humanities research has been focused on good governance, service delivery needs, conflict resolution, and land reforms. Yet even issues of gender, culture, diversity and social norms stand out as areas of emphasis. These that recognise the impact that socio-cultural tenets have on the uptake, utilisation and perception of the science and technology paradigm combine with the technical to bring out the multidisciplinary research ethos that the university wants to project.

This research strategy encompasses three interlinked but distinct facets. It nonetheless brings together the core areas that define universities. These include knowledge generation, dissemination of research findings and capacity for utilisation of these findings to address societal needs and improve livelihoods.

**Figure 1: The University Research Trajectory**



### **2.2.1 Research infrastructure**

Documented in the university strategy is the need to enhance the research infrastructure. The university is moving towards the establishment of centralised and multidisciplinary laboratory complexes. At the same time, specialised laboratories play a significant role as the world becomes a global village and new challenges emerge, higher education institutions have to take the national lead.

The university continues with its role through the established research infrastructure that extends beyond the academic realm to contribute to addressing emerging health, environment, agriculture and energy threats. Such facilities include:

1. A new Avian Influenza research laboratory was fitted in the College of Veterinary Medicine and Biosecurity.
2. Biomedical laboratory in the College of Health Sciences
3. Biotechnology laboratory in the College of Agricultural and Environmental Sciences
4. Centre For Research And Energy Conservation (CREC) in the College of Engineering Design Art and Technology
5. Human Rights And Peace Centre (HURIPEC) in the Faculty of Law, as well as the peace and conflict resolution initiative in the Faculty of Arts
6. Imaging Centre in the College of Veterinary Medicine and Biosecurity.
7. The multi-dsciplinary Demographic surveillance site in Mayuge district
8. The infectious Disease Institute for the HIV/AIDS and other such related afflictions

9. Bio-chemistry laboratory in the College of Natural Sciences supported by Bill & Melinda Gates Foundation

### **2.2.2 Dissemination of research findings**

A major setback in the recent past has been underutilization of research findings due to inadequate infrastructure and institutional mechanism for technology and knowledge transfer. Dissemination has largely been limited to joint and individual publications in local and internationally peer reviewed journals. While this is laudable and secures the position of the university within the international research environment, it is desirable that the research findings break the academic barriers to provide meaningful application that address societal needs.

One commendable progress is the opening of the Food Technology and Business Incubation Centre by the School of Food Technology, Nutrition and Bio engineering two years ago. With support from the Presidential Initiative for value addition, the school has embarked on catalysing the agro-processing industry in Uganda through technology and business incubation. Through such initiatives it is believed that the impact of university in society will be felt. It is also the benchmark for generating a viable relationship between academia and industry.

The relevance of research findings can be seen through an intersection between generation, dissemination and utilisation. While generation and dissemination have been university based and limited to a small community of scholars, the utilisation perspective extends beyond the boundaries of the academe. They underscore what universities can do and how relevant they are in the advancement of local and ultimately national development. Agricultural and animal production research has encompassed, a new sorghum variety *MK60* that is drought resistant, early maturing and high yielding launched in Eastern Uganda; Artificial Insemination in pigs and using Artificial Insemination technology to enhance animal production and rural poor incomes; high yielding and pest resistant Cowpea varieties for Ugandan conditions these varieties assembled and tested for Ugandan conditions include ACCWC28, ACCWC35B, ACCWC35C, ACCWC39 and ACCNE44; Mobile-based system that monitors water levels in valley dams located in drought affected areas in Uganda, the system provides an early warning system to concerned district authorities who can in turn alert the farmers in advance. Synergistically, the College of Engineering, Design, Art and Technology has designed and manufactured a low cost water pump to help farmers reduce the costs of irrigation. The Low cost irrigation project is also engaged in testing this pump and educating farmers on the different types of irrigation.

Other efforts have been realised in health, national and regional efforts aimed at stemming TB Drug-Resistance by the College of Health Sciences; The brand of low-cost helmets for boda-boda cyclists, to research in waste water management in secondary school by the College of Design Art and Technology.

Yet these and other research initiatives in the university are hinged on different actors. To this end, the university is moving towards the direction of nurturing research ownership and increased participation by communities and the public sector. The interrelationships create synergy for initiation, implementation and utilisation of research.

### **2.2.3 Implications**

1. Increased partnership and research ownership in the design, implementation, dissemination and utilisation of research.
2. Conducive policies that will stimulate additional research at the national and the university level;
3. Avenues for dissemination and utilisation of research- We believe that the primary target of our research is both the government ministries and the private sectors at national level even before we broaden scope to include regional and international networks.
4. Increased funding for research from the established partnerships, Government Ministries, the private sector and civil society enhanced involvement in the research process at the university.

### **2.3 *Knowledge transfer partnerships: Beyond the classroom, the interface between Communities and Academia***

The university strategic plan emphasises research and hands on skill training as critical for improving people's livelihood. This means the university has to churn out graduates who are not only job creators but also competent enough to cope with the fast changing world of technology so as compete favourably in the world market.

Makerere University has enhanced community development through knowledge transfer partnerships and research initiatives. These have involved integration of community development modules or field attachment into the curricular. Staff and students from the various programs are engaged with communities for a considerable length of time. This not only enriches their preparedness to work in the communities after graduation but also directly contributes to service delivery in the communities as well as improving the community - university relationship. Examples of such initiatives include:-

1. *Infectious Disease Institute (IDI)*: This continues to provide respite to the infectious disease afflicted population of Uganda with specific reference to HIV/AIDS, Tuberculosis and Malaria.
2. *Internship/ field attachments*: Deployment of students on internships to local communities (the students participate in the local projects such as water harvesting technologies, land surveying, construction of roads, health awareness campaigns, teaching at secondary schools, agricultural extension services and animal husbandry among other
3. *Community Based Education and Research for Students (COBERS)*: Through this initiative the college of health sciences is spreading health support to different parts of the country. The Makerere University College of Health Sciences' Community Based Education and Services (COBES) has immensely contributed to addressing health inequities between rural and urban communities in Uganda. This academic year 53 health facilities are partnering under the initiative. The college is moving towards accreditation of these centres. The initiative has received positive evaluation and feedback from both the communities served and the medical 'experts' involved in terms of the capacity to improve health care.
4. *Governance*: Public debates on issues of national and international concern hosted by Makerere have contributed to better policy formulation, Both the School of law and the college of Humanities and social sciences have championed this cause Debates on domestic violence, the land reform and human rights are noteworthy;
5. *The Demographic Surveillance Site*: The demographic surveillance site at Iganga/Mayuge continues to contribute to community development through provision of important data on health and population issues. This multidisciplinary site, the only one of its kind in the country has filled the gap that is left by the existing inadequacies in births, deaths and other socially useful data the records keeping systems. Current initiatives include four research studies in the areas of Uganda Newborn Survival Study (UNEST), Epilepsy and its treatment, Malaria vaccine trial and a TB surveillance

### **2.3.1 Support under the Presidential Initiative**

Makerere University has since 2010/11 been operating innovative projects codenamed the Presidential initiative. The units supported under the initiative include the College of Engineering, Design Art and Technology (CEDAT), the College of Agriculture and Environmental Sciences (CAES), specifically the School of Food Technology, Nutrition and Bio-engineering; plus the College of Veterinary Medicine, Animal Resources & Bio-security (COVAB).

1. The Africa Institute for Strategic Animal Resource Services and Development (*AFRISA*) is a joint Government-University institute, functioning as an academic-community-public-private networks engagement platform for nurturing transformative skills, technology, innovations and community services. The primary target group are the youth and women. The Institution facilitates this through offering high quality student-based community services; training for animal resource workers and farmers; research on best practices related to animal resources; appropriate technology development and innovations; and advanced clinical and biomedical services that support the development of new models of animal care and production. Under the AFRISA initiative is the Skills For Production, Employment & Development In The Animal Industry (SPEDA) which has skilled youth in animal resource management and production in 12 districts. It has also evolved a new partnership with the Food and Agricultural Organisation.
  
2. *Food Technology and Business Incubation Centre*: The purpose of the FTBIC is to develop new food value addition businesses based on research conducted at Makerere University and to support the University to produce job creators. The FTBIC offers a platform for students to venture into entrepreneurship. The incubatees (mostly fresh graduates) are offered access to processing facilities and provided with technical support to boost their capacity in production, marketing and business management. This has led to the development of new food value addition enterprises. The Centre provides technical support to existing food processing SMEs and conducts hands-on training to prospective entrepreneurs in order to contribute to the overall food industry development. Many of those trained have created or improved their enterprises and developed skills that will facilitate value addition to the abundant agricultural commodities. The FTBIC targets to create 20 new agro-processing enterprises and 5000 jobs annually by 2014.
  
3. *Technology Innovations*: The focus of the initiative under the college of Engineering Design Art and Technology is to Boost Technological Education and Innovation for Uganda's Industrialisation. It aims to contribute towards increasing and retaining a pool of highly trained professional scientific and engineering human resource with relevant skills to meet the country's development needs as well as Increase the use of research outputs by the industrial firms and appropriate channels that propel a technology-led, competitive development process and enhance the understanding and appreciation of the role of science and technology in the development process, especially among the young generation. Sub projects under the initiative extend to
  - a) The Innovations Systems and Clusters Programme is helping link the University directly to Government and the Private Sector, the programme

- helps small and medium enterprises become more competitive locally and globally;
- b) The Uganda Gatsby Trust based in the Faculty of Technology transfers technology to SMEs and provides microfinance services to assist the businesses grow.
  - c) MakaPads are ensuring that students in rural Uganda have access to free sanitary towels. **Makapads** are sanitary pads made from papyrus and paper waste.
  - d) Centre for Research in Energy and Energy Conservation (CREEC) focuses in improvement and utilisation of: bio-energy, solar PV, pico-hydro and energy management.
  - e) The Industrial Parks project aims at building and developing business parks, where Small Medium Enterprises (SMEs) can be able to operate and function well. Two parks have been established in Mbarara and Jinja Districts.

### **2.3.2 Implications**

1. KTP places the university at the centre of community development and partnership, it has thus increased the visibility of the university as a champion of national development;
2. The shift of the paradigm from outreach to knowledge transfer partnership enhances capacity for networks and collaboration between academia and the communities in which the initiatives are implemented; and
3. Experiential learning augments the versatility of the students produced. The KTP initiatives provide the basis for an all- round and relevant graduate who has capacity to operate in a diversity of environments particularly the rural areas.

## **3 Creating an Enabling Environment**

Realisation of the three core functions are anchored in a comprehensive support structure that focuses on the organisation and management of the operational environment. The university strategy is focused on human resource as a prime resource. Issues of staff attraction and retention are fundamental to the continued sustenance of the establishment. We acknowledge that staff attraction and retention extend beyond the financial to include and appropriate working environment and opportunities for growth and development.

It is our aim to establish mechanism that will generate additional resource and propel the University towards financial sustainability. We believe that an aggressive resource mobilisation and investment strategy coupled with prudent financial management practices provide the appropriate framework. We however, recognise that these have to operate within a restructured organisational environment that checks the bureaucracy and grants more administrative, academic and financial autonomy at the unit level.

## **3.1 University Reforms**

### **3.1.1 Administrative Reforms**

The Makerere University Strategic Plan (2008-2009) emphasizes the need for the University to undertake major reforms in its systems, processes and procedures. The University Research, Administrative and Financial Reform Committee (URAFR) was constituted in 2008 to steer the reform process. Identified reforms integrated processes and policies that affect academic delivery; mainly teaching, learning and research; as well as governance, finance and administration. The outputs URAFR therefore were the *Organisational Manual* and the *Research Manual*. One of the key recommendations was the proposal for the establishment of constituent colleges as key academic and administrative units that would anchor the proposed reforms. Nine Colleges have since been established and the statutory instrument signed for:

1. College of Health Sciences (CHS);
2. College of Agricultural and Environmental Sciences (CAES);
3. College of Natural Sciences (CONAS);
4. College of Computing and Information Sciences (COCIS);
5. College of Engineering, Design, Art and Technology (CEDAT);
6. College of Business and Management Sciences (COBAMS)
7. College of Humanities and Social Sciences (CHUSS);
8. College of Education and External Studies (CEES);
9. College of Veterinary Medicine, Animal Resources and Bio-security (COVAB)

As a continuation of the reforms, the School of Law is in process of becoming a College by the end of 2012. In addition, a Change Management Committee (CMC) was established to take forward the proposed reforms; ensure implementation; and evolve mechanisms for managing and reinforcing change. The focus of the CMC is to establish mechanisms to integrate reforms in the day to day operations of the colleges. These reforms are designed to enhance constituent college autonomy.

### **3.1.2 Financial Reforms**

The strategy for financial reforms revolves around capacity for optimal utilisation of University's financial resources, through processes that improve the effectiveness and efficiency in financial management. Financial reforms manifest in the development of policies, financial management guidelines that will streamline, collection, allocation and utilisation of financial resources. The reforms have outlined improved process for budgeting, resource mobilization, accounting, receipts and payments as well as financial reporting. This process it is envisaged will enable the university is moving towards meaningful financial decentralization, retooling staff handling financial management and establishing a robust financial management information system.

## **4 Opportunities for Advancement**

The mileage attained, and the evidence demonstrated through the outlined initiatives presents several opportunities for advancement. While some address bottlenecks that

affect the delivery of the university core function, others are a direct manifestation on the capacity of the university to effectively contribute to national development. These opportunities include:

1. Increase in research capacity to meet the knowledge generation and dissemination needs of not only the University but at the national level as well. This will involve further re-equipping and refurbishing research laboratories. Modernising research laboratories is one of the major challenges facing the University
2. Development of ICT teaching capacity especially access to bandwidth and e-resources
3. Internships and field attachments have now been made mandatory for all programs in the university. We however note that for this to succeed the ties with the local government, the NGO world, the private sector and the public sector have to be further strengthened
4. Establishing a mechanism for staff development and retention; we hope that the recent boost in remuneration from the Government of Uganda will reduce the exodus of staff from the University.
5. Bridging the gender gap especially in the science based discipline and at the executive management level
6. Developing a framework that will fully operationalise the University strategic direction of a learner centred university.
7. Public relations, communication strategy/policy. As the oldest and largest higher education institution in Uganda, Makerere University continues to attract media attention. While this would have been a marketing point for the university, it finds itself often being placed on the defensive. A communication strategy/policy is in advanced stages of development. We hope that this would go a long way in creating a harmonious and productive liaison with the media houses in Uganda. This will also enable the university to communicate on matters of mutual interest, we also expect that the press reporting will be channelled towards dissemination of research
8. Capacity for the development of the initiatives towards efficiency and financial maturity. These manifest in the evolution of both the investment policy and the resource mobilisation strategy. This we envisage will enable the university to diversify the resource base and ensure sustainability of the initiatives developed under the Institutional Development Programme.

## **5 Conclusion**

Makerere University continues to be the pillar of higher education in Uganda. Several milestones have been made that highlight this role. Advancement has been made in the provision of human resource needs of the country. In research, progress has been made in preventive, curative and management health innovations in areas such as HIV/ AIDS and reproductive & mental health as well as food nutrition and value addition. We continue with our quest to interface with communities, public and private sectors about the role that the university can have for national development. At the same time we acknowledge the challenges that continue to impact on our operations. We know that these are not insurmountable, and we believe that the lessons we have learned will be used for the betterment of our institution. Marketing,

branding and image building will continue to be at the forefront of the strategic direction of the University.

***Acknowledgement***

We wish to acknowledge the contribution of our Development Partners, the Government of Uganda, the private sector and parents, staff and students. Your valuable input has been the foundation for what we are have been, what we are and what we envisage to become, as we celebrate 90 years of Makerere University- *We Build for the Future*



**Development Partnership Contribution towards Institutional Development  
at Makerere University**

**Paper Presented to the Stakeholders Meeting  
August 3<sup>rd</sup>, 2012**

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### Executive Summary

Makerere University has made notable strides towards being a leading institution for academic excellence and innovations in Africa. These exploits have been made possible due to the strategic focus of the university with the support of the Government of Uganda together with development partners towards the realisation of the university strategic plan. Institutional support took three forms mainly – Multilateral (e.g. World Bank); Bilateral exemplified by the Governments of Sweden, Norway and the Royal Kingdom of the Netherlands, and direct support by Foundations such as the Carnegie Corporation of New York, Rockefeller, MacArthur, Ford among others. The institutional level support was aimed at various levels. The support is approximately USD 1380 million over the last decade alone.

Capacity building particularly human resource development and improvement of the environment for conducting research, and dissemination of research outputs has been greatly boosted over the last decade. During this period support was extended to over 300 and 80 staff members to undertake PhD and Master's degree studies at Makerere and other universities of international repute. In addition, Makerere University as a change agent coordinated development partner support to partner public universities in Uganda to develop their human resource capacity at PhD and masters level. This capacity has led to improvements in a number of areas – quality supervision with improved completion rates, increased numbers of publications in reputable journals and presentations at international conferences, increased avenues for publications with several journals hosted at Makerere University, among

others. The research outputs have influenced a number of policies including health, Land, Conflicts, Waste Management, among others.

Infrastructure development was boosted with construction of additional space to support teaching and learning. New buildings constructed during the last decade include the ICT building (Netherlands Government), extension for the College of Engineering Design Art and Technology, Food Science and Technology, Women and Gender Studies (all by the Norwegian Government) and extension of the Main Library (Carnegie Corporation). The Government of Uganda through the Presidential Initiative for Science and Technology is to construct the Food technology Incubation Center to be launched on August 4, 2012. Other key infrastructure includes state of the art laboratory equipment, ICT infrastructure (LANs, University-wide network), establishment and operationalization of the research sites such as the Iganga/Mayuge Demographic Surveillance Site. This has improved teaching and learning space, quality of research outputs and attracted additional partners to support research especially in the DSS.

Development partner support catalysed establishment of strong collaborations and Networks at all levels – international, regional and nationally. Collaborations have led to joint grant proposals and publications of research outputs, as well as student and staff exchanges. Research networks such as RISE-AFNET, RUFORUM were borne out of activities initially supported by development partners.

Makerere is a vibrant university that, over the last decade, is second only to the University of Cape Town in attracting development partner support. This trend is expected to continue as we ‘Build for the Future’

## **6 Introduction**

During the last decade, Makerere University had two planning cycles – one running from 2000/01 = 2006/07 and the second from 2008/09-2018/19. The University is poised to become a leading research driven university where research and teaching/learning are mutually re-enforcing, including knowledge transfer partnerships and networking between the University on one hand, the public and private sectors on the other. In the area of research and innovations, the university has identified three objectives namely: - to provide a robust supportive environment for a research led university, to increase the capacity for knowledge transformation and innovations and to improve research dissemination.

In order to focus research efforts, the University identified priority thematic areas for investment in the next ten years following recommendations arising

out of various consultations<sup>1</sup> and based on University strategic plan, Research and Innovations Policy, National Science, Innovations and Technology Policy, findings of the Background study on Science and Technology, National Plan of Action. The research themes are premised on the need to enhance Uganda's HEIs' capacity to contribute to national development, to Uganda's meeting the regional and international commitments including the Millennium Development Goals, to enhance local, regional and international collaboration and networking and to improve the capacity of young researchers through a mentoring process.

In the implementation of the university strategy and research priorities, the university has sourced and attracted support from various development partners. Over the past decade the university has witnessed remarkable support and interest from development partners. The partnerships have been of three forms namely multilateral, bilateral and direct support. Examples include - Multilateral support has been provided by the World Bank; bilateral support by the Swedish Government (Sida), Norwegian Government and NUFFIC (Netherlands Government) while Carnegie Corporation of New York, Rockefeller, Ford, and MacArthur Foundations as direct support among others.

In line with the Paris declaration on Aid Effectiveness (2005), a consultative process has been adopted, thus areas for support are usually identified in line with the University Strategic Plan, National Development Framework and Policies, and in line with the development cooperation goals.

Although areas of support have been varied, they generally fall in two broad categories:

- i) Capacity building particularly human resource development and improvement of the environment for conducting research, and disseminating the findings
  - Human resource development (training at Masters, Ph.D., Postdoctoral level) – common to Government of Sweden, NORAD, Carnegie, NUFFIC.
  - Facilities - ICT, library, laboratories, field sites
  - Research management and coordination through national, regional and international research networks (Joint courses e.g. ethics in research; research policy development in partnering institutions; administrative reforms)

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<sup>1</sup> Stakeholders conference held in Kampala, 17-19<sup>th</sup> September 2008; Self-Assessment Exercise by Makerere, 27-31<sup>st</sup> July 2008; the Background Study conducted by the UNCST; Makerere Strategic Plan (2008-2018); Research Guide (Supporting the Eradication of Poverty in Uganda, 2004) and the Makerere Research and Innovations Policy, 2008.

- Strategies for dissemination of research findings and adoption (through private/public partnerships, dissemination conferences, journals, development of a research communication policy)

Other support to curricula development and organizational reforms are:

- organisation development initiatives such as a collegiate university, reform of processes and the establishment of Quality Assurance Directorate, the Gender Mainstreaming Program and policy were supported by Government of Sweden, Rockefeller Foundation and Carnegie Corporation of New York
- academic program development was supported by Government of Sweden, NUFU, NUFFIC, Carnegie Corporation of New York
- infrastructure support for buildings by NORAD and Norwegian Government

ii) Support to research in the following themes



All the above areas take into consideration the cross cutting issues of Gender, Quality Assurance, ICT and Biotechnology.

Programme coordination varies according to objectives and institutional coverage. For the cross cutting institution wide programmes the university adopted a central coordination mechanism in order to have efficient and effective institutional development programme management:

- The Department of Planning and Development has coordinated programs related to Infrastructure and institutional development e.g. programs supported by NORAD & the Government of Norway, and the Carnegie Corporation of New York

- The School of Graduate Studies (now the Directorate of Research and Graduate Training) coordinates programs that have a strong research focus such as that supported by Government of Sweden

Other programmes such as NUFU support in the then Faculty of Science (now in the College of Natural Sciences, CONAS), NUFFIC in Computing and Information technology now in the College of Computing and Information Science (COCIS) continue to be unit based.

## **7 Institutional Development Support to Research and Innovations**

### ***7.1 The Makerere-Government of Sweden Bilateral Research Program***

Makerere Research Capacity Building Programme supported by Government of Sweden started in 2000 with a preparatory period and was followed by two phases of support, 2001-2005, 2005-2009 and now Phase III 2010 to 2014. A number of units in the University were supported. These included; the former Faculties of Agriculture, Technology, Medicine, Social Sciences, School of Public Health, Department of Mass Communication; School of Graduate studies (SGS)/Directorate of Research and Graduate training, Gender Mainstreaming, Directorate of Information and Communication Technology and the Library.

The Makerere University Government of Sweden Bilateral Research Program (Phase III) has successfully run for now two years 2010-2011. The Phase has a total allocation of 181million SEK, (USD 25 million) for four years January 2010-June 2014. Phase III rides on and complements the remarkable achievements made involving creation of an environment conducive to high quality relevant research through investment in human resource development, ICT, library resources, laboratory and field site infrastructure. Some of the notable achievements are:

- a) Established functional field research sites. The Demographic Surveillance Site (DSS) in Iganga/Mayuge is now fully operational. Data collection continues in an area of over 50,000 people involving 16,000 households. The site continues to attract other research projects.
- b) Biomedical Laboratory –Department of Pharmacology in CHS. The laboratory now fully functional and can be accessed by students and researchers
- c) State of the art GIS unit set up in the CEDAT (formerly Faculty of Technology) - Laboratory now fully functional and can be accessed by interested units

- d) In the area of ICT, the optical fibre network covers main campus, Medicine, MUARIK, MUBS. Computers and LANS set up in supported faculties including student kiosks with 165 computers setup in various units. All (100%) of the university units have web presence compared to 5% in 2000. There are more than 20000 e-mail users registered on the local mail system compared to 50 in 2000. A functional Online Public Access Catalogue (OPAC) with more than 14,000 journals on line giving access to the most recent literature. The library staff in region e.g. University of Juba trained and supported library automation
- e) Increased visibility, acceptability and upward movement of women into leadership positions. Makerere University now recognised as a pace setter in gender mainstreaming in Universities in sub Saharan Africa
- f) 196 Ph.D. students, 40 Masters Students under Government of Sweden support. More publications have contributed to improved university rankings. The number of linkages/collaborations is on the rise e.g. Uganda Virus Research Institute (UVRI), Irish-African Research Capacity Building Program (IARCBP), and University of Copenhagen (UC-LIFE) among others.
- g) Reduced brain drain - Researchers staying and doing work in Uganda
- h) Created centres of Excellence in Makerere University including
  - Health in the area of Malaria, TB, HIV, Mental health, Reproductive health
  - Technology and engineering in the areas of research in energy and energy conservation (CREEC), Innovative systems and Clusters
  - Agriculture - Centre for Crop Waste Management
  - ICT –regional centre
  - Library –e-resources

## **7.2 The Norwegian Institutional Development Program**

The Norwegian Government support to Makerere University dates back to the 1960's that initially targeted the Faculty of Agriculture and Forestry. Renewed support with expanded scope of bilateral institutional development program based on the university strategic plan/priorities was initiated in 2000 and has gone through two phases (Phase 1 – 2000-2005; Phase II – 2006-2009 for USD 9 million).

The aim here was to consolidate on the capacity built in the earlier phase one by revamping the academic life of the University so that it can effectively play its proper role in society. The programme focused on four components:

1. Influencing and guiding good governance and gender mainstreaming;

2. Improving Food Production, Nutrition and Value Addition;
3. Strengthening University Management including internal governance and her Resource Mobilisation capacity and;
4. Development and harnessing of ICT capacity and infrastructure.

Within an overarching goal to strengthen university management through improving efficiency and effectiveness of the University for teaching, research and knowledge transfer partnerships; support to the Good Governance and Gender mainstreaming (GG & GM) thematic area aimed at enabling the university have an impact in the areas of human rights, peace, conflict resolution good governance at university, community and national levels. Food, Nutrition and Value Addition (FNVA) on the other hand focused on improving the University's capacity for scientific research and engagement of both the private and public sector in enhancing food production, nutrition and value addition. In the same vein, focus was towards the development of infrastructure, Library and ICT component aimed at expanding space and ICT infrastructure.

### **7.2.1 Good Governance and Gender Mainstreaming**

Increased research in the area of Good Governance & Gender Mainstreaming; these have generated research publications including policy briefs to guide policy formulation and implementation in the areas of Good Governance and Gender Mainstreaming. Twenty four (24) researches have been completed and the reports have been printed in 3-volumes and a book published from the most outstanding research work. HURIPEC in the Faculty of Law managed to revamp courses in constitutional law, human rights and Gender; a total of thirteen (13) research working papers were produced Public Lectures/Seminar series. The process has also revitalized the concept of public dialogues/lectures in the Faculty of Social Sciences. This has improved exposure and engagement in public debate, especially at policy, planning and implementation level. It has also led to invitation to provide technical advice in addition to Nurturing University/Public-Private Partnerships.

### **7.2.2 Food, Nutrition and Value Addition**

In addition to research, human capacity development for advanced degrees at Masters and PhD level, focus under this component has been improved infrastructure capacity/laboratory and the pilot food processing plant equipment for research and service delivery; Knowledge generation, contributing to sustainable economic development; Empowerment of local communities, the private and public sector entrepreneurs with skills, knowledge and technologies.

Norwegian government support initiated the pilot plant which is now benefiting from the presidential initiative for science and technology. The pilot plant has enhanced public private partnership with public institutions such as the Uganda

Investment authority, and private sector Food industry. It has also enhanced collaborations with national and international universities.



*The Presidential visit to the FTBIC*



*The Food Technology and Business Incubation Centre: School of Food Technology, Nutrition and Bio-engineering*

*Environment and Natural Forest Research and Development:* The Food and value addition component embraced the Faculty of Forestry & Nature Conservation which continued with the consolidation of her delivery capacity through more training at both M.Sc. and Ph.D. levels. Similarly, meteorology is one the

disciplines being promoted in the University, emphasis therefore was put on capacity building through staff training at both Masters and Ph.D. levels

### **7.2.3 Strengthening University Management**

The component targeted three key areas of Planning, resource mobilisation and human resource development capacities. Enhancement of the planning capacity of the University and has greatly contributed to the revitalization of strategic planning and institutional reporting in the University. Annual performance reviews have continued to be made. The 10-year University plan (2008/09 – 2018/19) is now in its 3<sup>rd</sup> year of implementation is due for review in light of the developments that have taken place including the transition to the college model of University Governance. With respect to resource mobilisation, in collaboration with The Carnegie Corporation of New York, a Resource Mobilisation Unit was established. While sustenance of this has been facing challenges, the unit was able to design electronic databases for capturing Alumni and prospective partner data. An Alumni website was also designed and regular publication of the Alumni magazine initiated. Support to the Directorate of Human Resource as a new unit was meant to enable the University to take forward the restructuring exercise and streamline all the human resource management functions in the University. A human resource policy and manual were developed and the process and the on-going process for identification of core and non-core functional areas to be divested and staff reduction for improved cost-effectiveness and efficiency was initiated.

### **7.2.4 Infrastructure Development**

*The key areas of impact under Development of Infrastructure, Library and ICT component include:-* Improved back-end infrastructure providing highly available and efficient ICT services to end-users; Improved access to existing information systems, notably (ARIS/FINIS/HURIS and E-learning) leading to optimal use of these services; Reduction in cost of intra-university voice communication among staff and students through deployment of innovative technologies; Increased Library seating capacity; Increased space capacity for teaching and research at the Faculty of Technology.

Building on achievements from phase one, Local Area Networks (LANs) have been set up in selected Faculties and continue to be established (in Faculties of Agriculture, Veterinary Medicine, Forestry & Nature Conservation, Science and School of Education). Planned ICT developments include installation of protection infrastructure at the Disaster Recovery Centre, development of the Intranet Portal and IP Telephony infrastructure. The stock of computers increased by 486 distributed to 5 Local Area Networks established in 5 Faculties; an i-enable for students, centralized back-up equipment- i.e. NeTAPP that provides storage for the University central database for the Library software and the Integrated Tertiary Software for ARIS and HURIS, fire-fighting equipment for the server farm; software applications for e-learning and central anti-virus contributed to the operationalisation of the University's ICT Policy & Master Plan.



***Completed extension to the Faculty of Technology Building***

The Building extension inaugurated on 14<sup>th</sup> August, 2009 has total floor space of 7113.13 M<sup>2</sup>

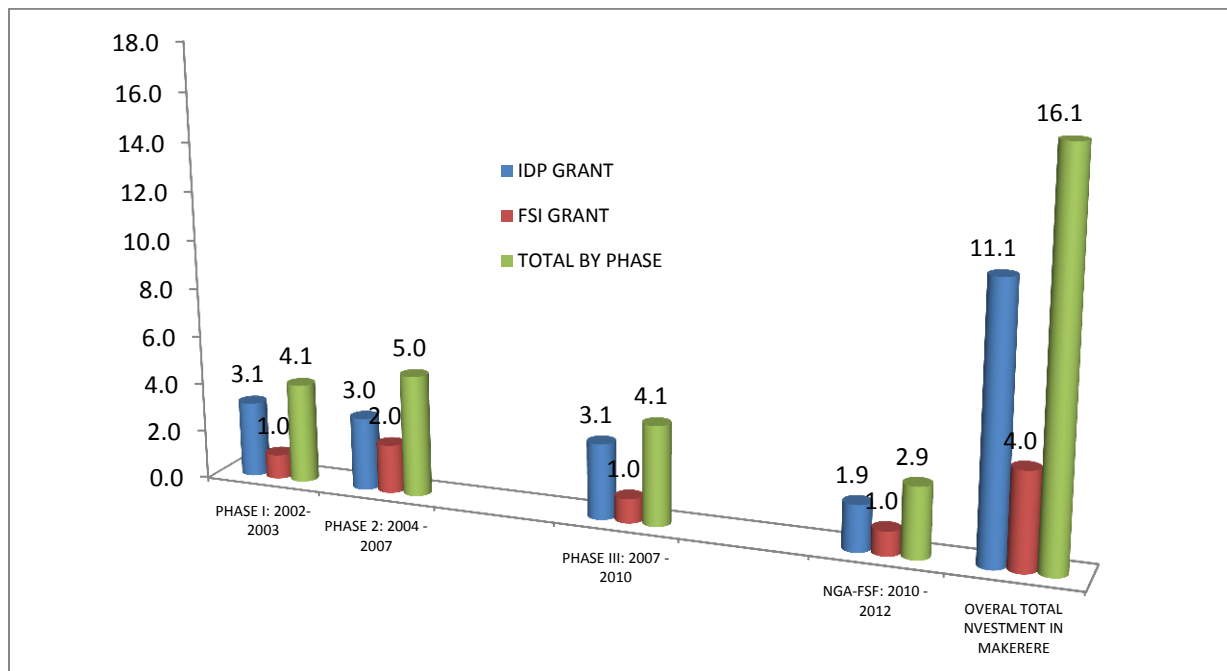
- Seventy-five (75) new Offices for the academic staff
- One (1) Environmental Engineering Laboratory
- One (1) Telecommunication Engineering Laboratory
- Fifteen (15) Lecture Rooms
- One (1) modern Conference Hall
- One (1) Technical Library
- Three (3) Computer Laboratories

***Improvement of the Library Facilities*** – With the support, fully furnished is the first half of Main University Library building extension (the 4,000m<sup>2</sup>) has increased the seating capacity together with related facilities for the growing number of Library users. The furnishing with 704 chairs and 289 tables also covered Information Commons – 138 partitions and seats, Group study commons – 20 partitions and seats, Multi-media Rooms –with 20 people sitting capacity, power-point Room – with 50 people sitting capacity and 147 Research Carrels/seats as well as two seminar Rooms and a computer laboratory for students with disabilities.

### 7.3 The Carnegie Corporation of New York support for Institutional Development

The last decade has witnessed remarkable support by the Carnegie Corporation of New York to Makerere University in different phases. Phase 1 run from 2001 to 2005, Phase II from 2006 – 2008 and Phase III from 2008 to 2011 under the thematic area of Food, Nutrition and Value Addition. Over the last decade, the CCNY has supported Makerere University with over USD 16 million (Fig 1)

**Figure 1: Phased support by the CCNY 2001-2012**



Overall cumulative progress and impact was made in Library, ICT development and use, gender and equity, human resource development, science practical training & research.

*(a) Gender Mainstreaming & affirmative action for disadvantaged students through the Female Scholarship Initiative (FSI)*

Gender Mainstreaming has been and continues to be institutionalised and Makerere University is a pace setter in the area of gender and equity on the continent. Through the female Scholarship Initiative (FSI), the project supported over 690 needy girls and over 20 female personnel working at the districts to access University degree education in Agriculture. The lives of these women have been transformed through access to higher education. The project contributed to more females enrolling at Makerere from below 40% in 2001 to over 45% currently. Sustainability has been firmed through the establishment of a Female Scholarship Foundation to which the CCNY has contributed USD 1 million with matching funds from the Uganda government. In addition, the university now networks with Ministries, NGO's, CBO's, local governments,

secondary schools and has given the university wide publicity beyond East Africa.

*(b) Access & enhancement of teaching learning & research*

Through increased library resources, ICT, & e-Learning, books increased in scale and scope. The university community now enjoys a more efficient delivery of service through electronic Document Delivery System. The Carnegie project facilitated the creation of important partnerships with larger libraries in USA, Canada and Europe in addition to enhanced visibility on world scene through the library website.

The implementation of e-learning has led realisation of the need to harmonise various innovations such as ICT in Gender, pedagogy, and distance education among others. This will ultimately contribute to quality assurance. Capacity in technological instruction, learning and research has been built in lecturers and students. Most university units received new ICT Linkages through the Carnegie e-learning and the ICT in Gender project.

*(c) Human Resource Development*

Through support of the graduate research and training, 30 PhD candidates were supported and all have completed. The PhD graduates are motivated to continue research and publications by availing then support to publish and attend international conferences. Others are supported to undertake post-doctoral research in themes that are relevant to Uganda's National development priority area of food nutrition and value addition. This way, a pool of researchers is being created to contribute to relevant research and development of the country

*(d) Science practical training & research*

In the Faculty of Veterinary Medicine (now the College of Veterinary Medicine, Animal Resources and Biosecurity – COVAB) and , in addition to the much needed scientific equipment acquired, 12 (twelve) technical staff members who only had diplomas were supported and upgraded to graduate and post graduate level. They now have better skills in teaching and service delivery. New doors have opened for these members of staff who had otherwise hit the ceiling of their professional career.

In the Faculty of technology, 3 market driven programs in Quantity Surveying, Valuation Surveying and Land Economics and Construction Management were established. This significantly contributed to making Makerere relevant to needs of the immediate society. These new courses are the most popular for privately sponsored students at the moment.

*(e) Capacity for project management through formative monitoring and evaluation*

Makerere is heavily donor dependent and its ability to plan, manage and monitor projects is very crucial for sustained relationship with her development

partners. The CCNY supported capacity building in project planning, monitoring and evaluation conducted by “Evaluation Research Agency (ERA) and “Pamoja inc”. The training entailed logic model for monitoring and evaluation and fundraising-fundamentals, respectively.

A cross section of Makerere top administrative staff have been supported for training in philanthropy by “Case” and “Inyathello”. These types of training enhanced Research Management as well as the University’s capacity in resource mobilisation.

The university is aggressively pursuing uploading of its research output onto the internet and positive results are already being realised. The webometrics ranking of Makerere University among the 100 top universities in Africa has moved from 59 in 2008 to 10 in 2012.

Another two year (2010-2012) CCNY supported project titled; Nurturing and retention of the generation of academics to the tune of USD \$1.9 million was initiated. This project rides on the achievements of previous projects and supports Masters and PhD students both at Makerere University and partner public universities as well as postdoctoral researchers through a competitive selection process. The project has registered great success through the small grants scheme where many staff have benefitted through support to proposal writing, data collection, data analysis, dissertation writing, and presentation of papers at international conference as well as support to staff to get published. To date close to 100 staff have benefited from the initiative.

#### **7.4 Unit Based Support**

##### *a) NPT Project on Building a Sustainable ICT Training Capacity in the Public Universities in Uganda*

The project ‘Building a Sustainable ICT Training Capacity in the Public Universities in Uganda’ This was based in Uganda under the *Netherlands programme for the institutional strengthening of post –secondary education and training capacity* through The Netherlands Organization for International Cooperation (NUFFIC). The lead institution in the South was Makerere University Faculty of Computing and Information Technology (CIT) with partners; Mbarara University of Science and Technology (MUST), Gulu University (GU) and Kyambogo University (KYU). The lead institution in the North was the University of Groningen (RUG) and the consortium partners in the project were Radboud University Nijmegen (RUN) and Hanze University of Professional Education (HHG).

The project’s aim was to address Information and Communication Technology (ICT) capacity building in the Public Universities in Uganda, namely Makerere University, Kyambogo University, Mbarara University of Science and Technology, and Gulu University. The target group was the staff and students in the above institutions and mid-career ICT professionals. The main activities required expertise from the Netherlands, for support in Curriculum

Development and Implementation, in development of research capacity and to advise in the establishment of a Centre of Excellence for ICT Training and Research. 38 members of staff from the four universities were trained and a few are still training in ICT both at Master's and PhD level in the Netherlands (NL) and in Uganda (UG).

#### *b) The Prepare-PhD Project*

The PREPARE-PhD project was a three-year (2008-2011) multi-country project funded by the European Union under the ACP-EU Cooperation Programme in Higher Education (EDULINK). The partner institutions included: Makerere University in Uganda, Sokoine University of Agriculture in Tanzania, University of Nairobi in Kenya, and University of Copenhagen in Denmark. This project was part of STRAPA Partnership.

The purpose of the project was to create efficient and effective PhD training systems through strengthening local research capacity and regional networking in the participating higher education institutions (HEI). The key outputs of this project include development of harmonized guidelines for PhD training in the region, supervision and mentoring skills that have been strengthened as well as Makerere University PhD students formed an Association, called the PhD Forum: PF@mak in June 2012. The association for the first time has brought together PhD students from all disciplines at Makerere to share knowledge, experiences and networking.

#### **7.5 Government of Uganda Support**

There has been renewed support by the Uganda Government through the Presidential initiative for Science and Technology to Makerere University. The preliminary design for the initiative is Ushs 10bn annually for five year period targeting different components within the respective units. The components include: for CEDAT eleven projects which among others focus on Technological innovations; Rehabilitation and Modernization of Laboratories; Increased relevance and practical experience from graduates; Improved relationship with all sectors of industries and private sector; Development of Online Laboratories; utilisation of indigenous materials in the production of home based products; under CAES a fully -fledged Food Technology and Business Incubation Centre; and the enhancement of Skills and Technology for Production, Employment and Development in the Animal Industry under COVAB.

#### **The initiative has 6 key objectives namely:**

1. Contribute towards increasing and retaining a pool of highly trained professional scientific and engineering human resource with relevant skills to meet the country's development needs;
2. Improve research infrastructure, that is, generate modern and well equipped laboratories and online laboratories;

3. Develop business incubation facilities to support commercialization of student and staff ideas;
4. Increase the use of research outputs by the industrial firms and appropriate channels that propel a technology-led, competitive development process;
5. Enhance the understanding and appreciation of the role of science and technology in the development process, especially among the young generation; and
6. Improve automation with advances in electrical vehicles.

### **Notable innovations include**

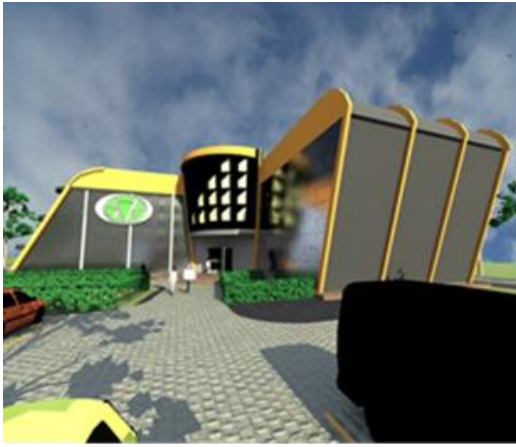
*The Vehicle Design Project; Kiira EV* popularly known as ‘the Makerere car’ This is an innovative research project aimed at applying contemporary technologies to develop sustainable transportation solutions for Uganda and Africa. The research team in technology developed the electric car. The vision of the project is to be at the forefront of research and development of green transport technologies in Africa, while its mission is to carry out research aimed at development of cost effective and environmentally friendly transportation technologies for Africa.

### **Kiira EV Design Specification**



| Vehicle Parameter                     | Value           |
|---------------------------------------|-----------------|
| Number of Doors                       | 3               |
| Seating Capacity                      | 2               |
| Length                                | 3000 mm         |
| Width                                 | 1600 mm         |
| Height                                | 15000 mm        |
| Interior Colour                       | Cream           |
| Exterior Colour                       | Green           |
| Top Speed                             | 100 Km/hr       |
| Wheel Base                            | 2175 mm         |
| Ground Clearance                      | 200 mm          |
| Dry Weight                            | 1000 Kg         |
| Motor Type                            | Induction Motor |
| Motor Power                           | 20kW/26 Hp      |
| Maximum Power                         | 47 kw/62 Hp     |
| Maximum Battery Voltage fully charged | 256 V           |
| Battery Voltage fully discharged      | 180 V           |
| Maximum Theoretical Speed             | 100 Km/hr       |
| Range                                 | 80 Km           |
| Charging time at 13 A 240 V           | 5 Hours         |
| Power Consumed Per Charge             | 15.6 kWh        |
| Cost of Charging (UGX 385 Per Unit)   | 6000 UGX        |

The innovations has spawned the development of the Centre for Research in Transport Technologies, the centre is moving towards the *Development of Highly Skilled Workforce in the area of Green Transportation Technology*: Seeding innovation ecosystems by creating the culture, human capital, and connections necessary to form innovation networks in Green Transportation Technology where researchers, entrepreneurs, investors, manufacturers, and other research interests can collaborate and compete. Government has earmarked US\$ 10bn for the FY 2012/13 towards the development of the centre.



*Visual Impression of the Centre for Transport Technologies*

**Other Innovations Include:** the Low Cost Irrigation Schemes Project aimed at improving agriculture in Uganda, and making irrigation affordable to local farmers through; Design and manufacture of different low cost types of pumps and irrigation systems; Modification of the existing pumps to suit local environment; Testing the performance of the pumps on trails and modify them where necessary; Proving the performance of manufactured irrigation systems on selected trial agricultural sites; training of the Small Scale Entrepreneurs to produce the pumps; and Rolling out of the irrigation technologies to rural communities



*Petrol Driven pump can deliver up to 20,000 l/hr      Irrigation Equipment ready for the field*

Other initiatives are support to programs promoting skills, production, employment and development in the animal resources industry (SPEDA) based at the College of Veterinary Medicine, Animal Resources and Biosecurity (COVAB). The SPEDA program of education, science, technology and innovations is impacting national development at various levels and has received. SPEDA intends to address it using a three pillars prolonged approach that will focus on enhancing Skills for Production & Employment. The three pillars include:- Vocationalisation, Value Addition, and Entrepreneurship. Several on farm training activities have been identified these range from dairy cattle & goat; pig, poultry; fish, apiary enterprises. The SPEDA programme extends the frontiers of PPP through their approach with private farms.

## **8 THE UNIVERSITY REFORMS**

The university effort to become a research-led university as articulated in the Makerere University strategic plan, 2008/09-2018/19 has been expressed through the University Reform Process. The reform process was steered by a University Research, Administrative and Financial Reform Committee (URAFR) committee set up in 2008. The then School of Graduate Studies (now the directorate of Research and Graduate Training, DRGT) provided the Secretariat. Financial support to the reform process was provided by the Swedish Government (Sida), The European Development Clinical Trials Program (EDCTP) and Makerere University/Uganda Government. The design phase was completed and a final report and key outputs in form the Research Manual and the Organisational Manual

A change management committee has been instituted to take forward the reforms and spearhead the implementation of the recommendations of the reforms committee. This process is on-going and has received financial support of USD \$ 440,000 from the International Development Research Centre (IDRC), Canada to complement Makerere University efforts.

### **Conclusion**

Makerere University has made notable strides towards being a leading institution for academic excellence and innovations in Africa. These exploits have been made possible due to the strategic focus of the university with the support of the Government of Uganda together with development partners towards the realisation of the university strategic plan. The interest to support Makerere University achieve her development goals by both development partners and the government of Uganda is expected to continue as 'We build for the Future'.

**Table 1: Summary of Development Partners Support to Makerere University: 2000/01 – 2010/11**

| <b>Development Partner</b>        | <b>Areas of Support</b>   | <b>Amount – Respective Currency and Equivalent (US\$)*</b> | <b>Phase/Timeframe</b>        | <b>Status</b> |
|-----------------------------------|---|--|-------------------------------|---------------|
| <b>NUFFIC</b>                     | Strengthening ICT Training and Research Capacity in the Four Public Universities in Uganda  | Euros 5.7 million (USD \$ 8.55 million)                    | 2007 - 2011                   | Completed     |
| <b>Government of Norway/NORAD</b> | Institutional capacity building in terms of :- <ul style="list-style-type: none"> <li>• Infrastructure – Incl. Buildings for Department of Women studies and Gender, Computer science, Forestry</li> <li>• Human Resource Development</li> <li>• ICT Development</li> <li>• Collaboration &amp; Networking</li> </ul>   | NOK 110Million ( US\$ 14.082 million)                      | Phase I (2000/01 – 2004/05)   | Completed     |
|                                   | <ul style="list-style-type: none"> <li>• Infrastructure – Incl. Building Extension for Faculty of Technology &amp; furnishing of Main University Library</li> <li>• ICT Infrastructure</li> <li>• Human Resource Development at Masters and Ph.D.</li> <li>• Research in Good governance and human rights</li> <li>• Research in Food, Nutrition and Value addition</li> <li>• Strengthened University Management</li> </ul>  | NOK 60 million ( US\$ 9.0 million)                         | Phase II (2005/06 – 2010/11)  | On-going      |
| <b>Government of Sweden</b>       | <ul style="list-style-type: none"> <li>• Strengthening the University staff's research capacity, training and supervision up to Ph.D. level and post-doctoral</li> <li>• Curricula development for cross-cutting and multi-disciplinary research courses</li> <li>• Develop capacity of utilization of ICT infrastructure and library electronic materials in research</li> <li>• Strengthened research infrastructure (e.g. established Biomedical Laboratory, Geographical Information System Lab. And the Demographic Surveillance Site at Mayuge).</li> </ul> | SEK 15 million ( US\$ 1.5million)                          | Preparatory Phase (2000 2001) | Completed     |
|                                   |   | SEK 96.61 million ( US\$ 12.88million)                     | Phase I (2002-2004/05)        | Completed     |
|                                   |   | SEK 181 Million ( US\$24million)                           | Phase II (2005-2009)          | Completed     |
|                                   |   | SEK 181m ( US\$ 24million)                                 | Phase III(2010-2014)          | On-going      |

| <b>Development Partner</b>  | <b>Areas of Support</b>  | <b>Amount – Respective Currency and Equivalent (US\$)*</b> | <b>Phase/Timeframe</b> | <b>Status</b> |
|---|--|--|------------------------|---------------|
|   | <ul style="list-style-type: none"> <li>Strengthened collaborative research linkages between Makerere University staff and senior researchers in Swedish Universities</li> </ul>  |  |                        |               |
| <b>Carnegie Corporation of New York</b>                                     | Institutional capacity building in terms of :- <ul style="list-style-type: none"> <li>Improved equity and access through the gender mainstreaming programme and Female Scholarship Initiative (FSI)</li> <li>Promotion of Science distance education programme of the University</li> <li>Promotion of Science and Technology in line with Government of Uganda’s policy emphasis of Science through development of new academic programmes in Quantity Surveying valuation and more practical veterinary training</li> <li>ICT Infrastructural capacity and utilization in service delivery through use of administrative/management information systems.</li> <li>Development of a model University Library</li> </ul> | US\$ 4.081m  | Phase I (2001-2004)    | Completed     |
|   |  | US\$ 4.99m   | Phase II (2004-2007)   | Completed     |
|   |  | US\$ 5.57m   | Phase III(2007-2011)   | On-going      |
|   | Building, nurturing and retaining the next generation of academics**   | US\$ 1.95m   | Phase I (2010-2012)    | On-going      |
| <b>Norwegian Programme for Development, Research &amp; Education (NUFU)</b> | <ul style="list-style-type: none"> <li>Human Resource Development – training at M.Sc., Ph.D. and technical staff training</li> <li>Joint Research and publication by Staff</li> <li>Attendance of Conferences and Seminars for dissemination of Research findings</li> <li>Staff and student exchange, joint supervision and degrees</li> </ul>  | NOK17,233,840 ( USD \$ 2,461,977)                          | Phase I (1991-2005)    | Completed     |
|   |  | NOK25,325,040 (USD \$3,617,863)                            | Phase II (1996-2001)   | Completed     |
|   |  | NOK53,792,960 (USD \$ 7,684,709)                           | Phase III (2002-2006)  | Completed     |
|   |  | NOK20,739,850 (USD \$ 2,962,836)                           | Phase IV(2007-2011)    | On-going      |

| <b>Development Partner</b>           | <b>Areas of Support</b>  | <b>Amount – Respective Currency and Equivalent (US\$)*</b> | <b>Phase/Timeframe</b> | <b>Status</b> |
|--------------------------------------|--|--|------------------------|---------------|
| <b>Rockefeller Foundation</b>        | Devolution to Colleges – Planning Grant for formation of College of Health Sciences  | US\$ 245,000   | 2002                   | Completed     |
| <b>Ford Foundation</b>               | Devolution to Colleges – Planning Grant for formation of College of Humanities – The Pentad Plan                             | US\$ 100,000   | 2002                   | Completed     |
|                                      |  |  |                        |               |
| <b>Rockefeller Foundation</b>        | Devolution to Colleges – Planning Grant for formation of College of Agriculture and Environmental Sciences                   | US\$ 176,638   | 2003                   | Completed     |
| <b>Rockefeller Foundation/IDA/WB</b> | Enhancement of Makerere University and Partnering Institutions’ role in Government Policy of Decentralised Service Delivery. | US\$ 17.6million   | 2001-2009/10           | Completed     |

**Source: Planning & Development Department, Makerere University**

**\*Exchange rates exposure differed over the different phases of support on various programs**

**\*\*Includes development and operationalization of a Web portal as a platform for dissemination of project activities and outputs from collaborating/participating universities**