



Africa Innovations Institute

PROFILE

FEBRUARY, 2010

Africa Innovations Institute,
P.O. Box 34981, Kampala, Uganda
www.afrii.org



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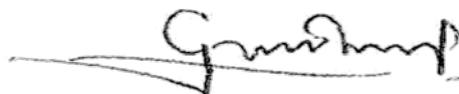
Preface

This booklet presents Africa Innovations Institute. It gives you an overview of the institute and is intended for readers who would like to know the setting and operations of the institute. It also guides potential partners and collaborators on areas of possible interest to them. Donors would find the programme areas particularly of interest.

The booklet is organized into chapters. Chapter one covers organization and management of the institute while chapter two gives the vision, mission and strategy; and chapter three presents programmes and selected projects as by February, 2010.

The booklet is intended to give a brief synopsis of the institute and in no account attempt to present or was intended to present an exhaustive account of the institute and its activities. Readers interested in the deeper functioning of the institute are advised to visit the website at www.afrii.org or contact the Chairman directly.

Enjoy reading.



Professor G.W. Otim -Nape
CHAIRMAN

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Mandate, Governance and Management

1.1 Location and Mandate

The Africa Innovations Institute (Afril), a not-for-profit non-governmental centre of excellence, founded in 2005, is based in Kampala, Uganda. Afril is a young, dynamic and growing institute.

Its main mandate has and will continue to be to undertake research innovations on agriculture and food systems constraints in order to accumulate income and assurance of food and nutrition security of the poor rural and urban communities in Africa, particularly in Eastern and Central Africa.

The institute brings together leading expertise, in agricultural and food systems innovations in Africa, who have wide experience in research and development in sub-Saharan Africa. The team comprises of leading regional experts in fields of agricultural and medical research for development, technology innovations, agricultural engineering and post-harvest technology, socioeconomics, market research and enterprise development, cassava production and integrated pest management, and gender concerns. Management of animal and human diseases is also emphasized.

1.2 Governance and Management

Afril is governed by a Board of Directors headed by a chairman; a management team headed by an Executive Director supported by Heads of Programmes and projects as determined from time to time depending on priorities and needs. An International Advisory Committee provides technical and management advice to the Board.



AFRII is mandated to undertake research innovations on agriculture and food systems

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Vision, Mission and Strategy

The Organization operates through a well articulated vision, mission and strategy and programmes developed through a participatory and consultative process all aimed at contributing to the achievement of the millennium development goals and the goals of AU/NEPAD. The vision and mission have been and shall continue to be:

Vision: Smallholder farmers enjoying increased incomes and are sure of food security

Mission: Undertake innovative research and consulting services that transforms the lives and income of smallholder farmers while ensuring food security and environmental sustainability.

2.1 STRATEGY AND PARTNERSHIPS

The Africa Innovations Institute focuses on research and innovations that transform new knowledge, practices and approaches into income and food security of poor rural and urban communities.

This involves generation and promoting new technologies, innovations, market development and linkages, innovations in policy and institutional change, along the integrated agricultural research for development (IAR4D) continuum.

Particularly, its focus has and will be on niches that



When smallholder farmers are sure of their income and food security, the children are healthier and happier.



A RIU Consultant training data collection teams from Afrll on the intervention programmes for the control of Tsetse flies and Trypanosomiasis in Eastern and Northern Uganda

are currently not being adequately addressed by the public sector research system.

The institute has networking and partnership as its cardinal strategy. In the short run, Afrll will target potential clients such as (1) donors wanting to fund development projects in Africa, (2) international organizations looking for a good partner institution with whom to implement projects funded by donors (for example Sasakawa 2000 needing a partner for a USAID-funded project), and (3) international organizations looking for local consulting services to, for example, study the local fertilizer markets or analyze cotton pricing policy.

Further, Afrll has embarked on efforts to cultivate a rapport and to build a constituency of development agencies and donors willing to fund core programmes of the institute.

It has also embarked on efforts to cultivate special relationships that will motivate private commercial companies and industries to fund Afrll to undertake research projects that address their industry concerns. The institute is now gearing to expanding its activities to the neighboring countries such as Southern Sudan and the Democratic Republic of Congo, among others.

identification, monitoring and response are vital in developing cost-effective strategies to minimize their impacts.

Project 1. Foresight: Detection, Identification and Monitoring of Infectious Diseases

Members of Afrll were a critical part of a team who participated in this project along with counterparts in Europe and China and the rest of Africa. The Project took a broad approach by considering future disease threats to human, animal and plant health, and by considering UK, sub-Saharan Africa and (to a lesser extent) China.

The study took as its key question: How can we use science and technology to improve our capability to detect, identify and monitor infec-

tious diseases in order to better manage the risk from them? It focused particularly on the future role of systems for detection, identification and monitoring of disease of infectious diseases.

The report of the African strand of the Foresight study has been published under the title: Infectious Diseases: preparing for the future – Africa [www.foresight.gov.uk]

Project 2. Development of African Union Science and Technology Policy Framework for the Detection, Identification and Monitoring of Infectious Diseases of Humans, Animals and Plants in Africa

The Institute played a lead agency role in developing and putting in place the "AU Science and Technology Framework for the Detection, Identification and Monitoring of Infectious Diseases in Africa".

The draft policy framework was considered by the AU Council of Ministers for the Commission of Science and Technology (AMCOST) which finally adopted it on 6th December 2008 and called for its speedy implementation. Copies of the Framework can be accessed from Human Resource, Science and Technology Department of the AU Commission.

This policy framework draws heavily on the conclusions and recommendations of the Foresight report 'Infectious Diseases: Preparing for the future – Africa'. Key objectives of the framework are to:

- Set a vision, mission and strategy for infectious diseases surveillance and response in Africa.
- Enhance international cooperation for infectious diseases surveillance and response in Africa
- Strengthen national and regional capacity for infectious disease surveillance and response
- Create an enabling environment for effective infectious disease surveillance and response in Africa
- Ensure commitment and implementation of programmes on infectious disease surveillance and response.

Foresight Infectious Diseases: preparing for the future

Africa Future Disease Risks: Animals

- Trans-boundaries animal diseases/major epidemic diseases that limit market access: FMD, Peste des Petits Ruminants (PPR), CBPP;
- Zoonotic diseases: HIV related infections, Avian influenza;
- Vector borne or associated diseases: Haemorrhagic fever-African Swine fever (ASF), wildlife derived haemorrhagic fevers, aquatic haemorrhagic diseases.

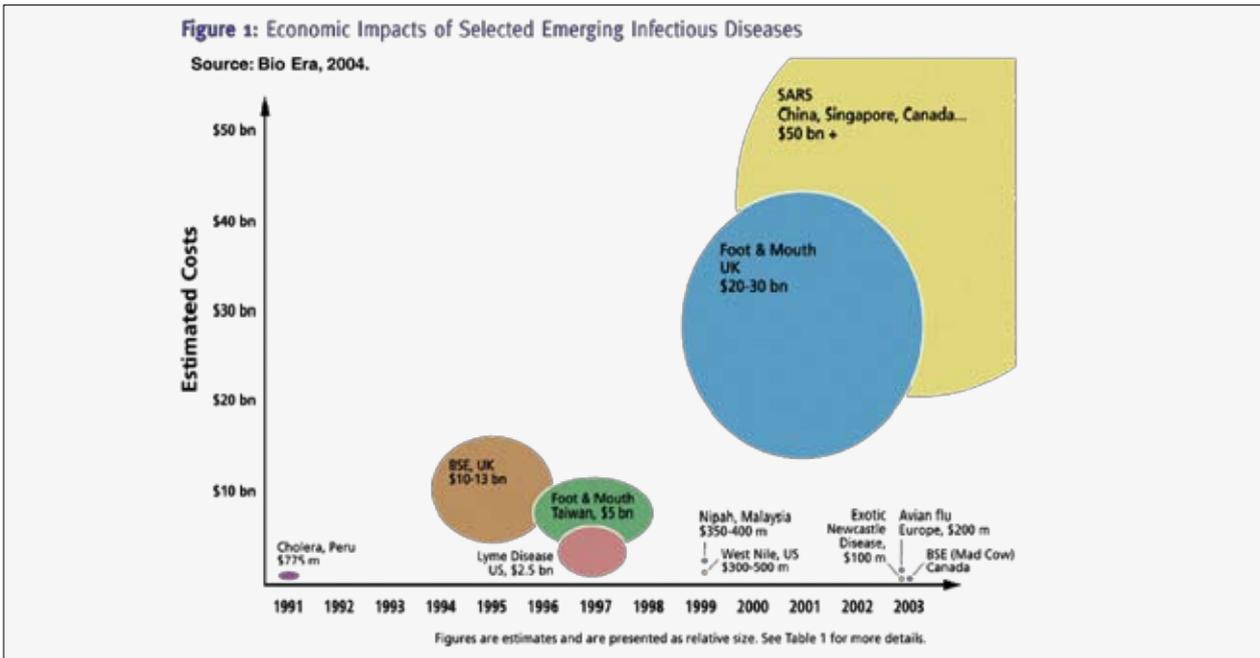
OFFICE OF SCIENCE AND INNOVATION

Foresight Infectious Diseases: preparing for the future

Africa Future Disease Risks: Plants

- Air borne (mostly fungal diseases): spores can be carried over long distances by wind or jet currents, their rapid spread can overwhelm any limited capacity to contain them: rusts e.g on maize, coffee
- vector borne (mostly viral diseases): vector populations may grow or change as crop intensification increases and other agronomic and climatic changes occur.
- seed borne diseases (mainly fungal, bacterial and viruses): will arise due to intensification, commercialization of agriculture and increasing regional or global agric trade.

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Project 3. Establishment of Eastern African Centre for Infectious Disease Surveillance and Response

Supported by the Food and Agricultural Organization of the United Nations (FAO) and the Foresight Programme of the UK Government Office of Science and Innovations (Government of UK) this project is intended to initiate start up activities that will lead to the implementation of the provisions of the AU policy framework "AU Science and Technology Framework for the Detection, Identification and Monitoring of Infectious Diseases in Africa", through the creation of the Eastern Africa Centre for Infectious Disease Surveillance (EACIDS) and the implementation of disease surveillance research, networking, knowledge and information sharing using the "One medicine¹" concept.

The main purpose of the project has been to initiate start up activities that will lead to the implementation of the AU policy framework "AU Science and Technology Framework for the Detection, Identification and Monitoring of Infectious Diseases in Africa" in eastern Africa.

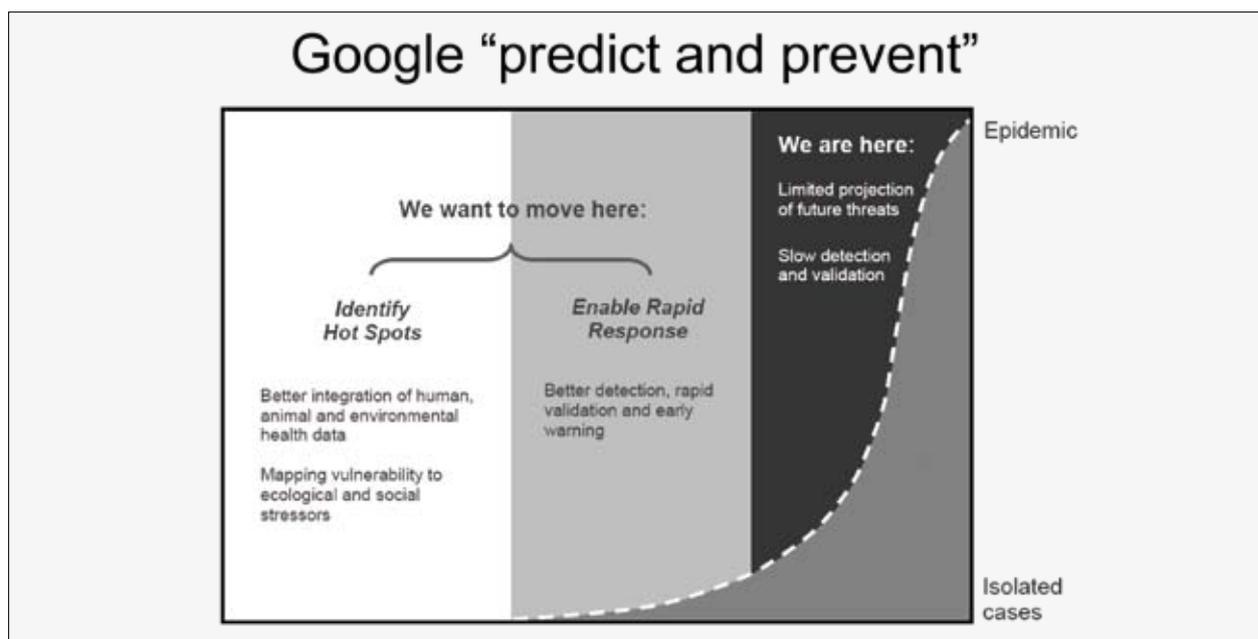
The Specific objectives were:

- a) Undertake an inventory of institutions, programmes and individuals involved in plant, animal and human infectious

disease surveillance in eastern Africa and challenges they face.

- b) seek consensus, among institutions and individuals involved in infectious diseases (animal, human and plant) surveillance activities in the region, for the feasibility and scope and a roadmap for the development of an initiative to support crosssectoral (plant, animal and human) and interdisciplinary management of infectious disease risks in the region
- c) identify and seek consensus on strategic infectious disease priorities, develop a business plan and a program of action for implementation in the region;
- d) Promote networking among institutions working on infectious diseases in the Eastern Africa region to undertake enabling research, in partnership with their counterparts in north, which will underpin the surveillance programme in Eastern Africa

A report concerning stakeholders' views and the status of disease surveillance capacity and programmes in the Eastern African region has been published. A database has been established and can be visited at www.eacids.org. A regional workshop on infectious disease in the region has been arranged for 3 - 4 March 2010 in Kampala, Uganda. Details and outcomes of the workshop can be accessed from the same website.



Project 4. Evaluation of the Stamp-Out Sleeping sickness (SOS) and Past Tsetse/ Trypanosomiasis Interventions Programme in Uganda

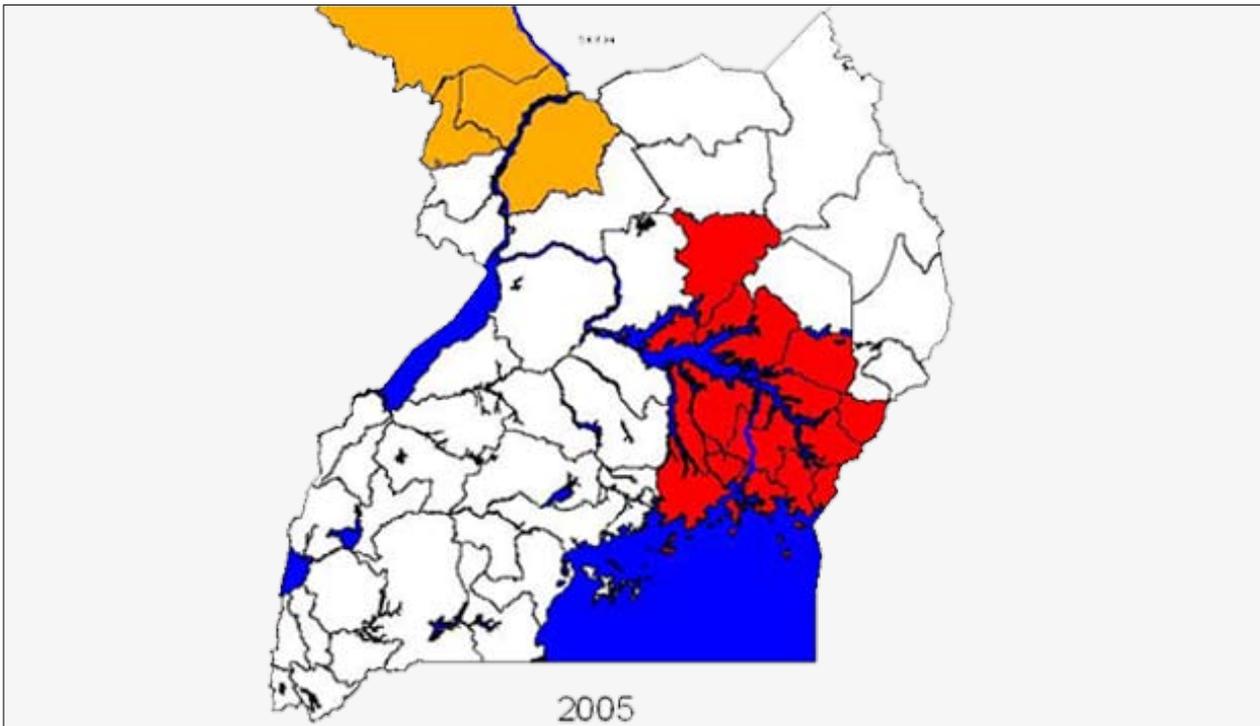
Trypanosomiasis (Nagana in animals and sleeping sickness in humans) is a disease complex caused by tsetse fly-transmitted *Trypanosoma congolense*, *T. vivax* or *T. brucei brucei* or a simultaneous infection of one or more of these trypanosomes. It directly constrains cattle productivity by reducing birth rates, increasing abortion rates and increasing mortality rates. Uganda is one of the 37 tsetse-infested countries in sub-Saharan Africa. It is estimated that 70-75% of the country is tsetse-infested and about 70% of the cattle population in the country are at risk; the prevalence of trypanosomiasis being 11.9 % under intensive dairy system and 25% under the communal grazing system (MAAIF,2006). The resultant poor performance of cattle in tsetse-infested areas has led to poverty and food insecurity among small farming communities. Uganda has two foci of sleeping sickness, the rhodesian and the gambian form. Cattle are reservoirs of the rhodesian form of sleeping sickness and therefore the spread of this form has been linked to cattle movement.

In response to this threat, the “Stamp Out Sleeping sickness” (S.O.S.) Project was implemented in Uganda from October, 2006 to try and prevent the two foci from confluencing.

Afrll was contracted to undertake a study of the implementation of the SOS Programme and past tsetse/trypanosomiasis interventions. The purpose of the study was to:

1. Collect contextual information on selected parishes and assess how research into sleeping sickness had translated into use, so as to subsequently inform later stages of the study.
2. Identify the constraints to uptake and how they are being overcome,
3. Find out whether there is differential uptake between wealth and other categories of cattle farmers, and
4. Understand how the farmers are being motivated to practice RA.

The study was conducted in the SOS area in the districts of Lira, Apac, Dokolo, Amolatar and Kabaremaido and in non SOS area in Soroti and Amuria districts in eastern and northern Uganda respectively. A full report and recommendations is available on request from Afrll.



Two foci of sleeping sickness in Uganda tending to confluence. Afril has worked with partners to evaluate intervention measures.

3.2. COMMODITY VALUE CHAINS PROGRAMME

The context

Responding to market opportunities remains a key challenge to commercialization of agriculture in Eastern Africa. Anecdotal evidence suggests that, following liberalization, there is a growing and unfulfilled demand for most food crops in local, regional and international markets.

Yet smallholder farmers in Eastern Africa have not been able to respond effectively to market reforms and exploit opportunities because of a number of structural and institutional constraints that limit market participation.

Bottlenecks at one stage of the supply chain depress the incentives for investment and growth at other stages in the supply chain. Traders are constrained by poor quality products, inadequate supply, and high cleaning costs whereas market intermediaries in the supply chain face high assembly costs, high market risk and cash flow problems. These factors undermine private sector incentives for improving markets, and in turn act as a disincentive to farmers to produce and supply quality and differentiated products with desirable market traits.

Through this programme, Afril works with key actors across prioritized commodity value chain to address key constraints at both the supply and demand side of the value chain in order to add value to commodities and enhance participation by smallholder farmers and firms in the value chains and commercialization of their commodities.

Project 1: Cassava: Adding Value for Africa-(C:AVA-Uganda)

C:AVA -Uganda is a part of a global consortium involving the University of Greenwich in the UK and Nigeria, Ghana, Tanzania, Malawi and Uganda. It focuses on commercialization of cassava and linking producers to markets using high quality cassava flour as its target product. It aims to improve the livelihoods and incomes of at least 90,000 smallholder households as direct beneficiaries including women and disadvantaged groups. In Uganda, it targets at least 16,000 households mainly in the Northern and Eastern parts of the country.

It promotes the use of High Quality Cassava Flour (HQCF) as a versatile raw material for which diverse markets have been identified in pilot studies. The project focuses on three key intervention points in the value chain:

1. Ensuring a consistent supply of raw materials;
2. Developing viable intermediaries acting as secondary processors or bulking agents in the value chains; and
3. Driving market demand and building market share (in, for example, bakery industry, and components of traditional foods or plywood/ paperboard applications).

Farmers and farmer/processors have been supported in production and primary processing activities through partnership with NGOs or other service providers. Business development and other specialists supports intermediaries to meet the requirements of end users who are supported technically in adopting HQCF in the production and marketing of their products. The CAVA-Uganda project has made tremendous impact on commercialization of cassava. Important studies have been completed and full reports are available on our website www.afrii.org or can be obtained on request from Afrll.

Project 2: Sesame Value Chain Improvement.

Funded by the Austrian Development Agency (ADA) and led by ICRISAT Nairobi, this project aims at increasing the incomes of more than

6,000 smallholder households, entrepreneurs, and employees in the value chain by at least 20% from production, processing and marketing of high quality sesame grains in diversified markets, regionally and internationally. The project pursues the following five objectives:

1. Assess, identify and develop current and potential growth markets for high quality sesame grains and products
2. Removing constraints to sesame productivity and post harvest quality
3. Scale-up and scale-out successful technologies and approaches to improve chain competitiveness
4. To enhance the capacity of value chain actors to meet end-user demands for increased reliability, quantity and quality of sesame grains on a sustainable basis

Other partners in the project are Austrian Institute of Technology and, the national Semi-Arid Institute, Serere. The project is generating exciting new knowledge on the genetics and new varieties of sesame and new technologies for controlling pests and diseases.

3.3. CAPACITY AND INSTITUTIONAL DEVELOPMENT PROGRAMME

Capacity, the ability of individuals, organizations



An innovation of NGOs that might be transferred to the private sector?

A mobile grating service: could this move from a group to a private sector service?



mentation and sustainable management of selected development programmes, commodities, pests and disease situations. The specific projects in the programme are outlined below.

Project 1. Support to the Implementation of the Comprehensive African Agricultural Development Programme in the COMESA region.

The Comprehensive African Agricultural Development Programme (CAADP) is a Programme of the AU/NEPAD. It provides an integrated framework of development priorities aimed at restoring agricultural growth, rural development and food security in the African region. The Common Market For Eastern and Southern Africa (COMESA) engaged from 2007-2008, Prof G.W. Otim-Nape, a key member of Afrll, to:

1. "Overseeing the implementation of CAADP in the COMESA Member States, assisting with Country Roundtables and finalization of national compacts"
2. Play a lead advisory and technical assistance role in the implementation of

and societies to perform functions, solve problems, and set and achieve goals to the satisfaction of stakeholders is critical in national and regional developments. Several studies have identified this element as a critical limiting factor in African agricultural development. Consequently, sustainable creation, utilization and retention of national and regional capacity to effectively implement agricultural development programmes in order to improve people's livelihoods become fundamentally important. This Programme supports national and regional organizations, programmes and institutions in their endeavours to develop their individual, organizational and societal capacities for imple-



Sesame, one of the most precious crops in Northern Uganda, is facing serious challenges of low yields and pests. Afrll, in collaboration with its partners, are working hard to improve the value chain of this commodity. (Above is improved variety Sesame 2 being multiplied for seed distribution for farmers)



Afrill staff train trainers and works with rural communities to help them improve their income and food security.

- the CAADP in each member state in the COMESA region;
3. Provide support in the design and preparation of National CAADP Compacts and the successful execution of CAADP Round Tables
 4. Bring together the different stakeholders in the implementation of CAADP in each member state.

This assignment was successfully executed. Nearly all the 19 member states, except three, had embarked on implementation of CAADP by June 2008. Of these one had completed their National Compact, while four were in last stages of completion and six had advanced quite significantly. The rest were in various stages of Round table implementation. A full report on this and related activities are available at the COMESA Secretariat.

Project 2. Challenges and Opportunities in Cassava Crop Improvement and the Feasibility and Scope for a Cassava Crop Improvement Trust for Africa.

Cassava can and has played a special role in addressing the needs of the world's food and energy crisis. Of the total population of Sub-Saharan Africa, 250 million Africans depend on cassava.

Climate change projections indicate that cassava's potential may become even more significant because it is likely to be less vulnerable to the adverse effects of the changes projected compared to many other staples.

This study aims to identify challenges and opportunity in cassava crop improvement and the scope and feasibility of a grant making mechanism to support strategic cassava genetic improvement research in Africa. It is envisaged that this mechanisms will catalyze action, and mobilize human and financial resources to promote the use of advanced science and technology tools and products for this purpose. The specific objectives of the study were:

1. Examine the cassava landscape situation in Africa and set the vision for its development
2. Undertake a review and stakeholders consultations to identify and prioritize technical challenges and opportunities for cassava development in Africa
3. Identify market, institutional challenges and opportunities for cassava development in Africa
4. The Design and layout the functions, characteristics and management of an intermediary African organisation that will empower key R&D players; finance investments and catalyze activities in

cassava crop improvement and define its relationships with key stakeholders.

5. Outline and recommend grant making mechanisms for cassava genetic improvement in Africa.
6. Define the strategy, priorities and Programs and pipeline projects for the grant making mechanism.

The Africa Innovations Institute has been fully responsible for the overall management and direction of the project and has been working with national, regional and international cassava R&D institutions and other stakeholders in implementing the project. The project has successfully carried out objectives 1-6 and reported on their findings and recommendations.

Project 3. Support to the Partnerships and Capacity Development Unit of ASARECA

The Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) is a not-for-profit subregional organization established in 1994 to serve the Eastern and Central Africa region. It has its secretariat in Entebbe, Uganda and a ten country membership, namely Burundi, DR Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania and Uganda. Through reform process in ASARE-

CA, a Partnership and Capacity Development (PCD) Unit was created. Through its chairman, a member of staff of Afrill has been working with the Association to contribute to the development of the Unit and its Programme of activities. The objectives were:

1. Provide a detailed background paper that will assist the PCD unit to prepare a five year strategic plan, a medium term plan and a prioritized list of activities that should be undertaken by the unit.
2. Facilitate the development of Strategic plan for the Partnerships and Capacity Development Unit of ASARECA so as to be responsive to the ASARECA Operational Plan (2008-2014) and Strategic Plan (2007-2016).
3. Develop a position paper on IAR4D and a gaps analysis report identifying the gaps in IAR4D capacity among sub-grantees and the projects supported under the different ASARECA programmes.

The above has been successfully completed on the background paper and strategic plan. Substantial progress has been made on the development of the IAR4D position paper and the gap analysis. Information on the above can be accessed through the PCD Unit, ASARECA Secretariat.



Partnerships and capacity is key to success. Afrill strives to build partnerships and capacity as its key strategy.

3.4. CLIMATE CHANGE PROGRAMME



Long Droughts due to climate change

The context

Global warming and the resultant climate change have introduced new dimensions to and created a need for better and more understanding/appreciation of climate variability and climate change by stakeholders at household, community, national, regional and global levels. It has also created the need to enhance the capacity of regional, national and community based institutions to accurately predict and respond to the challenges that come with climate change and how to minimize the eminent disasters they cause. The vulnerability of African people to climate change necessitates collective action to address the issue some of which are provided for in the United Nation Framework Convention for Climate Change and in the Millennium Development Goals. Little climate information has been generated through research in Africa.

Even the little information generated is not being synthesized for integration in production planning and policy formulation processes to enhance climate adaptation measures. This Programme builds on and provide information to bridge gaps on our knowledge on adaptation strategies to climate change and variability. It

promotes participatory approaches and action research with key stakeholders so as to develop acceptable interventions.

Project 1. Adaptation to the Impact of Climate Change and Variability on Food and Health Security in the Cattle Corridor of Uganda

Global climate change is unequivocal and the negative impacts will be felt severely in sub-Saharan Africa. Uganda has been experiencing significant increases in variability of climate and frequency of extreme weather events, resulting in intense droughts of longer duration, especially in the cattle corridor. There is severe pasture degradation (due to overgrazing), loss of biodiversity, frequent drought, famine, malnutrition, migration (occasionally leading to violent conflicts) and poor health among the population. However, the nature and pattern of climatic change and variability and how they interact with other factors to cause negative environmental outcomes manifested as persistent famine, malnutrition and ill health is not known. Community-based adaptation initiatives to climate change have

not been characterized nor understood. Hence, management of the cattle corridor ecosystem for sustainable development is a major challenge to the government and other partners. "We suffer a lot of pain because we can no longer feed our children. To make matters worse, many local people are turning to cutting down trees for charcoal in order to earn money as a way to survive. This is worsening the problem. With fewer trees the rainfall patterns are likely to become more unpredictable". "Water and pastures is scarce. We are finding it hard to feed our animals and keep them productive." Olive Olupot who had been living in an internally displaced persons camp ever since her farm flooded two years ago: The New Vision Vol 24 no. 110, Friday, June, 5th 2009; The Sunday Monitor, June 20 2009, p.11).

Overall objective: Investigate the impacts of climate change and variability on ecosystem services, food security and health and formulate community-based adaptation initiatives and supporting policy measures to minimise risks of climate change and variability in Nakasongola and Nakaseke districts in the cattle corridor of Uganda. The project will expand gradually into other sub-regions of the cattle corridor of Uganda and ultimately into similar regions in the Great Lakes Region of Eastern and Central Africa.

Specific Objectives

1. Determine the past, current and future trends of climate change and variability in the cattle corridor (Nakasongola and Nakaseke districts) of Uganda
2. Determine the effects of climate change and variability on ecosystem health and services
3. Establish how the impact of climate change and variability on ecosystem health and services affect natural resources, agricultural production, health and food security of communities
4. Identify and strengthen communitybased and institutional adaptation initiatives and supporting policy measures to deal with risks of food insecurity, malnutrition and ill health arising from climate change and variability
5. Initiate and implement capacity development strategies for addressing risks of increasing food insecurity, malnutrition and ill health arising from climate change and variability
6. Manage and share knowledge generated by the study with stakeholders.



Evidence of fierce wind/storm and soil erosion along the road to Ngoma, Nakaseke District

"However after 2005 up to 2009, the seasons have progressively changed and 2009 has seen even more unpredictable seasons, they confirmed. "Some rain was received in June and Aug but was not really rain. It was too little and unexpected especially in June. We tried to plant some crops but the rain disappeared again and we have just started receiving traces of it this time around while strong wind comes straight without any barrier or wind breaker." - Male FGD participant, Kyamuyingo in Nakasongola District, Uganda. (Source: Community Diagnostic Report, Nakasongola, Uganda Dec 2009, Africa Innovations Institute, Kampala)

For further information please contact:

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Also visit our website: **www.afrii.org**



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