

Above: An agribusiness incubator; workers from Kamurga Artemisia Farmers Group processing aloe vera which is used in making soaps, detergents and aloe juice.

Photo by Dr Nicholas Ozor

Realising the Potential of Africa's Youth: Linking university education, research and business in sustainable agriculture





About UniBRAIN

An Initiative supported by Royal Danish Ministry of Foreign Affairs (Danida)

Background

UniBRAIN (Universities, Business and Research in Agricultural Innovation) is addressing one of the five core initiatives identified by through 15 comprehensive consultations held by the Africa Commission in 2008, which found that: "African universities are not sufficiently geared to meet the needs of industry. Graduates often cannot find employment, while many small businesses lack staff with the education and skills needed to drive innovation. Essentially, the relationship between the demands of the private sector and what universities teach is too weak."

UniBRAIN is pioneering a new approach to promoting agricultural innovation and improving tertiary agribusiness education in Africa.

UniBRAIN will step away from the mainstream to bring African Universities into agricultural innovation through increased and strengthened collaboration between universities, research institutions and the private sector, improved teaching and learning and knowledge sharing.

UniBRAIN is being implemented by a consortium led by Forum for Agricultural Research in Africa (FARA), with the African Network for Agriculture, Agro-forestry and Natural Resources Education (ANAFE), the African Technology



The "Left Foot Management" incubators at Kenya Industrial Research Institute (KIRDI) producing footballs purely from agro-materials

Photo by Dr Nicholas Ozor

Policy Studies Network (ATPS) and the Pan African Agribusiness Consortium (PanAAC) and the Sub-Regional Organisations (SROs); the Association for Strengthening Agricultural research in East and Central Africa (ASARECA), West and Central African Council for Agricultural Research and Development (CORAF/WECARD) and the Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA).

UniBRAIN will promote agricultural innovation and produce graduates with entrepreneurial and business skills and research-based knowledge that is relevant to the development of African agriculture and agribusiness.



Research in the flower business

Courtesy; FARA Photobank

African agriculture is open for business with unrivalled assets that include:

- Great room for improvement in crop and livestock yields. For example currently cereal yields are two times higher in South Asia and two and a half times higher in East Asia;
- with an African population predicted to reach 2 billion by 2050, the most assuredly growing global market for food and agricultural commodities.
- An abundance of labour with great potential for acquiring high-level skills
- More capital than can be currently absorbed
- Opportunities for addressing the big issues of the 21st century, i.e., hunger and poverty through employment (especially of youths), climate change and water scarcity.



Smallholders marketing vegetables in Kenya

Photo credit: FARA

However there are serious constraints that are impeding African agricultural innovation

Africa is short of:

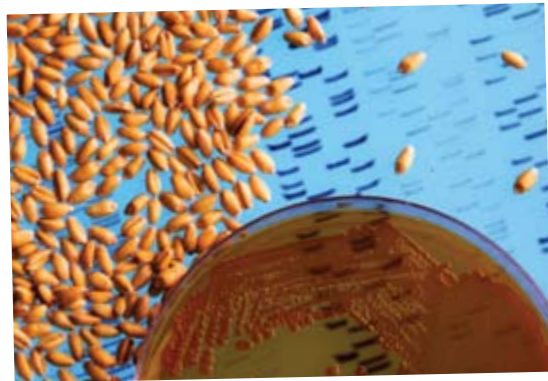
- High level human and institutional capacity
- Entrepreneurs and problem solvers
- Leadership in identifying and exploiting

socially responsible opportunities for investment in agriculture and the environment

- African agricultural and environmental entrepreneurs
- Socially responsible profitable sustainable innovation in agriculture and the environment

These constraints must be addressed because failure to produce high-impact innovations is not an option as it would result in:

- Africa failing to take advantage of its demographic bonus of having the highest proportion of working age people in its population. This would leave tens of millions of young people unemployed, frustrated and angry
- Accelerated destruction of African forests - the world's second lung
- Loss of irreplaceable biodiversity
- Increased food insecurity if land is devoted to non-food crops without increased in productivity of food crops and livestock.



Research produces improved wheat varieties; UniBRAIN will help commercialise and up-scale research products

Picture credit: Wikimedia Commons:

African universities have demonstrated that they are prepared for radical change Millennium Declaration of the Association of African Universities (AAU) and was an urgent call for change and this been a constant theme at the AAU General Meeting in May 2009. But there will still be resistance:

- There will be those who think they are ready for change but do not actually understand what the changes are really about
- There will be clashes of cultures between universities, business and research and between public and private institutions
- There will be those that will not like it when they see how the changes will affect them (*Ethiopian proverb: slowly slowly the egg will walk*)

UniBRAIN is a facility for linking university education, research and business in sustainable agriculture which will support the following interventions:

- Development and implementation of collaborative programmes between universities, research institutions and the private sector which foster innovation
- Development and implementation of improved and better contextualised undergraduate and postgraduate agribusiness teaching and learning
- Facilitating exchange of experiences and sharing of resources and knowledge

UniBRAIN will support the establishment of agribusiness incubators that will function as research and advisory centres for SME's, start-ups and enterprises undertaking change and innovation

The mission of the incubators is:

- to facilitate the creation of competitive agribusiness enterprises through technology development and commercialization
- to support start-up entrepreneurs and new or expanding enterprises with the kind of services they want from conceptualization to implementation and scaling up

The Incubators will have:

- clear identities, expressed by the incubator's name, its logo or stated in its value proposition
- access to qualified research and development personnel in the areas of knowledge with which they identify
- ability to market high value products and services
- the capability to provide marketing expertise and managerial skills to firms, particularly small and medium sized enterprises, that do not have such resources in-house
- access to well qualified mentors
- competent assistance in conducting feasibility studies and developing business plans
- access to cost-effective problem solving expertise
- access to adequately equipped laboratories and field sites for multiplication and testing of technologies
- support by effective advocacy in raising capital for up-scaling successful innovations
- provide for client enterprises to return for help with unpredicted emerging problems

The incubators will be able to:

- select firms on their business plan's coherence with the incubator's identity
- identify innovations and business opportunities that will interest the different parties
- protect product and process secrets, via patents, and commercial confidentiality
- protect IP rights
- involve different university faculties
- respect the different roles of the partners

The incubators will provide:

- Coordination and integration of business and agricultural technical knowledge
- One stop advisory services for existing and new businesses
- Advice on new approaches to agribusiness development
- Training of entrepreneurs in collaboration with complementary centres
- Opportunities for further support and investment through alliances with other centres

The Incubators will advance:

Social Considerations:

- Emphasis on development and support to female entrepreneurs
- Emphasis on development and support to youth entrepreneurs
- Emphasis on rural participation in agro value chains
- Emphasis on sustainable energy and agro-water management schemes (e.g. harvesting rain water for agrobusiness)

Value chain perspective:

National value chains:

- Low end values (enrichment required)
- Fragmentation, disconnections

Regional value chains:

- Absent, but new prospects are emerging

Global value chains:

- Lead firm constraints
- Limitations to few product lines, countries and regions

The Incubators will be promoted and sustained by:

- Prioritising global issues such as youth employment, water, and climate change with a view to engaging social enterprise funding:
- Management with expertise in financial matters
- Stable political, economic and regulatory regimes, providing a sound business
- Infrastructure, initial funds, to facilitate venture creation despite the inherent risks
- Competitiveness strategy which has analyzed and identified the sub-sectors of advantage, selected the change agents and markets



Crop insurance business

Picture Credit: FARA

- Human resources development to help build the full range of specializations needed, from trainer to technician, innovator to manager
- Functioning institutions for banking, insurance, stock markets, tax, intellectual property and environmental protection

The university incentives for establishing agribusiness incubators are the opportunities they will provide for:

- career enhancing research
- meaningful postgraduate research
- student placements
- commercializing their innovation with IP protection and fair royalties for individuals and departments
- access to up-to-date and contextualised information and data for agribusiness teaching and training
- funding for on-campus research related to the innovations
- access to private enterprise and research communities for advice on curricula reform to produce the kind of graduates that are needed for today's industry, i.e. problems solvers and job creators

The agricultural research incentives for collaborating in agribusiness incubator consortia are:

- opportunities to contribute to innovations that will promote wide-scale African agriculture and natural resource management
- opportunities for themselves to contribute to commercial innovations that will scale-up their research results, products and outputs
- to enable their scientists to benefit professionally and financially from interaction with

colleagues in universities and private enterprises to produce high-impact commercial innovations

The agribusinesses incentives for collaborating in agribusiness incubator consortia are:

- access to wide ranges of diverse high-level human resources as and when required
- access to laboratories and field testing sites in different farming systems and ecologies
- support in sourcing capital for investing in fabricating, marketing and scaling up their innovations

This will be underpinned by assurance:

- that the other partners are serious and conscious of the cost of time and have the capacity and expertise to be of real assistance (need to engage both agriculture and agribusiness faculties)



James Muhumza, the Director of Tropical Aloe-Lands Uganda selling one of the products his company produces from the Aloe Vera plant

Picture Credit: Marsden Momanyi

- that IP and commercial confidentiality will be respected
- the partnership will endure to help with future problems

To facilitate sourcing of favourable start-up investment enterprises will be encouraged to have the following characteristics:

1. Enterprise orientation:

Produce goods or provide services to a market and seek to be viable trading organisations

2. Social Aims:

Have explicit social aims such as job creation, training or the provision of local services

3. Social ownership:

Be autonomous organisations with governance and ownership structures based on participation by stakeholder groups

Sustaining the incubators requires:

- Supporting high growth agri-based entrepreneurs
- Developing a new generation of entrepreneurs,
- Supporting rural agriculture through outreach facilitation of out-growers, cooperatives, marketing groups etc
- A tertiary education network with Africa wide coverage that is committed to the initiative
- Early success in commercialising innovations
- Association with other incubators such as Aalborg business park and Egypt-ICRISAT as sources of knowledge on managing agricultural innovation incubators
- As venues for training in managing incubators
- As sources of scientific and technical expertise that can be called on when needed

African entrepreneurs are committed to value adding processing and marketing as shown by the All Grain Kenya Ltd products on supermarket shelves.

Picture Credit: Dr Nicholas Ozor



African universities are committed to promoting commercial farming and agribusiness

Picture Credit: FARA

The university aspects will be facilitated by ANAFE

This includes:

- Raising and maintaining awareness of the initiative & its products
- Supporting the universities in curricula change
- Advising agricultural research and agro-businesses on the prospects and modalities of working with universities
- Being a knowledge centre for university capacities that agro-business and agricultural research can refer to when seeking partnerships
- Quality assurance of university contributions and products
- Fostering linkages and interactions with non-African universities and capacity building institutions
- Facilitating engagement with universities that are not directly involved
- To widen the opportunities for supporting innovation development and up-scaling

The agribusiness aspects will be facilitated by the PanAAC.

This includes:

- Raising and maintaining awareness of the Programme and its products and outcomes
- Facilitating agricultural agro-business participation in the Programme's competitive grants
- Advising universities and agricultural research institutions on the prospects and modalities of working with agro-businesses
- Being a knowledge centre and directory for agro-businesses capacities and performance records
- Quality assurance of agro-business contributions and products

The agricultural research aspects are facilitated by FARA and the Sub-Regional Organisations; ASARECA, CORAF/WECARD and CCARDESA.

This includes:

- Raising and maintaining awareness of the Programme and its products and outcomes
- Facilitating agricultural research institutes' participation in the Programme's competitive grants
- Advising universities and agribusinesses on the prospects and modalities of working with agricultural research institutions
- Being a knowledge centre and directory for agricultural research capacities and performance records
- Quality assurance of agricultural research contributions and products

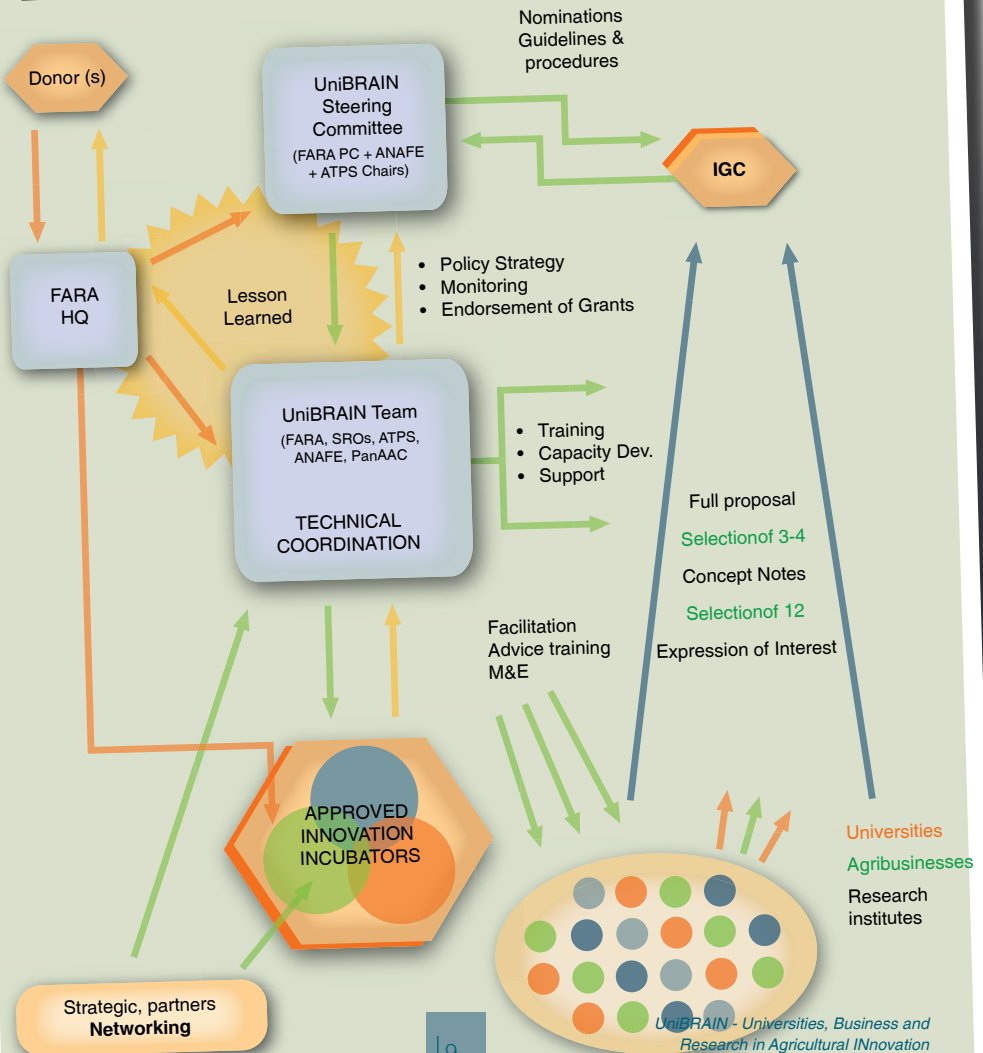
The contribution of Danish university, agribusiness and agricultural research is facilitated by DDRN.

This includes:

- Raising and maintaining awareness of the Programme and its products and outcomes
- Ensuring that African institutions can access information on the interests and capacities of Danish universities, agricultural research and business
- Advising universities and agribusinesses on the prospects and modalities of working with agricultural research institutions
- Facilitating Danish institutes' participation in the Programme's competitive grants

Governance and management of UniBRAIN

- FARA's Executive Board representing FARA's diverse stakeholders has overall responsibility for governance in accordance with FARA's agreement with Danida
- FARA's Executive Director is responsible for day-to-day management
- UniBRAIN's Steering Committee is comprised of the FARA Executive Board's Programme Committee and the Board Chairs of ANAFE, ATPS and PanAAC
- UniBRAIN has an Independent Grants Committee that will assess the merit of proposals for both commercialising agribusiness innovations and improving tertiary agribusiness education
- Grants will be made on a competitive basis to University-led agri-business incubator consortia that will be managed by boards comprised of university, business, research and civil society representatives
- The granting process will involve calls for expressions of interest, invitations to submit concept notes and after selection invitations to submit full proposals
- Prospective consortia that are selected to move to next step will be offered support by the UniBRAIN partners



UniBRAIN Partners:

The Forum for Agricultural Research in Africa (FARA)



FARA is the apex organisation for agricultural research in Africa. The Forum's mission is to create broad-based improvements in agricultural productivity, competitiveness and markets by supporting

Africa's sub-regional organisations in strengthening capacity for agricultural innovation. FARA works with and through the sub-regional organisations, ASARECA, CCARDESA and CORAF/WECARD to provide a strategic platform to foster continental and global networking that reinforces the capacities of Africa's national agricultural research systems.

FARA and the SROs are committed to leading the implementation of Pillar IV of the Comprehensive Africa Agriculture Development Programme (CAADP) which encompasses agricultural research, technology development and dissemination with crosscutting capacity strengthening.

African Network for Agriculture, Agro-forestry & Natural Resources Education (ANAFE)



African Network for
Agriculture, Agroforestry
& Natural Resources Education

The African Network for Agriculture, Agroforestry and Natural Resources Education (ANAFE) is a network of 131 educational institutions in 35 African

countries whose objective is to strengthen the teaching of multi-disciplinary approaches to land management. The ANAFE Secretariat is hosted at the International Centre for Research

in Agroforestry (ICRAF) headquarters in Nairobi. This provides a vantage for network management, linkages with the research and development activities of ICRAF and its partners, and convenient communication facilities.

African Technology Policy Studies Network (ATPS)



ATPS is a multi-disciplinary network of researchers, private sector actors, policy makers and civil society actors promoting the generation, dissemination, use and mastery of science, technology and innovation (STI) for African development, environmental sustainability and global inclusion.

With a regional secretariat in Nairobi, it operates through national chapters in 23 countries with an expansion plan in place to cover the entire sub-Saharan Africa

Pan African Agri-Business & Agro-industry Consortium (PanAAC)

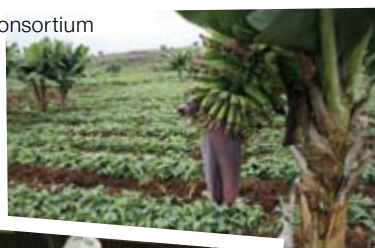


PanAAC is a continental network bringing together agribusiness value chain stakeholders in Africa. PanAAC's

constituents comprise of contract-producers, input providers, dealers, logistics providers, marketers, processors, financiers, exporters and consultants. Its mission is to promote agribusiness in Africa through enhanced investment, productivity and competitiveness in the national, regional and global markets.

Acronyms and abbreviations:

ANAFE	African Network for Agriculture, Agroforestry and Natural Resources Education
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
ATPS	African Technology Policy Studies network
CCARDESA	Centre for Coordination of Agricultural Research and Development for Southern Africa
CORAF/WECARD	Conseil Ouest et Centre Africain pour la recherche et le développement agricole/ West and Central African Council for Agricultural Research and Development
DDRN	Danish Development Research Network
FARA	Forum for Agricultural Research in Africa
IP	Intellectual Property
PanAAC	Pan African Agribusiness and Agro-industry Consortium
SME	Small and Medium Enterprises
SRO	Sub-Regional Organisation



Agribusiness From farm to shop

Picture Credit: FARA

UniBRAIN

Universities, Business
and Research in
Agricultural INnovation



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Smallholder marketing

Picture Credit: FARA



African Network for
Agriculture, Agroforestry
& Natural Resources Education



Pan African Agribusiness Consortium