

Uganda Industrial Research Institute

UGANDA CASE STUDY



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1 SUMMARY

The Uganda Industrial Research Institute (UIRI), a traditional incubator run by the government, has made a significant impact by locating value-added processing systems from its Kampala headquarters into farmer communities. While the model lacks the necessary innovation development, UIRI offers SME clients in these regions the opportunity to expand their personal income and their existing businesses through local market development and value-added food processing. At the same time, however, UIRI's traditional incubator has been challenged to graduate incubatees who do not have the financial resources to stand on their own.

2 BACKGROUND AND CONTEXT

The Uganda Industrial Research Institute (UIRI) is the Ugandan government's lead agency for industrialization and technological innovation. It was established in 2002 by Parliament under the auspices of the Ministry of Tourism, Trade and Industry (MTTI). UIRI grew out of the East African Industrial Research Organization (ESIRO), which was run by the now-defunct East African Community (EAC).

UIRI, which is based in Kampala, implements strategies aimed at transforming industry in Uganda. Over the past several years, UIRI has revised its mandate, purpose and organizational structure to better address its mission and the country's industrial development strategies. This has resulted in a more dynamic, flexible and responsive organization geared towards:

- a. Technology development and transfer
- b. Business development services
- c. Industrial services
- d. Pilot plants and prototyping
- e. UIRI Millennium Science Initiative (MSI)

UIRI helped form the African Incubator Network (AIN) as a regional coordinator for east and central Africa.

Globally, UIRI is an active member of the World Association of Technology and Research Organizations (WAITRO). UIRI Executive Director Charles Kwesiga, an industrial engineer who holds an honorary professorship, is WAITRO's second vice president and a member of the executive committee. WAITRO advocates for business incubation. Some of its members, including SIRIM Berhad of Malaysia, have developed outstanding business incubator models.

UIRI has begun collaborating with other regional business incubator models, and further collaboration is planned.

3 STRATEGIC VISION, MISSION, AND TARGETS

Vision: “to be the model institution and regional center of excellence for incubation of industry and pioneering industrial research and development activities that could elevate the level of technology in Uganda and the region.”

Mission: “to improve capacity and competence of indigenous entrepreneurs in undertaking viable industrial production processes and in their ability to produce high quality, marketable products” and “to provide demand-driven scientific and industrial research and development and internationally-competitive technological services that will lead to rapid industrialization for the benefit of the people of Uganda.”

UIRI’s overall mandate is *“to undertake applied research and to develop and/or acquire appropriate technology in order to create a strong, effective and competitive industrial sector in Uganda.”*

UIRI has implemented the following core objectives:

- f. To conduct applied research for the development of products and to design and implement optimal production processes.
- g. To develop and acquire appropriate technologies to create a strong, effective and competitive industrial sector.
- h. To promote value-added activities in order to transform local raw materials into competitive, marketable products.
- i. To bridge the gap between academia, government and the private sector with respect to the commercialization of innovation and research results.

UIRI is committed to large-scale, sustainable social impact, reflected in its projects and incubation models. Within its traditional incubator space in Kampala, UIRI works with a limited number of targeted clients. Space for expansion in its Kampala center is limited and clients have been slow to graduate, so UIRI has countered by expanding remote processing facilities into rural areas, providing an opportunity for it to affect grassroots enterprises in less-served regions of Uganda.

4 INCUBATOR’S DISTINCTIVE FEATURES

Foremost of UIRI’s noteworthy features is its state-of-the-art physical incubation space. UIRI manages a series of production manufacturing templates for incubatees, a rarity in Uganda.

As part of its effort to conduct virtual incubation across a wide population, UIRI has established value-added centers across Uganda, contributing greatly to the quality and marketability of commodity crops. This concept, of taking value-added processing facilities out into remote areas where the farmers need them most, is a revolutionary concept in Africa, and adds greatly to UIRI’s capabilities.

Clients of UIRI also enjoy a high level of technical expertise on the UIRI campus. Whether clients need laboratory facilities, equipment design, food technology expertise or business development services, UIRI maintains a solid list of offerings.

5 BRAND AND MARKET POSITION

UIRI has a hard time promoting its name and mission to the entrepreneurial masses. Finding quality SME clients is a huge challenge, since UIRI competes with other business- development service providers.

In rural communities where UIRI has established remote processing facilities, competition is much lower, and consequently UIRI's brand is much more established.

As will be discussed later in this analysis, UIRI's very low graduation rate is a challenge for recruitment and expansion. Failure to develop the marketability and financing of SME clients is the major obstacle in that process.

6 APPROACH TO INCUBATION

6.1 SERVICES PROVIDED

UIRI offers two versions of agribusiness incubation: physical and virtual. Physical incubation clients at UIRI are offered some or all of the following services:

- Entrepreneurship training that addresses the unique needs of the individual enterprise.
- Business advisory services, including marketing, promotion and business development.
- Mentoring.
- Shared business support services (i.e. internet, conference facilities, etc).
- Networking.
- Technology and technical knowhow.

These services are premised on an exhaustive review of the challenges and lacunae that enterprises in Africa tend to experience, and on informed opinion that if these needs are met, the prospects for clients to succeed can be dramatically enhanced.

UIRI's selection of potential clients is a stringent process, as it is the foundation upon which the entire incubation process is built. The success or failure of UIRI can be determined by its choice of clients, a choice that also must adhere to UIRI's mandates and obligations. Potential clients must demonstrate the prospect of contributing to the long-term success of Uganda's economy through the development, enhancement and application of innovation and technology. In the words of executive director Dr. Kwesiga, they should *"subscribe to the country's strategies of poverty reduction, wealth creation and economic transformation."* All clients should do one or more of the following:

- Research, develop and design products, services and processes
- Add value, especially through technology-intensive processes that encompass decision-making, research, product and market development as significant aspects of their operations.
- Advance the knowledge and application of science, technology and innovation.
- Show potential to create high-value jobs and enhance skills.

- Engage in electronics, ICT, biotechnology, advanced materials, value-added, technology-driven services and content, and/or alternative energy systems.
- Show long-term commitment to building technology competence in Uganda by investing in people and indigenous intellectual property.
- Maintain or plan relationships with institutions of higher learning that provide a basis for skills development or research activity in a mutually beneficial way.
- Offer internships and work experience to university students and graduates, as well as students and graduates of tertiary institutions.

UIRI measures success by the graduation rate and market performance of its clients. Therefore, the selection process, which at UIRI is overseen by the Supervisory Committee, is meticulous and rigorous.

To gain acceptance to the UIRI incubator program, an enterprise must provide a comprehensive business plan (possibly assisted by UIRI business-development services), which illustrates the feasibility and viability of the company, the potential for commercialization, the timeframe of the collaboration and enterprise ownership. Applicants must also be willing to submit periodic financial and operational reports, sign and abide by a Memorandum of Understanding (MOU) with UIRI, and receive instruction and professional advice. In short, a potential client must demonstrate its commitment and its need for UIRI's services.

UIRI is one of the organizations spearheading the government's overall strategy of developing public-private partnerships (PPP), specifically in terms of enabling the industrial sector to become more vibrant, viable and competitive.

UIRI's strategy for implementing the business incubator model was rooted in its experience and in its existing business incubation practices. UIRI is involved in two types of business incubation:

- In-house incubation, whereby clients operate within UIRI's campus and are offered shared services (i.e. utilities, internet and other amenities).
- Virtual incubation, where clients are located off campus in urban or rural areas as stand-alone enterprises. Support from UIRI entails technology-sourcing, capacity-building and in some cases the provision of facilities and infrastructure.

Virtual incubation is primarily conducted through UIRI's regional value-added centers. These have a tremendous impact on grassroots farmers and small-scale entrepreneurs who are not otherwise eligible for physical incubation. These centers have physical facilities, trained staff, technical training, business development services and market development.

At present there are four virtual incubation facilities, focused on peanuts, potatoes, fruit juice and mushroom processing. Each is described in more detail in Annex 2 of this document.

Regardless of the type of incubation, the following standards apply:

- Any partnership should be guided by a comprehensive Memorandum of Understanding (MOU) which spells out in detail the nature of the collaboration. Typical elements of an MOU include, but are not limited to:
 - i. Rights and obligations of either party
 - ii. Joint and other obligations of either party.
 - iii. Delineation of assets, their ownership, intended use and, where applicable, their final disposition when the collaboration ends or changes significantly.

- iv. Provisions for effecting, modifying and terminating the MOU.
 - v. Start and end dates of the project.
 - vi. Any other pertinent information that will ensure harmonious and prolific business collaboration.
- It is imperative that a mutually agreed reporting format be in place prior to client interventions.

In order to graduate from UIRI, incubatees must show:

- Readiness to be self-sustaining.
- Disposition of moveable and immovable assets, especially those deployed in the course of the incubation period.
- Modalities for extended association with UIRI after formal incubation ends.
- Participation in tracer studies and other alumni affairs.

As of July 2010, there were 15 entrepreneurs in physical incubation at UIRI, 12 of them involved in various forms of agribusiness (baking and meat and fruit processing).

No SME has yet graduated from UIRI's incubation program, mainly because clients are not equipped financially to leave the shelter of the incubator program (UIRI offers no partnerships with financial institutions). Many clients have been in "incubation" for well over five years, with no discussion of leaving soon.

6.2 INSTITUTIONAL FRAMEWORK

UIRI is a government agency established as the lead government organization in Uganda for SME incubation, completely funded by the Ugandan government. It is managed by an executive committee and overseen by an appointed board of directors, as outlined in the Staffing section of this document.

7 BUSINESS MODEL

UIRI began business incubation approach in late 2004, through a grant from The World Bank/InfoDev. It was already providing some business development services to a few clients, primarily in the meat-processing industry. With the InfoDev grant, UIRI was able to enhance its services by using information and communications technology to improve management competencies in its business partners. With such increased services, the relationship between UIRI and its business partners was transformed into a vibrant incubation practice.

UIRI faced a number of challenges in developing its incubator model. First, as explained above, it had limited financial resources. Second, UIRI had a difficult time convincing potential government funders of the benefits of an agribusiness incubator, as funders were unfamiliar with the concept. UIRI's third challenge was competition for resources from other agencies. Uganda has a number of organizations focused on business development services and various forms of incubation and innovation centers, all of whom approached the same funding sources for assistance. Finally, UIRI had to prove its sustainability, including its ability to attract and graduate promising entrepreneurs and draw revenue

from their services. While not all of these challenges have been met, UIRI made a successful case for support, leading to its current status.

One of UIRI's biggest challenges now is strategic planning, which is difficult in an ever-changing political climate, which leads to unpredictable government funding.

Dr. Kwesiga, UIRI's executive director, has completely revamped UIRI's physical offerings, intangible expertise and organizational attitude in recent years. In November of 2008, Ugandan President Museveni said that when Dr. Kwesiga came to UIRI in 2004, he found "it had been abandoned and he has been rehabilitating it since then. I salute him for what he has done here."

Financially, UIRI is almost entirely supported by the Ugandan government. In 2005, UIRI's operating budget was just over USH 300,000,000. After proving its legitimacy, its 2010 budget was well over 13,000,000,000, allowing UIRI to expand its programs, services and level of involvement across Uganda. With increased funding came the extensive transformation of UIRI's facilities and expertise in the incubator subspace. UIRI is not very concerned about financial independence but is looking at generating revenue by taking shares in incubatees, mainly those producing vaccines, or by doing some consulting.

8 STAFFING

Dr. Kwesiga, who has pioneered the concept of incubation and has been an active member of the fraternity of promoters of incubation, primarily guides the UIRI agribusiness incubator. He developed UIRI's business model. Dr. Kwesiga brings a wealth of experience and passion to his position, and also serves as the presidential assistant for productivity and competitiveness for the Ugandan government.

In 2005, shortly after taking up his position, Dr. Kwesiga described UIRI's 44-person staff as "lackadaisical" and "inept," while its physical infrastructure was "in total disuse." In 2010, the staff of 160 full-time personnel was described as "competent" and "motivated." UIRI's physical space has been totally refurbished and its title secured. This massive expansion and improvement ties directly to the increased funding described above.

To adapt to the increased scope and scale of UIRI's business incubation program, UIRI implemented a Supervisory Committee and Implementation Team.

UIRI is also guided by the UIRI Board of Directors, which includes Dr. Robert Okello, Chairman, an industrial engineer and retired director of the New Partnership for Africa's Development (NEPAD) and the United Nations Economic Commission for Africa (UNECA); Dr. Kwesiga; Irene Margaret Nafuna Muloni, managing director of the Uganda Electricity Distribution Company Limited; Masembe Suleiman Kalanzi, executive director of Kansanga Medical Center and managing director of Meridian Technical Services; Dr. Jesse Kagimba, founder of the Uganda AIDS Commission (UAC) and vice chairman of the National Advisory Committee of the US Presidential Emergency Fund for AIDS Relief (PEPFAR); Dr. Lillian Tibatemwa-Ekirikubinza, First Deputy Vice Chancellor and professor of law at Makerere University; and Tom Alwala, engineer.

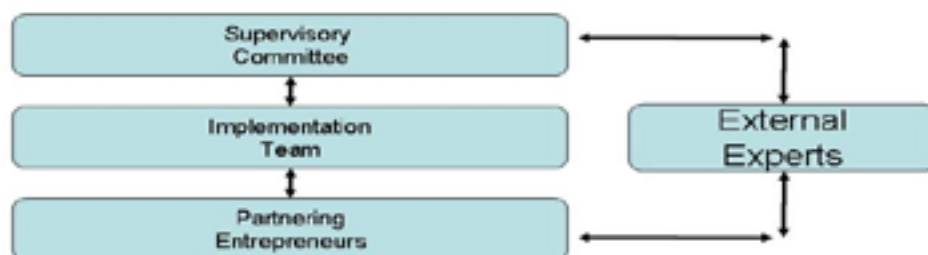
UIRI also maintains a supervisory committee composed of Dr. Kwesiga, who acts as chairperson, and the special projects unit of UIRI. This committee oversees the activities of the incubator. It is responsible for developing strategies to ensure the incubator's sustainability, advising on and

supervising incubator projects, approving development and implementation plans, approving expenditures, compiling progress reports and identifying training needs.

The implementation team is composed of a project coordinator, a business development specialist and a project assistant. The project coordinator manages day- to-day administration of the incubator, generates reports for the supervisory committee, supervises project staff and monitors and evaluates project activities. Coordinating with the project coordinator is the business development specialist, who is responsible for client screening and selection, client monitoring and intervention, coaching and mentoring incubator clients, offering business advice and information and establishing strategic networks to support clients.

The final element of UIRI’s incubator team is external subject experts. From time to time, there is a need for expertise that is not readily available within the project implementation team or UIRI as a whole. At that point, it is the project coordinator’s job to tap into its database for someone who can provide specialized services.

UIRI collaborates with other regional incubators, including the Kenya Industrial Research and Development Institute (KIRDI) in Nairobi, World Ahead Consulting in Dar es Salaam, Tanzania, and the Ethiopian Information and Communication Technology Development Agency (EICTDA) in Addis Ababa, Ethiopia.



UIRI's hierarchy

9 OUTCOMES AND IMPACTS ACHIEVED

UIRI has overcome a tremendous hurdle by completing its renovation. Physically, it is a model incubator program. One physical element missing is a storage and shipping facility (from which SME clients can store and ship product). This is being addressed by UIRI’s management.

New equipment has been purchased and in some cases developed by UIRI staff. UIRI’s ability to design and build processing equipment has affected the incubation program in many ways. Uniquely, UIRI can create multiple SME development projects from a single need.

The opening of the peanut-processing facility in Lira brought value-added processing capabilities into rural areas of production. It was followed by the Mushroom Training & Resource Center in Kabale, the Fruit Juice Processing Center in Nabusake, and the Potato Processing Plant in Kabale, all with a similar goal to Lira’s facility. Over 100 clients participate in UIRI’s virtual program.

UIRI has been less successful in graduating SME clients from its physical incubation program. None of the 20 to 25 incubatees has graduated. Most cite lack of financial capital and lack of actual market development as reasons for not leaving UIRI.

10 FUTURE GOALS

UIRI has made a major investment in expanding its vaccine-production facility. It envisions continued expansion of its value-added processing centers throughout Uganda.

UIRI's senior management will focus on developing skills capacity through staff training, building on successes already achieved. The incubator also seeks to recruit more skilled scientists and engineers.

The incubator will continue to enhance its incubation services, both in-house and virtual. It seeks to expand its business incubation portfolio.

UIRI plans to expand its international collaboration with WAITRO, NSTDA, and other organizations. It also plans further collaboration with other Ugandan agencies, including military, universities and other incubator models. Collaboration with supportive incubator/BDS providers is critical to the sustainable success of UIRI.

UIRI will participate in the President's flagship projects.

A new project will be helping the Petroleum Institute in Kigumba develop skills for the petroleum industry.

11 CRITICAL SUCCESS FACTORS

UIRI has made considerable strides in SME agribusiness incubation. However, the success of its physical incubator is academic rather than commercial. While the facilities are well run and well equipped, no company has ever graduated from their program. UIRI lacks the market and financial development components that would help SME clients attain self-sufficiency. During the case study, almost all of the clients said they would graduate if they only had customers and money. Hence, most companies have stayed well beyond the recommended incubation period.

UIRI has made significant impact in rural communities by exporting value-added processing systems from its Kampala headquarters into farmer communities. While this is not a traditional incubator model, and it lacks the necessary innovation development, UIRI does offer SME clients in these regions the opportunity to expand their personal income and their existing businesses through local market development and value-added food processing. This is similar to the franchise model used by incubator programs in some countries. The four processing centers are well-positioned, but their impact has yet to be measured.

12 LESSONS LEARNED AND IMPLICATIONS FOR AGRIBUSINESS INCUBATORS

UIRI represents an example of the importance of physical incubation. In Uganda, where tangible resources are relatively scarce, and blossoming entrepreneurs struggle to find the funds for even simple equipment and working capital, UIRI offers them a place to locate their enterprises and an environment in which to learn, network, and grow.

UIRI falls short by failing to complete the incubation cycle and provide entrepreneur clients with the resources necessary for self-sufficiency and sustainability. Some of UIRI's clients have been in the physical incubation facility for as long as ten years, with no mechanism in place to "graduate" them.

UIRI would benefit tremendously by expanding its partnership network to include other Ugandan incubator models and the complimentary services they offer. Sustainability-driving collaborations would include financial investment, expanded business development services and market development.

A great agribusiness incubator combines the benefits of classical incubator facilities (physical development space, laboratory analysis, design and development resources), a university (entrepreneurial pool, research facilities), business development services (basic business, computer and operational training), financial resources (SME financing, input contracts) and marketing resources (sales, market research, regional-national-international network linkages). UIRI is on its way to achieving this combination.

13 CONTACTS

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14 REFERENCES

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