

## Creating Integrated Network of Sub-Regional Innovation Centers

Executive Summary (Draft 10/24/07)

### 1) Concept:

Create an integrated network of “sub-Regional Innovation Centers” which will conduct action research and experimentation on technology and social solutions to smallholder information needs with special emphasis on the needs of women. RICs would pioneer new ways to 1) collect, digitize and assemble information from expert sources as well as smallholders themselves, 2) extract useable information from research data bases and other largely internet-based sources, and 3) disseminate information directly to smallholders and others in the smallholder information supply chain.

The RIC mission would be threefold: 1) Scan and define new socio-tech opportunities including those which would require advance funding to develop, 2) develop and support a regional network of community knowledge workers who are capable of accessing and disseminating basic agricultural support information in their community, 3) implement promising technological opportunities supported by training of the key participants in the info supply system.

### 2) Rationale:

The smallholder information supply chain is broken and very likely in worse shape than it was decades ago. Universities in Africa and S Asia lack the funds to deliver even the most rudimentary ICT services, research centers lack connectivity, functioning hardware, and the resident skills to tap into the wide array of knowledge bases which are available or will be soon, extension officers are stretched, routinely relying upon outdated sources of information and lacking the resources and time to make regular visits to their constituencies.

At the same time, global technological and social innovations are occurring at an accelerating pace, requiring a real-time scanning capability for new opportunities. This includes both new ways to support existing targets of agricultural information, as well as continuously monitor the opportunities for providing new levels (ie community knowledge workers and smallholders) with direct information access.

One pilot sub-Regional Innovation Center (RIC) in Africa would be established to start, and additionally, one RIC would be established in South Asia. While the RICs would be located regionally, they would serve a primary audience and network in the country in which they are located. In this sense, the initial two would serve as pilots with the intent to scale the concept to further areas in coming years. RICs in both S Asia and Africa would be networked together (themselves forming a learning community) to foster cross-border transfer of knowledge.

RICs will share a common mission, but will be empowered to experiment boldly, allowing them to undertake very different initiatives to be tested simultaneously in different regions. They might also acquire or be assigned some areas of specialty (ala centers of excellence) so that although they would operate under a common framework, each would develop and offer special expertise in unique areas.

Each center will meld state of the art social concepts (such as learning organization principles, network organizations, empowerment, voice, collaboration, etc.) with state of the art ICT (such as web 2.0, mobile phones, GIS, collaborative software) emphasizing solutions that may be hi or low tech, but always grounded in the needs and world-reality of the smallholders and their supporting information supply chain.

A regional center in, for example, Zambia could include TEEAL, AGORA etc. as basic sources of information to diffuse in Anglophone Africa. The Center could promote pilot studies of ICT innovations and channel farmers' voices to the input, marketing and research communities. The RICs would undertake the training of extension workers and farm organizations on new sources of information. It could also bring librarians together and promote an Asian/African exchange of experiences. The result will be a *system* of demand driven innovations to meet agricultural productivity and food security goals.

## Staffing

RICs will be staffed in a variety of non-conventional ways to accomplish two objectives: 1) increase the the pool of talent to which they have access, and 2) train and develop resources which will return to various Agricultural sectors with new skills and talents.

*Ongoing Employees* - The RIC will be comprised of a combination of tech people, educators, ag experts, anthropological development specialists, etc. working together to help smallholders improve their livelihoods. To make these more easily scaleable, RICs will rely on a new definition of expert who has less than expert credentials to begin with, but goes through an intensive training program to bring them up to speed with the tech and social elements envisioned. (In most or all cases, these will NOT be expats, but rather local national employees.)

*"Fellows"* - will be recruited from a variety of sources as well. They might be drawn from the most outstanding applicants from all points in the smallholder info supply chain. They would at once be resources for the center, and receive training while there which would allow them to return to their institutions as resources and change agents.

*Interns* - Collaboration with in-region universities would result in opportunities for student internships and post-graduate job opportunities for agriculture majors. This would enhance the educational experience of the students who participate and provide a relatively low cost source of addition human resources for the institute. It is anticipated that the internship program will improve retention of graduates in the agribusiness space by demonstrating to them the viability and excitement of an agricultural career.

*Community Knowledge Workers in Residence* – A select group of trainable community knowledge workers and smallholder farmers would be invited to work in the institute as well. They would serve as a source of voice for community level ideas and concerns, provide input into the selection and testing of new technologies and gain skills that would allow them to return to their communities armed with new information access and dissemination skills.

### **3) Evidence the project can be successful:**

This is consistent with the business concept of socio-technical design proposed by Eric Trist and others many years ago and still very relevant. Trist (1951, 1959, 1965 and others) argued that technological innovations had to be understood in the social context in which they were implemented. The principles of socio-technical systems theory are today implemented in many of the approaches to work design.

Intense focus was placed by attendees at the Cornell Conference on the opportunity to create an empowered community knowledge workers network. Many of the proposed forepointer initiatives emphasized this. The RICs represent an opportunity to systematically experiment with the creation and support of a CKW system.

While there are relatively few examples of sub-regional research centers which have been successful in Africa, several efforts have made a substantial impact in their respective areas. These include INSAH – the Institute of the Sahel and others.

### **4) Expected benefits of the project:**

Identification of new ways to reach community-level players directly through a Community Knowledge Worker network as well as direct access to information networks by increasing numbers of smallholders.

Development and support of a community knowledge worker network which would provide a powerful supplement to the extension worker. These community-based individuals would receive basic training in the access to information made available through the RICs and elsewhere.

Intercontinental sharing of information, ideas and findings through the network of RICs will foster transcontinental innovation. This will enhance the breadth and speed of innovation in both continental areas.

A mutually beneficial relationship with universities. RICs offer a regional resource for universities and research centers to help them upgrade their access to information data bases and to serve as technical advisor for solving hardware and access problems. At the same time, the universities can provide expertise and a variety of resources to support the development and ongoing viability of the RIC.

Systematic identification of emerging opportunities in the agribusiness space where combinations of ICT and social solutions can be successfully applied.

#### Sustainability and Scale

A road to self subsistence will be established so that seed money leads to a sustainable center that at some point becomes self supporting. A 5-10 year weaning period where the centers are fully funded for the first five years, and then receive a declining share of their budget from donors over the following five years might be possible. In this scenario, end-users of the information would begin paying a fee for service somewhere around the 3-5<sup>th</sup> year. By the end of the funding cycle, the center could be funded by a variety of fee-based services which offered sufficient value-add that smallholders and others would be willing to pay for the service. Continued governmental support could be another option as a source of full or partial funding.

#### **5) Projected costs of the project:**

Physical space for the center – could be housed in an *existing* university or research institute, but would be accountable to a central RIC coordination system/individual

Staffing: Permanent staff, “fellows” rotating through in 1-2 year stints, student interns

Hardware and hardware maintenance

Operating expenses such as utilities, internet, etc.

#### **6) Measures of success:**

Improved ICT skills and access at the university and research center level

Improved access to relevant information at the smallholder level through the community knowledge worker and extension networks as well as with direct connection with smallholders themselves

Advanced identification of ICT needs and opportunities for future funding and implementation

#### **7) Risks:**

How do RICs fit into the already existing (if broken) ag extension system/ministry/research center/ag university context?

To whom are they accountable (related to previous question)

Provision would need to be made to provide the tech support and funding to maintain and replace equipment in a timely fashion so that the RICs remain at the state of the art even as the technologies and social reality of the smallholder changes.