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Partner-driven agricultural research-for-development networks in West Africa: the case of ROCARIZ

L.T. Narteh, M. Winslow, O. Youm and S. O. Keya

Introduction

Many consider agricultural development as essential to broadly combat poverty and hunger and to improve livelihoods in rural sub-Saharan Africa. Research is an important stimulant to such development, because it can develop insight into more productive and sustainable ways of feeding growing populations while increasing farm incomes.

However, in West Africa, research programs have limited resources for funding well-rounded national agricultural research systems (NARS). To overcome this critical-mass problem, these nations have joined in a range of topically-focused regional networks to share their knowledge and expertise.

The evolution and experiences of these networks provide an important learning opportunity in knowledge sharing and capacity building for international agricultural development. This paper reviews some of the strategic learning gained by the West and Central Africa Rice Research and Development Network – generally referred to by its French acronym ROCARIZ (Réseau Ouest et Centre Africain du Riz) which has been assisted since its inception by the Africa Rice Center, WARDA.

Beyond the Green Revolution paradigm

Many crop improvement networks around the world were created from the momentum of the Green Revolution, which had enormous impact on wheat and rice production outside of Africa during the 1960s-70s. The Green Revolution demonstrated a simple and clear model that worked – under certain conditions. A few improved crop varieties could be bred for high grain yield and broad adaptation as long as the necessary inputs could be supplied to ameliorate and homogenize the production system, e.g. water, fertilizer, pesticide, and machinery/labour for intensive land preparation and weed control.

However, global development priorities shifted during the past two decades. The world placed increasing emphasis on alleviating hunger and poverty in marginal rain-fed production environments where the poor live. International agricultural research institutions and networks sought to apply the same Green Revolution methods to these areas, but with disappointing results. Varietal adoption and impact in the marginal rain-fed areas was disappointingly low despite decades of breeding and network technology-transfer effort. Limited impact contributed to eroding donor support for the networks.

It became clear that a new paradigm was needed to raise crop improvement under rain-fed conditions in marginal lands, in order to deal with the greater diversity and adversity of such agro-ecosystems and the poverty of the land users, especially in view of their limited access to inputs such as fertilizer, water, etc.) and to global markets. The need to think beyond the Green Revolution box became clear.

Constrained knowledge flows limit learning

Why were centres and networks slow to recognize the need for a different approach to serve poverty-stricken farmers on marginal rain-fed lands in Africa? Constrained knowledge flows were probably a major reason. Many assumed *a priori* that the Green Revolution formula would succeed, and therefore did not consider other possible approaches. Broader consultations with stakeholders were needed to more realistically analyze the situation, but mechanisms were not in place to achieve this.

Without such new approaches, network trials proceeded along the Green Revolution model, testing breeding lines using high-input management practices. Training opportunities on the techniques for conducting these trials were confined to gaining a predefined Green Revolution skills set rather than learning how to develop new approaches suitable to rain-fed conditions. Field visits were often confined to research stations and researcher-managed trials, with little contact with farmers. Like the NARS, farmers and consumers had little or no involvement in network planning, implementation, governance or review. A ‘we know better’ attitude prevailed.

This problem has become increasingly recognized both by the networks and by the international centres over the past decade, and as a result they have been reforming their processes to increase (inter-disciplinary) knowledge sharing, client and stakeholder participation, and greater breadth of partnerships. Researchers have been learning to customize their approaches to better meet the diverse needs and circumstances of the rural poor living in variable rain-fed environments. ROCARIZ and WARDA were early leaders and innovators in this reform process, so their experiences will be the focus of this paper.

Origin of ROCARIZ: a Task Force approach

The roots of ROCARIZ can be traced to 1991 under a different name and structure known as WARDA Task Forces. Task Forces in turn stemmed from WARDA’s unique structure. Unlike other agricultural research centres that were created by the international community, WARDA was established by the region itself. Currently WARDA continues to be overseen by a Council of Ministers constituted from its 17 member nations. This locally owned structure fosters a stakeholder-centred approach.

Since its creation in 1970 WARDA underwent several reorganizations. In 1990 it took over responsibility for rice in West Africa within the CGIAR (Consultative Group on International Agricultural Research) system of 15 international centres. WARDA captured the opportunity of this new mandate to reinvigorate its relationship with partners through the Task Force approach, providing substantial funding and technical support for the operations of Task Forces. NARS contributed the majority of staff time and facilities. Task Force priorities were determined in annual meetings of both NARS and WARDA staff.

This participative approach established a culture of equality and teamwork between WARDA and NARS that was conducive to knowledge sharing. Partners were able to think anew about ways to overcome the constraints that had been limiting the impact of development activities in their region. Today the network operates five Task Forces addressing different constraints and rice-growing environments.

The Task Force approach continued successfully through the remainder of the 1990s. Experience led to a consolidation of some Task Forces to reduce complexity and improve knowledge flows. Meanwhile, a parallel rice network serving Francophone countries emerged under the umbrella of the West and Central African Council for Agricultural Research and Development (CORAF). In April 2000 the two networks formally merged into ROCARIZ to streamline efforts, reduce overlapping meetings and increase research capacity in the region.

An intensive and broadly participative stakeholder meeting to elaborate a five-year plan for the new network preceded this merger. ROCARIZ inherited and continued the Task Force mode of operation while adding a full-time coordinator, a formal steering committee and a stakeholder's consultation group following the CORAF model. These inclusive start-up steps ensured strong buy-in from network partners.

ROCARIZ also initiated a biennial Regional Rice Research Review, also known as the '4R'. The 4R provides a platform for sharing formal knowledge as well as informal exchanges of ideas with peers from across the region.

Increasing knowledge sharing and improving capacity building: the ROCARIZ networking approach

Task Forces create joint ownership of the agenda

As described above, the Task Force mechanism created joint NARS-WARDA ownership of the agenda, prompting both parties to become proactive and creative in engineering a shared agenda rather than the owner-recipient model of technology transfer that prevailed previously.

Financial incentives reward increased knowledge sharing

Financial incentives included competitive funding through the Task Force mechanism's Small Grants Scheme. Task forces that were the most successful in attracting funds were those that exhibited the strongest teamwork and most creative and exciting ideas. In 2002, with support from the European Union, USAID and the CGIAR donors that fund WARDA's core budget, ROCARIZ distributed US\$390,000 in small research grants to 98 scientists from 17 countries.

ROCARIZ also funds short term (2-6 week) and long term (2 year) visiting scientist assignments at WARDA so that NARS research results can be written and published. These assignments are usually awarded to the authors of the best papers contributed to the 4R conferences, creating another incentive for network members to share knowledge more effectively.

Learning-by-doing motivates personal capacity development

Instead of regimented training courses, the Task Force approach engaged NARS scientists as equal partners in all aspects of the research-for-development cycle: idea generation, priority-setting, fundraising, work planning, building collaborative teams, project execution, monitoring, evaluation and reporting. Scientists found themselves motivated, empowered and accountable for project delivery, with rewards for success or consequences for failure (such as reduced chances of follow-up funding via Task Forces).

ROCARIZ also organizes monitoring tours to network research sites. This process trains scientists in monitoring and evaluation skills while also providing motivation to the owners of the work under review to do the best job possible.

Peer expectations, recognition and appreciation replace isolation and inertia

The proceedings of the 4R event are carefully reviewed and the best are published. Awards are granted for best papers presented, delivering much-appreciated recognition for NARS scientists that most effectively share knowledge. This contrasts with the isolation scientists experienced before the network existed, labouring in remote research stations with very limited communications infrastructure.

Peer expectations of performance within Task Forces likewise motivate teamwork. Accountability is ensured through annual reviews of Task Force progress by both by the Network Coordinator and the Steering Committee.

Spirit of mutual assistance overcomes pride, reticence and ‘not-invented-here syndrome’

Past reluctance to share knowledge was often due to the national pride of newly-established African nations, and their desire to meet all their needs internally. ROCARIZ has changed this culture to one where partners are expected to help each other, since all have strengths to share, and weaknesses that others can help them with. For example, through ROCARIZ a scientist from Chad has recently been sent to Burkina Faso to study for a higher degree, while at the same time scientists from Burkina Faso were sent to Ghana to learn about participatory approaches to test and disseminate new rice varieties.

Achievements

The more open and interactive style of ROCARIZ is believed to have played a major role in the achievements of the network.

Breaking with conventional technology-transfer breeding methods, the Rice Breeding Task Force chose to adopt farmer-participatory methods in its testing and dissemination of germplasm. This method resulted in quick and widespread release of a new, more rugged rice varietal type for variable rain-fed environments, known as NERICA germplasm. NERICA arose from crosses between different rice species, and conventional testing approaches would not have effectively examined how farmers, consumers and markets would react to its novel performance and culinary traits.

Many networks have no capacity for impact assessment, but ROCARIZ was able to identify the need and implement a solution. The Economics Task Force trained more than 42 West African scientists in impact assessment methodology. This enhanced capacity is being utilized by the African Development Bank to carry out *ex-ante* impact studies to accelerate the dissemination of NERICA germplasm in 7 pilot countries.

In a vote of confidence from peers on the other side of the African continent, WARDA has been asked by the Association for the Strengthening of Agricultural Research in East and Central Africa (ASARECA) to help it plan and launch a sister East and Central Africa Rice Research Network (ECARRN) based on lessons learned from the ROCARIZ model of participative and interactive network management.

Future challenges

The reinvigorated ROCARIZ will continue to face daunting challenges. Despite a series of positive reviews, international donor support for networks appears to be on the decline, mainly for reasons unrelated to the network's performance. There is a degree of donor fatigue at having provided support for several decades without a sustainable alternative having emerged, including funding by countries in the region themselves.

By gaining buy-in from a wider range of stakeholders and partners, the ROCARIZ approach may help address this problem. Sustainable funding should follow if the network generates impacts that are recognized and valued by beneficiaries. ROCARIZ will continue to be closely aligned with NARS partners, helping them increase their capacities for effective action to reduce hunger and poverty in West Africa.

In closing

By building knowledge-sharing mechanisms as an organic part of the network structure, and creating opportunities and incentives for teamwork and scientific professionalism, the ROCARIZ approach has sharply upgraded the capacities and effectiveness of national rice researchers in West Africa. These gains have been noted and praised by outsiders, for instance in a recent review of the network by USAID (Clarke 2004) and by the CGIAR (Eicher 2003). A recent Centre-Commissioned External Review by WARDA also commented favourably (WARDA 2005).

We hope the ROCARIZ case will serve as a useful example for others interested in reforming networks to become more participatory and engaging, more adaptive and analytical in their approaches, and broader in their partnerships and vision.

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Abstract

Agricultural research feeds the knowledge base that underpins food security and rural employment across sub-Saharan Africa. However, in West Africa, many national agricultural research programs (NARS) are small and have insufficient resources to carry out well-rounded, in-depth research programs. Since the crops, cropping systems and food needs of these countries have much in common, there is a clear opportunity for sharing knowledge and capacities for mutual benefit through networks.

However, conventional crop-based networks in sub-Saharan Africa were mainly mechanisms for centralized dissemination and testing of technologies, an approach that treated NARS as dependent recipients of research outputs generated by international centres. This paper describes the mechanisms employed by ROCARIZ, the West and Central Africa Rice Research and Development Network to overcome that tradition.

ROCARIZ broke the mold by structuring itself around multi-country, issue-driven 'task forces' that decentralize the international research agenda to NARS. The task force mechanism puts NARS in the lead in all aspects of the research cycle including idea generation, priority-setting, fundraising, work planning, building collaboration and teams, project execution, monitoring, evaluation and reporting. By creating opportunities and incentives for teamwork and scientific professionalism, the ROCARIZ approach generates pride and enthusiasm amongst its members while developing their technical capacities and knowledge sharing skills and behaviours.

Authors



Dr. Lawrence Narteh has been ROCARIZ network coordinator since January 2005. A longstanding member of the network, he served as the chair of the natural resources management Task Force and also as a member of the network's steering committee from April 2002 until recently. He originates from the national research system of Ghana where he worked with rice-producing communities for more than twenty years. His interest is in testing and disseminating improved rice technologies, particularly for rainfed lowland agro-ecosystems.

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Dr. Shellemiah O. Keya has since 2004 served as Assistant Director General (Research and Development) for the Africa Rice Centre (WARDA). He had previously served as Board Chair or Board Member for more than 30 different research institutions. Dr Keya was the Executive Secretary to the CGIAR Technical Advisory Committee from 1996 to 2000, and to its successor body the Interim Science Council from 2001 to 2003. Before joining the CGIAR, he was Vice-Chancellor of Moi University, Kenya (1988- 1994). Dr Keya is a recipient of the African Academy of Sciences/Ciba-Geigy Gold Medal, and the Soka Gakkai Awards of Highest Honour.

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