



Lessons and Impact of Partnerships: Experiences from FARA's Initiatives in Africa



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Foreword

Africa agriculture requires an urgent transformation to face the increasing demand for food and fiber by its rapidly growing population and also to cater for changes in food consumption pattern due to urbanization in many countries. The burden of food imports on the countries' economies is high in Africa and the dependency on food imports represents a loss of production opportunities for farmers where their competitiveness could not match those of the advanced countries. The inability of African countries to significantly increase its share of the international market for most agro-based industrial raw materials also constitutes a loss of opportunities for income and investment. So far most farmers are still producing under the unproductive old system that is characterized by minimal mechanization, low external input, small field sizes and traditional crop mixtures. As such, most of the increase in outputs from agriculture is related to an expansion of the cropped area and of the livestock number rather than increase in unit productivity. The ratio of producers to consumers is also dwindling in many countries because of urbanization and the actual rate of land degradation is a serious threat to sustainable development.

The Forum for Agricultural Research in Africa (FARA) in the last ten years has been supporting the organization of partnerships between all concerned stakeholders in agriculture in order to foster a transformation process towards more productive, more remunerative and more sustainable farming. First of all, FARA is supporting its constituents to organize themselves and formulate their vision and role in the transformation process. Second, FARA facilitates the emergence of effective production to consumption chains and innovative chains supported by accurate policies in assisting African countries to prepare their investment plans in the CAADP program. Third, FARA is developing models and methods for promoting innovation in the production chains through pilot projects. This transformation of agriculture should encompass institutional changes, market changes, changes in financing mechanisms to support agriculture, changes in policies and regulations, infrastructure development, public support, changes in mindsets and representation of development pathways by stakeholders, changes in capacity and increased adoption of relevant innovative technologies to ensure competitiveness. Fourth, FARA is supporting a better organization and practice of research to contribute to the innovation process needed for transformation in agriculture. Fifth, FARA is contributing to the rapid development of capacities through the support to the institutional set-up for education, training and research. In this respect, FARA is promoting partnerships between research, higher education and the private sector in order to boost products development and entrepreneurial initiatives. Last and not least, FARA is supporting the implementation of the transformation process through the organization of information supply to all decision makers involved in agriculture, including farmers that are the primary decision makers in production and in the use of natural resource.

This publication presents an assessment of outputs from FARA in cooperation with many partners to support the transformation process in agriculture in Africa. It reviews the outputs

and outcome from ongoing and recently concluded projects, programs and corresponding partnerships. The material is packaged to inform FARA stakeholders' viz., farmers, entrepreneurs, financing institutions, agro-based industries, academic and research institutions, policy makers in agriculture and extension agents of case studies, lessons learnt and models for effective partnerships and strategic alliances. This material will contribute to strengthening on-going initiatives and will provide a guide to structure new ones to yield good transformation outcomes for African agriculture.

Prof Monty P Jones

Overview



Smallholder agriculture on the continent has been facing serious constraints for a long time. Declining yields due to the non-adoption of improved agricultural technology have worsened the poverty rates in these countries and placed many of them on the permanent lists of aid organizations. To compound the situation, political instability in a number of these countries has made finding quick and sustainable solutions rather difficult. While the problems may vary from sub-region to sub-region, the manifestations are similar. For instance, the West and Central African sub-region seems probably constrained by the non-integration of the relevant stakeholders in the agricultural sector, which is not very different from the preliminary finding in East and Central Africa, where there is a lack of a critical mass of expertise to engage agricultural stakeholders to achieve their development goals. For the Southern African sub-region, the problem seems to stem from low entrepreneurial spirit to absorb and translate available infrastructure and policy support into welfare-enhancing activities. The weak and often erratic governance mechanisms and the socio-cultural rigidities ultimately result in sub-optimal choices that lock smallholders into the dreaded low equilibrium trap. It is, therefore, not surprising that declining supplies and missing markets engender hyper-inflationary trends of unimaginable magnitudes in some parts of the continent. The unrelenting pauperization of the population is visible everywhere.

The Forum for Agricultural Research in Africa (FARA) was established to tackle the aforementioned problems. FARA, as an Africa-owned and Africa-led institution, supports Africa's sub-regional organizations (SROs) in strengthening the capacity of the National Agricultural Research System (NARS) for agricultural innovation, thereby creating broad-based improvements in agricultural productivity, competitiveness and markets. Over the past several years, the organization has been establishing and supporting partnerships and strategic alliances across the continent. These partnerships and alliances are already serving as vehicles for ensuring that smallholders and diverse stakeholders forge and sustain mutually beneficial collaborations to enable them access the wide-ranging technologies and innovations on offer from national and international researchers and development practitioners and organizations.

It is obvious that FARA has made considerable progress in creating awareness and enthusiasm at multiple levels of society about its activities. The organization has successfully established itself as a credible leader for facilitating and coordinating research and innovation across the continent, and promoting a participatory methodology that is easily adopted by regional and national entities. Further, FARA has been achieving its capacity building goals in a manner that is relevant to national and individual needs, whereby it not only enables access to information but also builds relevant knowledge for stakeholders to use such information. Recommendations to further strengthen the institution's operations and effectiveness are included in this report.

CHAPTER 1: Introduction



1.1 Background

The majority of the people in sub-Saharan Africa live in the rural areas and, according to FAO (2009), for about 80% of them, agriculture is their major source of livelihood. But the region's low food crop yields and the associated loss of markets for some of its traditional export crops continue to pose serious constraints. Africa is a continent where the shortage of arable land has long denied hard-working people the opportunity to effectively participate in the mainstream of their national economies and improve their livelihoods. As a result, food insecurity, malnutrition and abject poverty remain unpleasant realities over most of sub-Saharan Africa. According to Ajibola (2005), life expectancy in sub-Saharan Africa is the least compared to other continents as a result of poverty, stress, food insecurity, inadequate balanced diets, and poor health insurance schemes, among others.

Several reasons have been proffered for the foregoing situation in African agriculture, including low adoption of improved technologies and poor linkages among value chain actors, an inheritance from traditional agricultural approaches. According to Rhodes and Booth (1992), non-adoption of technology may be due to poor research and extension linkages. Some analysts blame the policy élite for the problem. For instance, Hayami (1998) considers that Africa's low harvest can be partially attributed to the priority given to building modern industrial plants in isolation from the concurrent modernization of village agriculture and village industries. There is little disagreement on the fact that science and technology have played a very limited role in the development of African agriculture. Way back in 1981, the United States Department of Agriculture (USDA) observed that Africa was the only part of the world that experienced

declining per capita food output in the two decades preceding its report (USDA, 1981). Quite a few researchers have strongly linked this to the low uptake of improved technology. For instance, Nweke et al., (2002) have shown in *Cassava Transformation: Africa's Best Kept Secret*, that the continent's traditional agricultural sector engaged half-heartedly with improved technology. In reviewing research priorities for sub-Saharan Africa to promote agricultural development to reverse the "lagging food production and widespread poverty" in the region, Eicher (1982) expressed the hope that the continent would receive more international support than in the past to address the identified gaps. Any gains in this respect were not sustained. As Eicher later argues, the African response to its low harvest in food and export crops has been sporadic (Eicher 1999). But development is a cumulative process that is built on a foundation of learning from false starts, poisoned gifts, pilot projects, and occasional successes (Hirschman 1967). Kofi Annan, former Secretary General of the United Nations, said in an address to the 34th Session of the Governing Council of the International Fund for Agricultural Development (IFAD), that support to African agriculture fell from 18% to about 3% as a proportion of the international aid package between the 1970s and 2011 (Annan, 2011). There was, therefore, little visible improvement in the conditions at the human level as macroeconomic performance deteriorated even further, and food intake for as many as 240 million persons had reduced, impacting both health and overall well-being (Annan, 2011).

Studies reconfirming the low uptake of improved technologies have noted that whatever output increases that have taken place in the agricultural sector have largely resulted from expansion in area cultivated rather than improvements in yield arising from the application of improved practices (Spencer et al., 1994). Byerlee, et al., (2007) also reveal decline in fertilizer consumption. While improvements in farm output were taking place in Asia and Latin America as a result of technological developments associated with the Green Revolution, it was not reflected in Africa, where, in fact, socioeconomic conditions deteriorated. The situation was further exacerbated by civil and armed conflicts across the continent, rising to as many as 15 in 2003 (Binswanger-Mkhise, et al, 2010). Along with the conflicts, the region has witnessed several disasters both man-made and otherwise, including the devastating cycle of droughts and floods in Southern Africa in the early 2000s (Obi, 2011). Disease outbreaks, including HIV and AIDS and malaria have completed this dreary picture (UNDP, 2003), with adverse consequences for human capacity and labour availability for farm work.

Ironically, in the 1970s, it was thought that labour would play a key role in African agricultural development (Spencer and Byerlee, 1976) given the notion of a land and labour surplus setting that inspired Arthur Lewis's analysis in the previous two decades (Eicher and Staatz, 1984). Since then, labour bottlenecks have become more severe as a result of the erosion of human capacity due to HIV and AIDS. At the same time, the land question has become even more contentious as political will is required to redistribute and allocate land to a growing population.

While the problems may vary from sub-region to sub-region, the manifestations are similar. For instance, the West and Central African Sub-region seems more constrained by the non-integration of the relevant stakeholders in the agricultural sector, which is not very

Table1.1: Assessment of sub-regional socio-economic differences, 1988–1998

| Indicators | Southern Africa | Western Africa | Eastern Africa | Central Africa |
|--|--------------------------------|----------------|----------------|----------------|
| Human resources availability | ** | ** | * | * |
| Infrastructure | ** | * | * | - |
| Policy framework | ** | ** | ** | — |
| Existence of civil society organizations | *(for commercial farmers only) | ** | *** | — |
| Sufficient entrepreneurial skills | *** | **** | * | — |
| Availability of organized markets | *** | ** | * | — |
| Modest agricultural finance | * | * | — | — |
| Existence of good natural endowments | ** | *** | ** | — |

different from the preliminary finding that East and Central Africa is possibly disadvantaged by the lack of a critical mass of expertise to engage agricultural stakeholders to achieve their development goals. A more systematic assessment can reveal the full extent of the differences among the sub-regions. However, two experts, recently, revisited the decade 1988–1998 to pick eight of the most influential indicators, from the standpoint of agricultural development and receptivity to policy actions, to address identified constraints (Fatunbi, 2013). The results of their assessment are presented in Table 1.1.

As Table 1.1 reveals, over the decade, the Southern African sub-region faced severe constraints in the areas of civil society engagement and agricultural finance, while it fared better than the others in terms of existence of organized markets. The Western African sub-region was the best-performing region from a gross human and social capital standpoint when considering factors like entrepreneurial spirit, human resources, and civil society engagement. This sub-region was also better endowed with natural capital than the other two. The Central African sub-region seemed to be the least-performing region in all respects. It will be interesting to have a basis for evaluating these issues and to see to what extent contemporary situations in these sub-regions have changed, if at all, and how the Forum for Agricultural Research in Africa (FARA) programmes have contributed to the change.

With regional economies becoming more and more integrated as the process of globalization intensifies, research should have greater regional focus to generate knowledge and innovation guidelines that will inform better national policy making. This means that other modalities to ensure that research translates into innovation that farmers can apply to their specific settings must evolve. Efforts to develop such alternatives have dominated much of international development programming for many years. From the late 1950s, theorists began to enquire into the sources of technical change and the role of innovation (Ruttan et al, 1959). Those early works were eventually elaborated into a theory of induced innovation by Samuelson (1965), upon which Ruttan and Hayami (1994) built their seminal work. Essentially, these works propagated that agricultural growth can only result from technical change that is driven by

changing factor price ratios. Significantly, Ruttan and Hayami (1994) suggested that this process by which technical change responds to the relative price ratio was internal to the development process rather than being exogenous to it as had been assumed previously.

While these underpinning theories helped to focus interventions to investigate what elements in the organization of units of production could be manipulated to achieve change in the desired direction, it was still unclear as to what specific actions could bring about such change. The appropriate institutional setting for initiating and coordinating the interventions has emerged as a critical consideration in the face of repeated inability to produce results. Research expenditure in aggregate terms, and even in proportional terms, has expanded beyond what could have been imagined only a few years ago. Yet, the results on the ground do not reflect this and it appears that alternative modes of delivery may be necessary to achieve better results. As Anandajayasekaram and Gebremedhin (2009) observe, it is only by enhancing smallholder agricultural productivity that the full contribution of agriculture can be harnessed. Since faith in science and technology as drivers of economic growth are unshaken (Anandajayasekaram and Gebremedhin, 2009), finding the most effective ways to introduce the new technologies may be the missing link.

The concept of Agricultural Research for Development (ARD) represents recognition of this need to explore alternative ways of engaging for change. The core element of this concept is participation, so that stakeholders contribute to the initiation as well as evaluation of change. Anandajayasekaram and Gebremedhin (2009) have noted the significant paradigm shifts that have marked the evolution of the scientific methods of experimentation and discovery since its inception in the 19th century, drawing attention to the fact that much has remained the same despite the passage of years. But the environment in which innovation is introduced and applied has been changing. The logic that the methods must also change to accommodate the changing environment is therefore overpowering. The question has been asked as to why promising technologies fail (Douthwaite, Keatingne and Park, 2001), with some explanations of this aberrant situation being that the users of these technologies are hardly involved in the process of generation. In a rapidly changing environment in which the complexity of technology and system are both changing and increasing there is need for stronger interaction among those who generate knowledge and those who use them.

To respond to the afore-mentioned challenges and deficiencies, FARA created broad-based improvements in agricultural productivity, competitiveness and markets by supporting Africa's sub-regional organizations (SROs) in strengthening the capacity of the NARS for agricultural innovation. Over the past several years, FARA has been supporting partnerships and strategic alliances across the continent. These alliances are expected to serve as vehicles for ensuring that smallholders and diverse stakeholders forge and sustain mutually beneficial collaborations. They also offer opportunities to exploit crucial complementarities that have practical implications for translating agricultural research into outcomes. The organization has been doing this through the Networking Support Functions (NSF) framework, which has five key components that have been collapsed into four mutually reinforcing practice areas as follows:

- NSF1/3 – Advocacy and policy analysis

- NSF2 – Access to knowledge and technologies
- NSF4 – Capacity strengthening
- NSF5 - Development of partnerships and strategic alliances

The NSF5 aims to promote partnerships and alliances in such a way that they are at the service of national and sub-regional research systems mandated to ensure that research findings and technological breakthroughs are translated into innovations that farmers can use profitably. What the programme does is to encourage and facilitate interactions among units and groups that work jointly to achieve sustainable agricultural productivity, enhance competitiveness and promote profitable market access. Key commodity chains for each particular context is generally the focal point for the intervention, but commodity lines outside the dominant chains may provide answers to the key constraints and are therefore equally of interest to the NSF. Thus, NSF promoted interventions incorporate an action research element, which starts by identifying the key constraints that smallholders face and then establish procedures to test options for addressing them. In this way, the system embraces the whole chain of activities from production to marketing, consumption and utilization.

The value chain analysis that this approach requires allows for detailed stakeholder mapping and tracking of their diverse and interrelated actions that contribute to the actualization of the group and individual welfare goals. This is in agreement with Williamson's (2009) definition of economic governance of multi-stakeholder processes as the facilitation of the orderly engagement of different actors to exploit diverse resources (social, financial, physical) to reduce, or even eliminate, conflict and realize mutual gains. Participants bring different skills and competences in line with their initially divergent interests, needs and aspirations but easily reconciled through active interactions and social learning. To what extent can these contributions lead to sustainable improvements in the livelihoods of smallholders and resource-poor farmers is still being investigated and it is desirable to identify situations where they have been successful and under what circumstances special arrangements are necessary to optimize the processes.

To further elaborate on the NSF concept, FARA's Partnerships and Strategic Alliances NSF5 in particular aims to foster the benefits of complementarities from appropriate stakeholder linkages and interactions to translate agricultural research outputs into worthwhile developmental results. For improved overall efficiency, NSF 5 facilitates partnerships that are expected not only to link agencies and organizations that could provide benefits to African organizations at the strategic level but also to improve operational efficiency at the grassroots. At the grassroots level, FARA facilitates greater interaction among all stakeholders in the innovation sphere to maximize synergies and generate innovations. The innovation sphere includes participants playing roles in the innovation pathway of a commodity, these participants are drawn from within and outside the value chain of the particular commodity. For instance the policy makers are not directly engaged in the value chain of any commodity, but they contribute to the innovation process from outside the value chain. FARA has promoted and facilitated diverse partnerships and strategic alliances programmes between 2008 and 2012 that contribute to

the sustainable improvement of broad-based agricultural productivity, competitiveness and markets. The need to document and disseminate lessons learnt from these diverse partnerships and strategic alliances approaches necessitated this study.

Without question, agriculture is diverse and dynamic. Its powerful link to nature endows it with richness, seasonal rhythms and variegated patterns across landscapes, with human society adding its own diversity (Dvořák 1993). After 50 years of independence, there are hopeful signs on the horizon. Initiatives such as the Comprehensive Africa Agriculture Development Programme (CAADP), a programme of the New Partnership for Africa's Development (NEPAD) of the African Union (AU), and the 2006 Abuja declaration on fertilizers for an African green revolution confirm the African leaders' commitment to agriculture-led growth to attain the Millennium Development Goals 1 & 7. FARA leads CAADP's Pillar 4, whose aim is to disseminate appropriate new technologies through improved agricultural research and systems. The FARA secretariat possesses a strong continental advantage for: (i) harvesting and sharing information about institutional innovations that concerns the organization of multiple ARD actors, and (ii) facilitating strategies to enhance capacity for innovation across Africa (FARA 2010).

1.2 Objectives

Against the above background, this study was designed to synthesize and document lessons learned on the diverse partnerships and strategic alliances that FARA has funded and supported on the continent, particularly those falling within period 2008–2012. More specifically, the consultancy aimed to achieve the following:

- i. Identify and characterize the different partnership arrangements used in all FARA initiatives (2008–2012) across the sub-regions in Africa.
- ii. Evaluate the effectiveness of each partnership model in terms of its relative impact on the efficiency of ARD institutions especially the SROs, Civil Society Organizations (CSOs), private sector and NARS. Effectiveness in this case is determined by the role FARA partnerships and strategic alliances initiatives have played to influence ARD institutions to deliver on their mandates to support smallholder farmers to improve their productivity for food and nutrition security and poverty alleviation.
- iii. Conduct an analysis and document the best practices in partnerships and strategic alliances for the improvement of ARD institutions and organization in Africa.

1.3 Outline of the Report

This report has been aligned with the specific objectives which follow the sequence proposed in the ToR for this assignment. Following the foregoing introductory chapter in which the background and objectives are set out, the rest of the report is divided into 6 chapters according to the main bulleted headings outlined below:

- Review of Literature, highlighting the following:

- Critical review of concepts, theories, institutional setup and changes
- Partners engagement
- Added value to products
- Number of farmers involved
- Results of Identification Study with inventory of partnership typologies used by FARA
- Effectiveness of each partnership model with respect to:
 - Relative impact on efficiency of ARD institutions (especially SROs, CSOs, private sector and NARS).
 - Role played by initiative to influence the institutions to deliver on their mandates to support smallholder farmers to improve their productivity for food and nutrition security and poverty alleviation.
- Evaluation of Effectiveness of FARA partnership model in terms of relative contribution and impact on ARD development especially improvement in the livelihoods of the smallholders.
- Best Practices in Partnerships and Strategic Alliances for the Improvement of ARD Institutions and Organizations in Africa.
- Summary of Lessons Learned

Each of the sub-Regions is discussed separately in line with the foregoing headings.



CHAPTER 2: Literature review



2.1 Introduction

This literature review focuses specifically on the institutional setup and changes around the partnerships and strategic alliances that FARA has fostered over the years. Wherever such arrangements relate to situations elsewhere and other organizations other than FARA, such relationships will be highlighted. Further, the review will investigate aspects of partner engagement and added value that are traceable to FARA's work within these arrangements. Importantly, the stakeholder coverage, especially farmer involvement in these efforts will be an essential part of the review.

2.2 FARA's value addition to strategic alliances

The notion of mutuality is at the root of strategic partnerships and alliances (United Nations, 2001; Williamson, 2009). Ordinarily widely differing individuals and units come together to pursue common goals and objectives in a consistent and formal manner to the mutual advantage of all concerned. Typically, two productive entities or organizations enter into a stable contractual relationship for the purpose of pursuing and achieving specific objectives that are shared by both entities and generally enhance the productivity of the resources contributed by each of the partners. But, unfortunately, this has not been the rule. Let us look at FARA's particular value addition and contribution to strategic alliances, for which it is important to understand the institutional setting for research administration and farmer engagement in FARA's zones of influence.

2.3 Institutional setup of African Research Systems

The research and farmer support terrain of Africa generally has a linear and top-down configuration, whereby there is a wide gap between the research elite and the grassroots entities that are the target of the research (ICRA, 2009). According to Eicher (2001), most of the research systems and extension services were submerged within the Ministry of Agriculture. Figure 2.1 illustrates the typical structure of all existing research systems on the continent prior to the emergence of participatory thinking.

The top-down orientation has been widely seen as removing elements of feedback and resulting in research priorities not incorporating the perspectives of the grassroots (ICRA, 2009). Some of the arguments against

the linear model, often referred to as the “vertical one-way communication model” (Asiabaka, 1994 and Asiabaka and Mwangi, 2001), include the fact that it limits the role of extension to merely transferring information to farmers and that it tended to be skewed towards research interests instead of reflecting farmers’ problems and circumstances. In an earlier international review incorporated in a training manual for people associated with various NARS in sub-Saharan Africa, the International Livestock Centre for Africa (ILCA), the precursor of the International Livestock Research Institute (ILRI), noted that the format of the agricultural research and extension systems on the continent has led to failures in technology development (ILCA, 1988). According to ILCA (1988), these failures were traceable to a wide range of factors, notably:

- i. The weak links between research establishments and entities operating at the level of the traditional farm sector;
- ii. The emphasis on performance criteria developed in and applied to high-income, industrialized countries, which are out-of-touch with situations in developing countries;
- iii. Insufficient knowledge of small farmer conditions and circumstances.

ILCA was naturally one of the first institutions to call for the application of farming systems research approach to take care of the afore-mentioned deficiencies. In its view (ILCA, 1988), a well-designed and applied Farming Systems Research (FSR) should have the following features:

- i. Be neutral with respect to the nature of the system by beginning without any pre-conditions, that is having an open-mind about the existing situations and the eventual outcome of the programming efforts;
- ii. Focus on improvements;

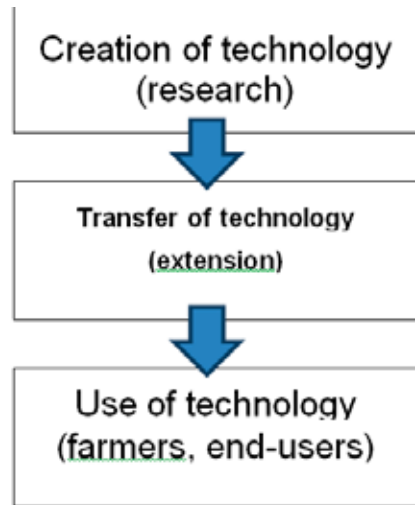


Figure 2.1: Conventional research and extension systems

- iii. Exhaustively examine the interactions and relationships and linkages among the various units and entities making up the system under investigation;
- iv. Put the farmer at the centre of the entire process—from the conception, description and diagnosis of the system to the development of solutions; and
- v. Emphasize the evaluation of the identified solutions in terms of their broader effects on a wide range of indices of welfare, including productivity, equity, stability, and sustainability.

It is apparent that there has been a misdiagnosis of the core problem of the research and extension function.. According to Asiabaka (1994), one way of addressing the top-down orientation of the extension and research system has been to focus on constraints research and interventions to address identified constraints, culminating in the introduction of the FSR programmes. But this approach has failed to produce the desired changes in the adoption behaviour of smallholders and improve livelihoods of resource-poor farmers. This was because the central role of farmers in the adoption of improved practices was not recognized. Maxwell (1986) saw the main problem with FSR as attempting to “hit a moving target”, which definitely resulted in failures. According to him, both the concept of FSR and the way it was implemented did not adequately recognize that the system itself was constantly changing and evolving and not one that could be productively engaged by one-off methodologies or contacts.

The wider development literature presents numerous indications of the erstwhile structure and organization of the agricultural research system on the continent. According to Taylor (1991), the structure of these systems has been influenced largely by the colonial backgrounds of these countries. Especially for the Anglophone countries, the strong influence of colonial thinking is evident (Taylor, 1991), in contrast with the situation in the Francophone countries. In the latter, there has been some attempt at nationalization of the research systems to better reflect national circumstances and priorities right from the early days, although in many instances this development has come some 10-15 years after the attainment of political independence. Some of the most comprehensive studies on the origin of agricultural research in Anglophone Africa have demonstrated that there was never an intention to forge a link between the research system and the local farming system (Taylor, 1991; Eicher, 1999). As has been made clear, over

Table 2.1: Comparison of conventional research and agricultural research for development

| Conventional Research | Agricultural Research for Development |
|--|--|
| Commodity driven/disciplinary oriented | Systems-oriented, inter-disciplinary |
| Reductionist | Holistic, constructivist |
| Aims at increasing yield | Aims at multiple objectives |
| Simple high input technology | Complex knowledge-intensive technology |
| Science driven | Responding to clients' needs |
| Publication oriented | Development oriented |
| Conducted in isolation | Inter-institutional collaboration |
| Limited farmer involvement | Participation, empowerment |

Source: ICRA, 2009

the years, the first efforts at conducting research of any type into agricultural systems revolved around the botanical garden concept, where new commodities were “studied, evaluated ... (and prepared for)...distribution, dissemination and production...” (Taylor, 1991). Given this focus, it was unlikely that the research system would aim to achieve “balanced and efficient development of the natural resource base or... food or improved nutrition of the peoples” (Taylor, 1991). Attention to food crops only began in the late 1950s, becoming significant only around the 1970s as population pressures became a more serious problem than previously (Taylor, 1991).

2.4 The changing scenario of rural engagement and participation

Evidently, the situation described above led to the realization that things just had to change. Such thinking began to dominate development assistance in the early 1980s, but never really gathered sufficient momentum to become noticeable until well into the 1990s. In the meantime, the devastating effects of the structural adjustment programmes (SAP) were already being felt across the continent, occasioning calls for “development with a human face” (Mehrotra and Jolly, 1997). In 1999, UNDP’s *Human Development Report* was entitled “Globalization with a human face”. With this shift in thinking, a social policy that put people at the centre of development returned to the scene as an important focus area. How these paradigm shifts have influenced the pattern of development programming is an important topic for a more comprehensive review, which can be considered for purposes of publishing these syntheses in the form of a book at a later date.

2.5 Evolution of participatory methodologies for research and creation of FARA

This is undoubtedly a vast and burgeoning field about which a lot has already been written and still more needs to be written. Therefore, only some mild indications are possible in a brief review of this nature. Oakley and Clegg (1997) have carried out a rather comprehensive review of the earlier literature and of some of the trends in the practice of participation in the context of poverty alleviation as the last millennium drew to a close. Looking at several regional and sub-regional case studies, the authors show how the trend towards increased people’s participation in the development process has been linked to the reforms that engulfed the continent in the wake of the implementation of SAP. In some way, this thinking is an off-shoot of the consensus emerging from the World Summit for Social Development (1995), where it was opined that: “people living in poverty and vulnerable groups must be empowered through organization and participation in all aspects of political, economic and social life and in particular in the planning and implementation of policies that affect them.” Other organizations, especially non-governmental organizations (NGOs) and intergovernmental bodies, began to focus on the idea of participation and partnerships as the sure way to achieve development and innovation (ICRA, 2009). From Table 2.1, it is clear that research as it was pursued in earlier times cannot be the basis for confronting the emerging challenges of our times.

Table 2.2: Community participation continuum

| Mode of participation | Type of participation |
|-----------------------|--|
| Co-option | Tokenism and/or manipulation; representatives are chosen but have no real power or input. |
| Cooperation | Tasks are assigned with incentives. Outsiders decide the agenda and direct the process. |
| Consultation | Local opinions are sought. Outsiders analyse the data and decide on the course of action. |
| Collaboration | Local people work together with outsiders to determine priorities. Responsibility remains with outsiders for directing the process. |
| Co-learning | Local people and outsiders share their knowledge to create new understanding and work together to form action plans with outside facilitation. |
| Collective action | Local people set the agenda and mobilize the resources to carry it out, utilizing outsiders, not as initiators or facilitators, but as required by the local people. |

Source: Adapted from Pretty et al. 1995

According to ICRA (2009), the main drivers behind the search for new research for development paradigms can be summarized as follows:

- Globalization, privatization, decentralization and Information and Communications Technologies (ICTs)
- Rapidly changing environments:
 - Policies
 - Markets
 - Institutions
- Increasing importance of knowledge for change
- New demands on research and development (R&D) institutions and professionals
- Increasing complexity of the problems that R&D institutions need to help to resolve

Since the middle of the 1990s economic, climatic and political systems have been in a state of flux. The uncertainty has been exacerbated by the rising food price from 1998. Since then, the world has endured the financial meltdown that was ignited by the subprime mortgage crisis in the United States of America. African agricultural systems, which have been facing serious challenges in the best of times, were particularly distressed by these developments. The rapidly growing population in the face of stagnating economic and agricultural productivity growth was raising new worries over unstable commodity prices, globalization, increasing protectionism of the West, rising energy costs, challenges of new waves of technology, climate change, and traceability (Fatunbi, 2011).

In response to these concerns, African countries stepped up their efforts to turn around agriculture and improve livelihoods across the continent (Fatunbi, 2011). Among the actions taken over the years, the following six stand out:

1. Formulation of CAADP by the AU-NEPAD.
2. Resolution to increase agricultural investment from African sources to 10% of national budgets from a mere 2.4% in 2003, and put in place measures for attracting private investments into the sector, principally by increasing the sector's competitiveness and attractiveness.
3. Setting up sub-regional, regional and continental mechanisms for improved coordination of research, education and development [notably SROs, FARA, AFAAS, Consultative Group on International Agricultural Research (CGIAR) collective action, continental platforms, etc.].
4. Reforming ARD institutions to embrace innovation systems principles, by ensuring that all relevant actors in the production-to-consumption system actively participate in all stages of institutional innovation, strengthening of institutions (research, advisory service, civil society), and improving the efficiency of agricultural markets (policies and infrastructure).



Figure 2.2: Staff of Bvumbwe Agricultural Research Station interviewing farmers

5. Promoting more effective partnership with external investors through spearheading advocacy for increased investment from external sources and harmonization of support aligned to locally determined priorities.
6. Supporting new initiatives that build on past successes, which are being implemented by the establishment of the high-profile Alliance for a Green Revolution in Africa (AGRA).

A practical institutional innovation response to the need for a strategic platform that fosters continental and global networking to reinforce the capacities of Africa's NARS and SROs was the formation of FARA. It was argued that a continental voice was needed to advance Africa's ARD, principally by way of advocacy, facilitating interaction among ARD stakeholders (e.g. general assembly and strategic alliances of civil society groups), and facilitating exchange of information and synchronization of methodologies, e.g. for capacity strengthening. The chronology of events leading up to the formation of the organization has been documented, beginning with the endorsement of the proposal during the 17th plenary session of the Special Programme for African Agricultural Research (SPAAR) held in Bamako, Mali, in 1997 (FARA, 2010), culminating in the formal launch of FARA with its general assembly being held in Maputo, Mozambique in July 2002.

CHAPTER 3: FARA'S Partnership typologies



3.1 Introduction

One of FARA's core functions under its NSF framework is to develop and mentor partnerships and strategic alliances within its zone of influence. For the purposes of our study it is necessary to understand the range of these arrangements and how they fit into the broader categorizations encountered in the academic and development literature and to see what key elements are successful and use them to formulate recommendations to make future efforts more efficient and effective.

By way of setting the context, it is important to note the two broad approaches that efforts to introduce innovation can take, namely working with diverse groups as partners (which implies working on an equal footing) to address goals that have been developed/formulated by collective action, and providing capacity strengthening to groups to enable them deal with their goals and priorities. As the CARE USA (1997) *Partnership Manual* makes clear, there can be as many as four types of partnerships based on the extent of their formalization. Sometimes, the typology is based on the extent to which the partnering institutions share in decision-making, how benefits are distributed among partners and the degree of trust. The four basic types are identified as (i) sub-contracts, with limited, this generally come through as service provision; (ii) direct funding, wherein the relationship is merely based on the need to overcome a funding constraint on the assumption that the funded party knows what to do with the funds; (iii) joint venture (also a consortium) in which two or more organizations join forces to design and implement a programme, and collectively monitor the outcome and share the benefits; and (iv) a network which is more informal, including virtual, and

is a collaboration mainly for information exchange. Some typologies of partnerships are developed on the basis of their sphere of influence, that is what field or geographical focus distinguishes them from others, as well as their scale of operation, or, more commonly, on the basis of the nature of their activities (Lifeworth, 2011). But typologies based on nature of activity can often yield an unwieldy collection of types of partnership with over-lapping interests and procedures, making analysis difficult. For instance, Lifeworth (2011) identified about 10–11 such partnerships ranging from advocacy and lobbying to donations and business advisory and enterprise development.

3.2 Identification of FARA's partnership programmes

An identification study had to be conducted to inventory the range of partnership programmes being supported by FARA within the Southern African sub-region. The primary source of information for this exercise was the FARA Secretariat, which made available a large amount of existing documentation undertaken by FARA and its partners. Additional information was sourced from the internet and during the field visit conducted in South Africa and in Malawi, and by e-mail and telephone conversations with diverse partners in the region. On the basis of these consultations, it was identified that FARA promoted six types of partnerships/strategic alliances to promote agricultural development on the continent through agricultural research and innovation. Table 3.1 presents the current partnership arrangements that FARA has been implementing in different parts of the continent since its inception. In line with its mandate, the organization is intervening at all levels of policy, advocacy and grassroots actions. A rough sub-division of the initiatives produces two broad categories, namely micro-level interventions/initiatives and meso/macro-level initiatives. The micro-level initiatives are those that operate mostly at the grassroots level to empower households and farmers and address their key production and marketing constraints and improve their profitability. On the other hand, the meso/macro-level interventions operate at levels of advocacy in partnering with institutions, both governmental and non-governmental.

Table 3.1: FARA's partnership arrangements

| Micro-Level Interventions | Meso and Macro-Level Interventions |
|---|--|
| Dissemination of New Agricultural Technologies in Africa (DONATA) | Strengthening Capacity for Safe Biotechnology Management in sub-Saharan Africa (SABIMA) |
| Sub-Saharan Africa Challenge Programme (SSA CP) | Strengthening Capacity for Agricultural Research and Development in Africa (SCARDA) |
| Regional Agricultural Information and Learning Systems (RAILS) | Universities, Business and Research in Agricultural Innovation (UniBRAIN) |
| Africa-Brazil Programme | Platform for African-European Partnership on Agricultural Research for Development (PAEPARD) |

Source: FARA Document Analysis, 2012

3.2.1 Dissemination of New Agricultural Technologies in Africa (DONATA)

Dissemination of New Agricultural Technologies in Africa (DONATA) is designed to promote the dissemination of technologies that FARA and its partners have developed. It is a twin project with RAILS under the FARA's Promotion of Science and Technology for Agricultural Development in Africa (PSTAD) project. FARA has been implementing these projects in collaboration with the SROs, ASARECA, CORAF/WE CARD and SADC and NARS. The twin projects were designed to improve knowledge management and enhance the adoption and use of proven technologies/innovations by the various stakeholders in agriculture. DONATA is funded by the African Development Bank (AfDB) through the PSTAD project. PSTAD is a multinational support facility designed to support the combined efforts of FARA, SROs and NARS in low-income African countries; its main objective is to strengthen agricultural research knowledge management capacity in Africa and support dissemination and adoption of new and proven agricultural technologies in the target countries. It is now operational in 34 sub-Saharan African countries.

The argument for establishing DONATA has been premised on the existing pattern of agricultural technology adoption on the continent. DONATA's partnership programme aims at catalysing wide-scale adoption and use of new and proven technologies to enhance agricultural productivity and growth for increased food security and poverty reduction. What is regarded as new technology or best-bet practice in DONATA represents both existing technologies and/or best-bet practices that are in use but yet to be accessed by the majority of end-users who need them, as well as those that have been developed, but are yet to be deployed and or accessed by end-users. According to FARA's website, agricultural technologies in Africa tend to be adopted locally, whereas a much broader-based adoption would be desirable. The latter would allow better appreciation of the elements of the entire value chain for each commodity, enabling producers at one end to adjust their activities and operations to the needs and preferences at all the levels. This calls for a much wider dissemination of the knowledge generated by researchers and associated stakeholders and institutions. FARA considers that this can best be achieved by establishing innovation platforms, in which both producers and end-users participate and support one another and exert mutual reinforcement of what each participant knows and can contribute to the achievement of the group goals. FARA is receiving support from AfDB to actualize this aim and pursue the following specific objectives:

- i. analyse the agricultural value chains in African countries and use proven technologies to address the constraints with a view to scaling up and widening the adoption of these technologies.
- ii. identify promising dissemination pathways that will fit the prevailing social, environmental and market conditions and enable profitable investments.
- iii. promote wide adoption of promising technologies along the agricultural value chain.

The expectation is that the activities under DONATA will eventually be transferred to the SROs. The further expectation is that FARA would remain involved by accessing and using the information generated by the platform and providing the environment for sharing such information among a wider R&D constituency. For purposes of this consultancy, DONATA's

activities and impacts/results in the three sub-regions were examined. This chapter focuses on the activities of the programme and the nature of the platforms, their key activities and constraints they face. The impact and results will be analysed in later chapters.

3.2.1.1 DONATA partnership project in Southern Africa

The DONATA programme is being implemented in five countries of the sub-region, namely; Zambia, Malawi, Mozambique, Lesotho and Madagascar. Zambia provides an excellent example of the work being done in Southern Africa. The structure in the Southern Africa region mirrors the structure in the other regions in which it works through the sub-regional organizations SROs and NARS to implement activities under the Innovation Platforms for Technology Adoption (IPTA). IPTA includes partners involved with ARD activities like extension services and the farming communities. The approach is to focus on the same commodity range for each IPTA and determine the key gaps in production and marketing that call for intervention. According to FARA (2012), the DONATA philosophy builds on the notion that for an agricultural technology to be effectively disseminated and adopted, it is necessary to understand the existing farming system and all its ramifications such as the linkages it has to the input suppliers and product marketers and users and how each actor in the chain operates and influences the system. In this way, it is possible to design the specific intervention that best suits the circumstance.

In Zambia, the DONATA programme falls under the SADC/FANR as the SRO is based at the SADC Secretariat in Gaborone, Botswana. The commodity focus for Southern Africa is open-pollinated maize and sorghum in line with the philosophy of the programme to focus on two commodities per sub-region (see Table 3.2).

3.2.1.2 DONATA partnership project in East and Central Africa

In the Eastern and Central Africa sub-region, the DONATA project is implemented in six countries, namely, Democratic Republic of Congo (DRC), Ethiopia, Kenya, Rwanda, Tanzania and Uganda. There are no substantive differences in the institutional setup of the DONATA programme in the sub-region from those in the other two sub-regions, namely West and Central Africa and Southern Africa. Essentially, IPTAs, which constitutes the vehicle used by the DONATA project

Table 3.2: Sub-regional commodity focus under DONATA

| Sub-Region | Commodity | Countries Covered |
|-------------------------|---|-------------------------------|
| Southern Africa | <ul style="list-style-type: none"> Open-pollinated maize Open-pollinated sorghum | 5 countries in SADC/FANR |
| East and Central Africa | <ul style="list-style-type: none"> Quality protein maize (QPM) Orange-fleshed sweet potato (OFSP) | 6 countries in the ASARECA |
| West and Central Africa | <ul style="list-style-type: none"> Maize Cassava | 10 countries in CORAF/WE CARD |

Source: FARA, 2012 (various documents)

Table 3.3 Number of IPTAs and commodity/technology focus areas in ECA countries

| Countries | No of IPTAs |
|-----------|----------------|
| DRC | 7 QPM |
| Ethiopia | 2 OFSP |
| Kenya | 7 QPM + 4 OFSP |
| Rwanda | 4 OFSP |
| Tanzania | 5 QPM + 9 OFSP |
| Uganda | 4 QPM + 4 OFSP |

Source: FARA, 2012 (various documents)

to scale-up and scale-out agriculture-based technologies at appropriate levels of a value chain (e.g. appropriate technologies to farmers, to processors, etc.), have been established. An IPTA is made up of actors participating directly or indirectly in a specific agricultural value chain, including farmers and farmers' organizations (who constitute the core), extension service providers, agro-processors, agro-dealers, bankers, transporters, researchers, etc. Its formation and operationalization is facilitated by researchers.

To increase agricultural productivity for greater food security and poverty reduction in rural communities, DONATA focuses on the value chain, beginning with analysis, which constitutes an important tool in the process of operating an IPTA. The starting point for analysis is usually a participatory chain-mapping workshop, in which all stakeholders develop a joint understanding of the various interests. This exercise reveals the strengths and weaknesses of the value chain, and serves as a starting point for mutual trust building. Discussions around specific issues (e.g. input quality, product standards, etc.) and analysing the chain jointly helps producers to understand the real demand for their product and helps demystify a number of negative perceptions (e.g. middlemen exploit us).

In the East and Central Africa sub-region, the IPTA activities are focused on OFSP and QPM technologies (see Table 3.3). Three countries, namely, Kenya, Tanzania and Uganda, are promoting both commodities, while the Ethiopia and Rwanda DONATA projects are only interested in OFSP. The IPTAs of DRC work on QPM.

3.2.1.3 DONATA partnership project in West and Central Africa

In West and Central Africa, the principal institutional participants in DONATA are FARA, CORAF/WE CARD, NARS comprising national agricultural research institutes (NARIs), extension or advisory service, farmer organizations, agribusiness, NGOs in agriculture, policymakers including community leaders, universities and technical institutes in agricultural education. Critical partner institutions such as the CGIAR centres, especially the International Institute of Tropical Agriculture (IITA), advanced research institutes (ARIs) and universities, offer technical support in agricultural best-bet dissemination and capacity strengthening. Other partners include international institutions such as AGRA, Research into Use (RIU), Millennium Village Project (MVP), and the Coalition for African Rice Development (CARD).

The DONATA partnership programme in the sub-region, as in the other sub-regions, works through IPTAs designed to facilitate wide-scale adoption and utilization of proven technologies/innovations. Each platform is made up of stakeholders who are representative of farmers and farmers' organizations, extension service, agro-processor, marketers, agribusiness, transporters and research. The research is carried out at the CGIAR centres, in the universities, and other technical institutions, which also provide technical support, training and skills development at the appropriate level of intervention.

Through the value chain analyses, members identify gaps, challenges and opportunities as well as solutions, actions and activities that are to be implemented. The platform becomes a forum to share learning, resulting in improved skills for transforming individual agricultural enterprises. The quality of the IPTA interventions depends on the commitment of members; use of appropriate communication tools; and facilitation skills of its leaders.

In the West and Central Africa sub-region, IPTA activities are focused on two selected commodities, and each country is obliged to promote one or both commodities depending on its needs. While Mali, Burkina Faso and Senegal are focused on open-pollinated maize, Sierra Leone, Côte d'Ivoire, Congo Brazzaville and Cameroun are focused on improved cassava cultivars. However, Senegal, which started with the two commodities (maize and cassava), is now concentrating on cassava since another project manages maize. The focus, selectivity and value chain segmentation, as well as the active involvement of relevant stakeholders in particular agri-business and women, are key benchmarks of DONATA.

Technology dissemination pathways, participatory approaches and learning tools are used to analyse technology dissemination and adoption based on the context and specificity of the beneficiary communities. Each IPTA selects technology, including processing and value addition or best-bet practice, for dissemination in a given agro-ecology (see Table 3.4) for every target country site based on agreed criteria. The platforms share a common agro-ecology, facilitating cross-site analysis through joint Monitoring and Evaluation (M&E), and learning and sharing of experiences (Table 3.5). Priority technologies and best-bet practices are implemented at a

Table 3.4: Agro-ecological zones and selected commodities for the DONATA Project in West and Central Africa sub-region

| Agro-ecological Zones | Countries | Commodities |
|-----------------------|-------------------|-----------------|
| Sahel | Burkina Faso | Maize |
| | Mali | |
| | Senegal | Maize & Cassava |
| Coastal | Côte d'Ivoire | Cassava |
| | Sierra Leone | |
| | Liberia | |
| Central | Cameroon | Cassava & Maize |
| | Republic of Congo | |

Source: Compiled from Tanzania RAILS and DONATA Learning Team Workshop Report, October, 2012.

Table 3.5: Number of DONATA IPTAs set up at CORAF/WECARD sub-region

| FARA'S partnership typologies | No of IPTAs | Commodity |
|--------------------------------------|--------------------|--------------------|
| Benin | 2 | Maize |
| Burkina Faso | 7 | Maize plus sorghum |
| Cameroon | 7 | Cassava |
| Chad | | |
| Congo Brazzaville | 4 | Cassava |
| Cote d'Ivoire | 4 | Cassava |
| Gambia | 12 | Maize |
| Ghana | 4 | Cassava |
| Guinea | 2 | Maize |
| Liberia | 2 | Cassava |
| Mali | 7 | Maize |
| Senegal | 2 | Maize + 4 Rep |
| Sierra Leone | 10 | Cassava |
| Togo | 2 | Maize |

Source: *CORAF Synthesis Report: DONATA Monitoring Tour (2008)*

specific site over two years before disseminating it to new sites. This is to cultivate a culture of self-assessment through M&E, and experiential learning and sharing,.

3.2.2 Regional Agricultural Information and Learning Systems (RAILS)

The Regional Agricultural Information and Learning Systems (RAILS) is a project initiated by FARA in collaboration with SROS, ASARECA, CORAF/WECARD and SADC and NARS. This project was designed to run from 2007 to 2012 to fill the gaps in communication and information flow from the rural community to NARS and the regional and continental networks that coordinate agricultural research and extension systems. Funding for RAILS came from AfDB. The focus is on the use of ICT tools and their effective application in agriculture. The project is a response to the strong advocacy in this direction by the African Union, the Regional Economic Communities (RECs) and national governments, which favour the development and improvement and effective deployment of web-based information technology as well as traditional communications tools.

The RAILS objectives include the following:

- To undertake advocacy to encourage increased investment in agricultural information systems (AIS) by African governments and institutions;
- To improve access to information and the ability of African stakeholders to contribute to global agricultural knowledge;
- To facilitate synergies by linking African information conduits to global providers of agricultural information; and
- To develop an African platform for agricultural information and learning systems.

To take RAILS forward the FARA website was made operational to access essential agricultural information at all levels, be it policy, meso (coordination) levels, or the grassroots and farmer level. The website provides links to other relevant portals and serves as a strong communication and public relations tool for FARA's NSFs and stakeholders.

3.2.2.1 RAILS in the ECA sub-region

In the Eastern and Central Africa sub-region, FARA/RAILS works with the information and communication unit of ASARECA, whose partners are NARS in the member countries of Burundi, DRC, Eritrea, Ethiopia, Kenya, Sudan, Tanzania and Uganda.

In February 2009, ASARECA organized, in collaboration with FARA, a sub-regional stakeholders meeting in Entebbe, Uganda to launch the implementation of the RAILS project in the East and central Africa sub-region. During the meeting, participants agreed on the organization of national consultations to advance the implementation of RAILS at the national level. The NARS were expected to form learning teams through which RAILS activities would be implemented in their respective countries. Some of the expected benefits of the project that emerged from that meeting include:

- Easy creation of websites and fewer concerns about technical aspects, including development and design
- Support for programming, hosting, maintenance, etc.
- Increased visibility of websites at the continental and international levels
- Free hosting
- Scope for feedback
- Ability to integrate existing website and enable search engine optimization
- Being part of a continental community and benefiting from colleagues' experiences
- Access to online technical support

Additional information obtained in respect to the RAIL programme in the East and Central African sub-region included details on the establishment of the African Portal on Agriculture, some unique attributes of the institutional setup of ASARECA/RAIL, and a number of emerging issues that should be highlighted within the context of the objectives of this consultancy. These issues are elaborated in the next three sub-sections.

(a) The African Portal on Agriculture: eRAILS Platform

One of the significant outcomes is the launching of the African Portal on Agriculture, which is the main eRAILS platform for coordinating information sharing and dissemination. The platform originated from consultations between RAILS focal persons and stakeholders, and the RAILS Taskforce meeting that was held in December 2008 in Accra, Ghana. At this meeting, NARS expressed the strong desire to:

- be linked to existing research and extension communication systems
- have access to training for proper operation of the system

- gain access to networking systems that are simple and easy to use
- acquire systems that are user friendly and enable stakeholders to create and manage their own websites
- create a unique pool of information on African agriculture for users interlinked through a social network.

Subsequently, the eRAILS platform was launched in July 2009 in Accra in the presence of 40 participants from 32 countries. The specific objectives were to:

- promote local content development, management and dissemination
- promote open access to local content
- facilitate information and knowledge sharing, and collaboration among African stakeholders
- facilitate linkages and access of African stakeholders to major agricultural knowledge resources and technologies, and
- Facilitate learning among RAILS teams across the African region

On a broader continental basis, the eRAILS partners include:

- Regional: FARA
- Sub-regional (SROs): ASARECA, SADC/FANR, CORAF
- National: RAILS National Teams (extension, research, NGOs, ministries, university, medias, farmers organizations), NARS stakeholders (network, etc.).
- International: Information Systems for International Cooperation in Agricultural Research (BLE – ISICAD), AfDB, Food and Agricultural Organization (FAO), International Association of Agricultural Information Specialists (IAALD), etc.

(b) Institutional setup of ASARECA/RAILS

RAILS learning teams (LTs) and focal points were established to coordinate the RAILS activities at the national level. The following outcomes are expected in each participating country:

- LTs established
- National gateways on the Africa-wide AIS portal set up
- LT's capacity to use AIS strengthened
- LT's skills enhanced to facilitate knowledge sharing and learning among various agricultural research & development stakeholders
- LTs identify information for sharing on gateway
- Information exchange within the AIS structures (national, sub-regional, continental) enhanced and made regular

ASARECA's Secretariat performs two major functions, namely:

- Facilitates consultations among NFPs in setting up *an African network for agricultural knowledge exchange*, and

Table 3.6: RAILS achievements in ECA countries

| Country | Account | Webpages | Pages |
|------------|---------|----------|-------|
| Burundi | 8 | 8 | 46 |
| DRC | 22 | 54 | 109 |
| Ethiopia | 28 | 38 | 113 |
| Kenya | 161 | 205 | 492 |
| Madagascar | 23 | 67 | 337 |
| Rwanda | 13 | 18 | 100 |
| Sudan | 48 | 66 | 196 |
| Tanzania | 34 | 37 | 181 |
| Uganda | 36 | 83 | 376 |

Source: Extracted from RAILS website data (2012)

- Offers capacity building and technical advice to national teams as they develop their AIS portals and other ICT-integrated tools
- The national RAILS ensure that other aspects of the partnerships, notably the downstream elements, are successfully implemented. They are expected to:
- Facilitate dissemination of information to support technology transfer (e.g. under DONATA)
- Manage national inter-disciplinary and cross-sectoral partnerships of individuals, groups and institution LTs supported by ICT infrastructure and AIS
- Ensure that RAILS contributes to the wider information and communications initiatives of their institutions
- Organize and host national RAILS learning and training activities

Table 3.6 summarizes RAILS activities to date, including number of websites launched and their coverage measured by how the number of accounts and web pages, and the overall number of pages per country.

(c) RAILS emerging issues

RAILS has continued to be operational despite difficulties. These are some of the challenges that it faces:

- Matching stakeholders expectation with available resources.
- Complexity of information that is demanded (packaging, disseminating, etc.) and the need to ensure that the product is relevant to specific audiences
- Building Community Based Organization (CBO) capacity to create websites and upload content.
- Integrating information flow and the learning process, especially since most of the learning still happens through informal channels
- Targeting groups for appropriate use of information channels, including information sharing among partners within specific commodity chains, and translating information into knowledge

- Fully exploiting RAILS' potential for disseminating information, including communication between farmers and scientists, in other words, maximizing the learning team approach
- Packaging of information appropriately, and ensuring the diverse skills to do so; also ensuring a feedback mechanism;
- Using RAILS' potential to increase the success rate of development-oriented projects
- Incorporating traditional knowledge
- Operationalizing RAILS-DONATA links
- Strengthening the weak linkages between DONATA and RAILS

3.2.2.3 RAILS in the West and Central Africa sub-region

FARA developed the RAILS initiative to enhance access, retrieval and use of agricultural information and technologies by African ARD stakeholders. RAILS main objective is to create a functional African information and communications technology network for access and exchange of agricultural information and knowledge. In the West and Central Africa sub-region, too, RAILS works towards achieving its objectives of building learning teams and agricultural information and learning systems. The RAILS platform has three components: stakeholders, services and support mechanisms.

(i) Stakeholders: The RAILS platform provides various stakeholders at different levels with specific services to address their needs. These stakeholders include:

(ii) Policy makers: This group requires adequate, reliable and up-to-date information to make decisions or draw up policies to create an enabling environment for all actors in agriculture, especially the CSOs, who are the main beneficiaries of ARD. Reliable information in accessible formats, for instance policy briefs that can be easily understood by policy makers, is important for increased recognition for RAILS and hence, investment in ARD. The RAILS platform can also be useful in linking policy makers to specific knowledge resource centres.

(iii) Programme managers: Programme managers of ARD find this platform useful to keep pace with new scientific breakthroughs and technologies. It also helps them network with other colleagues working in the same field or link directly with users of their research such as the CSOs.

(iv) Dialogue groups such as extension agencies, media and CSOs need access to reliable information sources to avoid Mis-information. They need hard facts and figures when they lobby for a cause.

(v) End-users of R&D outputs, such as farmers, traders, entrepreneurs as well as scientists themselves, need information in different formats. RAILS needs to access CGIAR, FAO, CABI, CTA and NARS's rich knowledge resources. But it should be well categorized according to user needs so that users can retrieve information from within the very complex and challenging maze of global information systems.

3.2.3. Sub-Saharan Africa challenge Programme (SSA CP)

The Sub-Saharan Africa Challenge Programme (SSA CP) was established to address the major constraints of agricultural markets, inappropriate policies and natural resource degradation in Africa. It aims to entrench agricultural research in a broader innovation system, where knowledge from various sources can be integrated and put to use.

SSA CP's specific objectives are to:

- develop technologies for sustainably intensifying subsistence-oriented farming systems
- develop smallholder production systems that are compatible with sound natural resource management (NRM).
- improve the accessibility and efficiency of markets for smallholder and pastoral products, and
- catalyse the formulation and adoption of policies that will encourage innovation to improve the livelihoods of smallholders and pastoralists

FARA promoted a new approach to conduct agricultural research called IAR4D, which brings together multiple actors along a commodity value chain to address challenges and identify opportunities to generate innovation. The stakeholders examine the technical, economic, social, institutional, and policy constraints in an environment through innovation platforms (IPs). Between 2008 and 2012, the SSA CP focused on improving smallholder agriculture through IAR4D, using the hierarchical IPs. These platforms differentiate IAR4D from conventional or other participatory approaches. It is a tool for bringing together multi-stakeholders for visioning, planning and implementing new ideas, practices, and services, which arise through interaction, creativity, insight, and empowerment, with the aim of bringing about the desired change.

The SSA CP network facilitates research and learning, which in addition to generating new knowledge, products or technologies also ensures the use of research products. The interaction among the stakeholders gives the opportunity for joint problem identification, prioritization and innovation of viable solutions.

Aware of the expected impacts of the IAR4D approach for Africa, SSACP initiated proof of concept research at three Pilot Learning Sites (PLS) representing three African contexts – East and Central Africa, West Africa, and Southern Africa (FARA, 2008). At each PLS there are three teams (named taskforces) working together to assess: (i) the usefulness of the IAR4D concept in generating deliverable public goods for the end users; (ii) its superiority over conventional approaches; and (iii) its applicability as a research approach to generate more end-user acceptable technologies.

SSA CP's research is organized around four projects: the meta-analysis project focusing on the proof of concept, and the PLS projects in the three different sub-regions of sub-Saharan Africa.

- i. delivering international public goods complying with best practices in relation to multi-stakeholder engagement in the generation and wide-scale adoption of agricultural innovations, and
- ii. evaluating whether IAR4D works and is more cost-effective than conventional approaches.

Ultimately, FARA's intention is to turn the SSA CP into a "clearing house" to promote the adoption of IAR4D by serving as a platform that will share information and knowledge concerning agricultural innovation and multi-stakeholder (partnership) engagement in ARD (FARA, 2012).

3.2.3.1 Challenge programme in Southern Africa

The implementation of the FARA SSA CP in Southern Africa was more closely investigated by an intensive case study of the ZMM PLS, which was coordinated by the Bvumbwe Agricultural Research Station. This research station was established in 1940, at a point located 13 km south of Limbe on the Limbe-Thyolo-Muzola road. The station enjoys a near temperate micro-climate at an altitude of 1,174-1,228 m above sea level. The climate is characterized by the typical seasonal rainfall with an average of 1219mm per year, which falls mainly during the months of summer between December and April. Its favourable soil and climatic conditions has made it the main horticultural research station in the country. The station is headed by a Deputy Director in the Ministry of Agriculture, who reports to the Director based in Lilongwe at the ministry's headquarters.

Research at the station covers:

1. Crop improvement and agronomy of various horticultural and field crops
2. Other service programmes in soil and plant analysis
3. Seed inspection, testing and certification
4. Crop quarantine
5. Disease and insect pest control
6. Vegetable seed and fruit tree production

It was therefore natural that coordination of the research activities under the Challenge Programme would become Bvumbwe Station's responsibility.

Policy objectives: "due to the environmental conditions at Bvumbwe, the station is mandated to conduct market-oriented research to generate technologies with (the) potential to increase productivity and quality of horticultural crops. The vision of the station is to become a centre of excellence in horticultural research, leading to the generation of appropriate and sustainable technologies for enhancing the horticultural industry in Malawi.

In Malawi, Mozambique and Zimbabwe, the SSA CP set out to implement a project entitled "Improving human nutrition and income through integrated agricultural research on production and marketing of vegetables". The project objectives include the following:

1. To increase production and consumption of high value, highly nutritious local and exotic vegetables in the PLS of the three countries.
2. To build farmers' capacity to produce vegetables as a business and to develop linkages between the farmers producing vegetables and the markets. (3000 farmers have been targeted in Malawi)

Unfortunately, the project did not take off in Zimbabwe due to the continuing political problems faced by the country. The project was therefore implemented only in Malawi and Mozambique, and programme evaluation has been undertaken for these two countries alone.

In Malawi, the project will identify priority vegetable crops and develop their production management practices on-station and on-farm. This will be done through participatory research with farmers in Chingale-Zomba, Thyolo, Mulanje and Phalombe districts. It will also link the farmers to market outlets in the cities of Zomba and Blantyre. Bvumbwe Agricultural Research Station has been entrusted to implement a number of activities, but for the purpose of this report, the following activities have been highlighted:

Activity 1. Participatory evaluation of germplasm

Activity 2: Conduct baseline surveys

Activity 3: Coordinate and backstop activities of the project

Other partners who provided expertise in the project include World Vision Malawi and the Department of Agricultural Extension Services of the Ministry of Agriculture and Food Security.

Activity 1. Participatory evaluation of germplasm

Germplasm for various indigenous vegetables were ordered from Asian Vegetable Research and Development Center (AVRDC). Samples were received for the following species:

- Amaranthus
- Vegetable cowpea
- Jews mallow
- Ethiopian Mustard
- Okra
- Eggplants
- Cat Whiskers
- African Eggplants
- Night Shade

3.2.3.2. SSC AP in East and Central Africa

The PLS for East and Central Africa is located at the borders of Rwanda, Uganda and the DRC and is named the Lake Kivu Pilot Learning Site (LKPLS). At this site, three initial sub-projects developed by three different institutions were merged to explore various questions related to the constraints to agriculture sector productivity and profitability in the region. The three sub-projects were:

- i. More food products and better nutrition at reduced cost and minimal degradation of the natural resource base (Rwanda Agriculture Board (RAB));
- ii. Beneficial conservation and sustainable use of natural resources (Makerere University);

- iii. Making markets work for the poor: Unlocking opportunities for agro-enterprise diversification (Centro Internacional de Agricultura Tropical or CIAT).

The three mentioned institutions eventually became taskforce lead institutions with the following IAR4D themes:

- i. Taskforce 1: Productivity and value-addition technologies [ISAR, which has been merged with other Rwanda government agencies to form the Rwanda Agriculture Board (RAB)];
- ii. Taskforce 2: NRM (Makerere University)
- iii. Taskforce 3: Markets and policy (CIAT)

The three taskforces within LKPLS worked closely at common sites and with common partners on the interactions among agricultural productivity, natural resource sustainability, markets and policy themes. Each of the three taskforces worked with four innovation platforms to give a total of 12 IPs. The noteworthy institutional establishment details relate to the site selection processes and the formation and operation of the agricultural innovation platforms

(a) Site selection

The site selection process consisted of seven steps in LKPLS: (1) Census of the sub-counties, *secteurs* and *groupements*; (2) Definition of low and high market access; (3) Modelling of market access; (4) Identification of candidate sites; (5) Development of a diagnostic tool for site selection; (6) Appraisal of candidate sites; and (7) Final selection of sites. Each of the 12 IPs corresponds to an action site and each action site has a counterfactual site. The site selection exercise was conducted at the third administrative level in all the three countries (Uganda: sub county; DRC: groupement; and Rwanda: sector). Initially, seven sites were selected based on the administrative unit (Table 3.8).

Table 3.8: Innovation platforms in LKPLS

| Country | IP | District | Sub county/ Sector/ Groupement | Enterprise of focus | Access to market |
|---------|---------------------|----------|--------------------------------------|---------------------|------------------|
| Uganda | Bufundi | Kabale | Bufundi | Potato | Poor |
| | Chahi | Kisoro | Chahi | Potato | Good |
| | Ntungamo | Ntungamo | Kayonza | Organic pineapple | Poor |
| | Bubaare | Kabale | Bubaare | Sorghum | Good |
| Rwanda | Huguka Mudende | Rubavu | Mudende | Milk | Poor |
| | Isangano Gataraga | Musanze | Gataraga | Potato | Good |
| | Dufatanye Remera | Musanze | Remera | Beans | Good |
| | Gerakuntego Rwerere | Burera | Rwerere | Chili | Poor |
| DRC | Musanganya | Masisi | Muvunyi-shanga | Banana | Good |
| | Muongano | Rutshuru | Rubare | Climbing beans | Poor |
| | Maendeleo | Rutshuru | Kisigari | Potato | Good |
| | Buuma | Masisi | Kituva | Cassava | Poor |

The action and counterfactual sites were stratified according to market access with two action sites having good market access and two others poor access; this was repeated for the counterfactual sites. Action sites were chosen from the list of candidate sites according to the level of ARD between 2003 and 2008. All the villages at each site were assessed and were classified into 2 types: (a) clean villages that have neither had IAR4D nor conventional projects in the last 2–5 years; and (b) conventional approach villages that have had projects identifying, promoting and disseminating technologies in the past 2–5 years. Sites with the cleanest villages were chosen as action sites, while sites with a mixture of clean and non-clean villages were chosen as counterfactuals.

(b) Formation and operation of AIPs

Forming and operating AIPs is carried out through a multi-phased participatory action learning approach, involving a combination of iterative, participative, reflective and integrative desk, modelling and field activities. This process is elaborated in three phases, namely; (i) Pre-formation, (ii) Formation, and (iii) Post formation.

(i) Pre-formation phase

This was carried out in five stages: (i) open exploration of different concepts of IAR4D approach; (ii) in-depth analysis of the SSA CP R&D methodology (FARA, 2008); (iii) mediated confrontation, involving argumentative discussion of AIP formation process; (iv) tentative exploration, working towards consensus in AIP formation; and (v) evaluation, cycling back through the AIP formation learning process and preparing for practical implementation in the field.

(ii) Formation phase

This phase was divided into six iterative steps, namely: (i) Identification of a research and developmental challenge(s), (ii) site selection, (iii) consultative and scoping study, (iv) visioning and stakeholder analysis, (v) development of action plans, and (vi) implementation of the action plans.

(iii) Post-AIP formation phase

The post-AIP formation phase is anchored and nurtured by the nature and quality of multi-stakeholder linkages and interactions and takes various trajectories depending on the socio-economic, policy and cultural environment. Through joint analysis, planning, action, joint research reflection, IAR4D improves interactions and learning of the value-chain based multi-stakeholders. This implies that timely feedback to the AIPs on options to address emerging productivity-NRM-markets-policy interface issues identified by a relevant task team can improve their performance. In LKPLS, the post-AIP formation took the form of M&E, impact assessment, feedback and technical support.

3.2.3.3 SSA CP in West and Central Africa

In West Africa, PLS were located in Kano and Katsina states in Nigeria and Maradi in Niger Republic referred to as Kano-Katsina-Maradi (KKM). The PLS approach was established to focus primarily on improving the livelihoods of the farming community.

Each PLS project comprises three sub-projects, with each implemented by a separate taskforce. The PLS sub-projects are designed to generate outputs that will result in similar outcomes, though the activities for each sub-project aimed at addressing problems that are specific to the circumstances of the very different environments and production chains.

The taskforces are supported by a Cross-site Research Support Team (CRST), which provides backstopping in selected key areas and facilitates the use of common research methods to enable integration of data; this, in turn, allows for cross-site analysis and comparisons. The key areas for which cross-site expertise has been mobilized include impact assessment, participatory M&E, research methods and data management. The CRST plays a lead role in implementing the meta-analysis project.

It was discovered that one of the major focuses of IAR4D is the integration of knowledge and actions of different stakeholders around a common theme. It was also noted that the taskforces in each IP used similar approaches in building partnerships. Box 1 shows the IAR4D IP process and the key steps.

In West Africa, up to 10 categories of IP members/partners have been identified, which include research and extension workers, farmer organizations, input dealers, marketers and transporters, agro-processors, cooperatives, financial institutions, policy makers and NGOs. In the IPs, partnerships have developed at three levels: national (or state), district (local government or provincial, depending on country) and individual village levels. Many IPs have

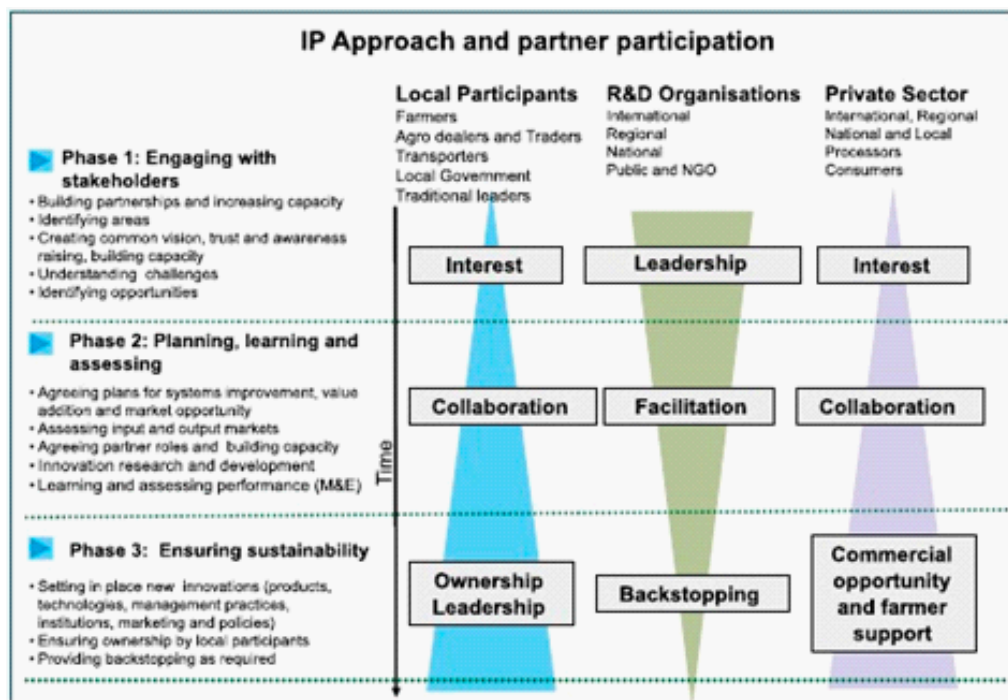


Figure 3.1: Conceptual framework for IP approach, establishment and functioning Source: Adekunle, et al (2012)

strategically become entrenched within local or district government administrations with increasing support from local policy makers.

The characteristics of IPs are:

- i. The objective is to increase farmers' income through selling of surplus food crop or cash crop grown for this purpose or through off-farm activities.
- ii. IP intervenes in a range of on-farm activities. Productivity can be improved through crop intensification using fertilizers, improved seeds and varieties, agronomic practices such as planting density, weeding, intercropping, crop rotation, and use of organic matter. New crops such as vegetables or tree crops can be introduced with the help of extension staff and/or the private sector.
- iii. The IP takes a systems approach by looking at the entire agricultural production system, the relevant value chains, their environment and the interactions between them. It also examines availability of credit, purchase of seed and other inputs, land preparation, agronomic management, market standards, post-harvest technology, packing, transport, food processing and interaction with output markets.
- iv. It also helps farmer's access credit, improved seeds, fertilizers, agro-chemicals, and prompts the government to take action on policy issues.
- v. If the IP is successful, it provides a win-win situation to the key stakeholders in the IP process. This is because:
 - farmers' situation improves
 - input marketers sell improved seeds, agro-chemicals and fertilizers to farmers
 - output markets get a more regular supply of better quality products
 - farmers seek advice and new technologies at the district and village levels from extension staff
 - the IARCs have access to a delivery mechanism for their developed technologies

The groundnut IP in Niger state provides a good example of stakeholder interaction and has been detailed below:

Institut National de la Recherche Agronomique du Niger (INRAN) is the research institute in Niger, and the researchers here help the farmers regularly. The IP includes the following stakeholders:

- Direction Regional Agriculture, Maradi is an extension service for training of farmers
- Direction Departmental Agriculture, Madarounfa is an extension service for training of farmers and establishing farmers' organizations
- Kokari, an NGO, provides micro finance and warrantage
- ASUSU is a micro financing institution that provides credit to purchase inputs
- HIMMA is a **women's** NGO engaged in groundnut oil processing
- Fuma Gaskiya is an extension service, which also helps farmers to access fertilizers.

Box 1: IAR4D IP process and key steps

PHASE 1

Stage 1 : Preparatory phase for IP formation

Engagement

- Establish the existing situation
- Review policies, institutions, capacities, existing plans and on-going initiatives
- Undertake capacity building, garnering support, lobbying and backstopping
- FARA/SRO/Participating IARC Centres, NARS and other/national support groups

Identification of areas, site selection and process facilitation

IP taskforces

Stage 2 : Engagement with stakeholders – seeking a common understanding of opportunities for agricultural development

Creating a common vision, understanding, buy-in and trust

Deepening discussion through awareness raising and knowledge inputs

Prioritization of constraints and opportunities, deepening understanding around common priorities

Value chain and systems analysis

Identification of opportunities for action

PHASE 2

Stage 1: Action planning – deepening understanding around common priorities

Development of district and community level action plans

Clarifying and agreeing on roles of different stakeholders

Stage 2: Participatory learning and research – through multi-stakeholder action

- Technology development, adaptive research backed by strategic research if necessary
- Assessing input and output markets, including financial opportunities
- Participatory learning

Stage 3: Assessment and learning from process and practice (M&E)

- Assessment of performance and progress
- Use of Field Days
- Learning lessons and adapting for improvement of process and practice
- Policies, institutions, capacities, technologies, markets, information flows?

PHASE 3

Stage 1: Adapting and re-planning – reassessing priorities, plans and activities

- Improving innovations
- Policies, institutions, capacities, technologies, markets, information flows ?

NEXT CYCLE (Phase 1-3)

Engagement, action planning, participatory learning, assessment, adapting and re-planning

Source: Mokwunye and Ellis-Jones (2010)

The KKM PLS is sub-divided into three sub-projects, which are located in three agro-ecological zones (AEZs) across Nigeria and Niger, namely: (1) the Sahel, (2) the Sudan Savannah, and (3) the Northern Guinea Savannah. Each of them aims to evaluate the effectiveness of IAR4D in its respective AEZ by establishing IPs and conducting action research aimed at intensifying crop and livestock systems, improving access to markets and promoting sustainable management of the natural resource base. The KKM sub-projects are:

- a. Improving livelihoods of rural population through agricultural intensification, access to markets, and sustainable management of natural resources in the Sahelian AEZ. INRAN leads the taskforce implementing this sub-project. This taskforce established four IPs. They focused on livestock-feed, millet-cowpea, vegetables, and groundnut production systems/value chains. The number of farmers involved and the area cultivated are shown in Tables 5.20, 5.21 and 5.22 in chapter 5.
- b. Sustainable agricultural intensification and integrated NRM to improve rural livelihoods in the Sudan Savannah. IITA led this taskforce, which was later taken over by CORAF/ WECARD. Four IPs were established by the Sudan Savannah taskforce, of which two focused on the maize-cowpea-livestock and the remaining two on sorghum-cowpea-livestock production system.
- c. Developing a multi-stakeholder approach to linking technical options, policy, and market access for improved land productivity in the Northern Guinea Savannah. IFDC leads the task force implementing this sub-project. Four IPs were established by the taskforce; they focused on livestock-feed, maize-legume-livestock, vegetables, and rice production systems.

Sub-projects in the SSA CP which are outside the PLS include:

- Production and marketing of banana in Cameroon involving approximately 10000 farmers
- Cameroon's garlic production involving approximately 3000 farmers
- Ghana's pineapple industry with approximately 15000 farmers
- Ghana's cassava farming involving approximately 5800 farmers
- Nigeria's cassava production and processing involving approximately 150000 farmers

3.2.4 Strengthening Capacity for Safe Biotechnology Management in sub-Saharan Africa (SABIMA)

Strengthening Capacity for Safe Biotechnology Management in sub-Saharan Africa (SABIMA) is a capacity strengthening initiative for biotechnology and biosafety in Africa. It is the first of a series of projects to be launched by FARA under its African Biotechnology Biosafety Policy Platform (ABBPP) designed for capacity strengthening in biotechnology and biosafety in Africa. The project at a strategy, policy and project management level will be led by FARA. At an operational implementation level, it will be led using a partnering approach with SROs and the NARS. It was intended to run for 3 years from 2009 to 2011 and run by six NARS in six countries, namely Burkina Faso, Ghana, Kenya, Malawi, Nigeria and Uganda. The global non-profit

Syngenta Foundation for Sustainable Agriculture (SFSA) provides stewardship expertise and advice, as well as funding for capacity building.

SABIMA embraces the following aspects:

- A train-the-trainer component in biotechnology stewardship. The stewardship capacity strengthening activity comprises the largest component of the project.
- Information gathering and dissemination on the status of biotechnology in the project countries and elsewhere in Africa.
- Awareness creation and advocacy for biotechnology, and its stewardship.

Under a train-the-trainer initiative, focal persons and their deputies receive training in biotechnology stewardship and are thus equipped to train others within their countries. To further assist them in their training, FARA has made the training material available on its website. These materials include comprehensive lecture notes as well as Power Point presentations (PPTs). The trainers can access the PPTs as required for modification.

In terms of organizational structure, the SABIMA Project consisted of a Project Manager, based in FARA, who linked with SROs to coordinate the execution of the project at the country level. The SROs included ASARECA, CORAF/WE CARD and the SADC-FANR. For the ASARECA region, the project countries were based in Kenya and Uganda; for the CORAF/WE CARD region, the project countries were based in Burkina Faso, Ghana and Nigeria; while for the SADC-FANR region, the project was based only in Malawi. However, because of the SRO requirement that a minimum of three countries participate in a project for it to qualify as a sub-regional project, only CORAF/WE CARD signed a formal contract with FARA. FARA linked directly with project countries in Eastern and Southern Africa for project execution. In each project country, a focal person was identified to coordinate the project. Each focal person had a deputy, who was, generally, based in a different institution in the country.

3.2.5 Strengthening Capacity for Agricultural Research and Development in Africa (SCARDA)

In response to the capacity constraints identified in the report of the African NARS assessment study of 2005, FARA established Strengthening Capacity for Agricultural Research and Development in Africa (SCARDA) in 2007 with funding from DFID. SCARDA was a regional initiative that aimed to overcome the weaknesses that affect NARS' capacity to conduct and manage agricultural research. In terms of structure, SCARDA comprised 12 focal institutions (FIs) in 10 countries located in the three sub-Saharan SROs of ASARECA (3 FIs), CORAF/WE CARD (4 FIs) and SADC/FANR (5 FIs). The SCARDA approach was 'holistic' and embedded the capacity strengthening interventions in a change management process. The process started with a rigorous institutional analysis of target institutions, identifying their weaknesses and capacity strengthening needs. SCARDA's aim was to improve the capacity and performance of participating NARS in key areas of their AR4D functions. The programme lasted two-and-a-half years from March 2008. SCARDA sought to accomplish the following four objectives:

1. Strengthen agricultural research management systems and managerial competencies to conduct high quality research in participating NARS;
2. Build NARS's capacity to undertake quality AR4D;
3. Establish the relevance of training programmes in agricultural universities to current market demand; and
4. Validate the SCARDA approach for capacity strengthening.

The Programme was coordinated by the FARA secretariat and implemented by the SROs. The implementing SROs were each supported by a lead service provider (LSP), namely, Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) for ASARECA, AGHRYMET for CORAF/WE CARD and ESAMI for SADC/FANR.

The participating FIs in the East and central Africa sub-region were:

- Institut des Sciences Agronomiques du Rwanda (ISAR, Rwanda),
- Institut des Sciences Agronomiques de Burundi (ISABU, Burundi), and
- Agricultural Research Corporation (ARC, Sudan).

In the West and Central Africa sub-region the participating FIs were:

- Crops Research Institute (CRI, Ghana),
- Centre de Recherches Agronomiques de Loudima (CRAL, Congo),
- Institut d'Economie Rurale (IER, Mali), and
- National Agricultural Research Institute (NARI, Gambia).

In the SADC/FANR sub-region, the SCARDA FIs were:

- Botswana College of Agriculture (BCA, Botswana),
- Department of Agricultural Research (DAR, Botswana),
- University of Zambia (UNZA, Zambia),
- National University of Lesotho (NUL, Lesotho), and
- Natural Resources Development College (NRDC, Zambia).

The programme also enlisted a number of service providers to facilitate various aspects of implementation, including the Natural Resources Institute (NRI) of the University of Greenwich in the UK, which played an active backstopping role.

3.2.6 Universities, Business and Research in Agricultural Innovation (UniBRAIN)

Universities, Business and Research in Agricultural Innovation (UniBRAIN) pioneers a new approach to promoting agricultural innovation and improving tertiary agribusiness education in Africa. An initiative of the Africa Commission, it is supported by Royal Danish Ministry of Foreign Affairs (DANIDA). It is an initiative for advancing agribusiness incubation and improving agribusiness education in Africa. The initiative promotes innovation by removing barriers between actors in the value chains to improve the flow of technology and knowledge. The main

objective of UniBrain is to enable universities, business and agricultural research institutions to commercialize agricultural technologies and produce graduates with entrepreneurial and business skills through joint agribusiness innovation incubation consortia (AIICs). It is the synergy and linkage between the diverse actors that catalyse and drive innovations.

UniBRAIN links university education, research and business in sustainable agriculture, with the following four objectives:

1. To develop and implement collaborative programmes fostering innovation among universities, research institutions and the private sector.
2. To strengthen African agricultural innovation systems, which are expected to deliver the new and improved technologies necessary to grow agricultural productivity.
3. To develop and implement improved and better contextualized undergraduate and postgraduate agribusiness teaching and learning.
4. To facilitate exchange of experiences and sharing of resources and knowledge.

The three broad outputs of UniBRAIN can be summarized as follows:

- Agribusiness innovations get commercialized
- Tertiary educational institutions produce agribusiness graduates with the potential to become efficient entrepreneurs
- Innovative outputs, experiences and practices are shared and scaled up.

It has been established that African universities are not sufficiently geared up to meet the needs of industries. Very often graduates cannot find employment, while many small businesses lack staff with the education and skills needed to drive innovation, reflecting a gap between the demands of the private sector and university education. However, studies have shown that when university graduates do business, they create more jobs than those without a university education. These deficiencies become more critical in agriculture than any other field.

The Africa Commission believes that African universities need to be linked with private enterprise at all levels, including smallholders and firms in local and distant markets. By linking across agricultural value chains locally, nationally and regionally, universities will be better able to educate entrepreneurs who can tap the enormous under-exploited potential of African agriculture for growth, job creation and subsequently poverty reduction. The Commission proposed five concrete initiatives to create jobs and better incomes, including innovative approaches for promoting post-primary education and research, with two components:

- a. Promoting demand-driven technical and vocational skills development, particularly among out-of-school youth in rural areas.
- b. Linking university education, research and private sector development in sustainable agriculture and agribusiness.

The second component is being realized by the UniBRAIN initiative.

UniBRAIN is facilitated by a team of seven partner institutions, namely **FARA**, which hosts the UniBRAIN coordination unit, the three African SROs: **ASARECA**, **CORAF/WECARD** and Centre for Coordination of Agricultural Research and Development for Southern Africa (**CCARDESA**) and the pan-African and international organizations: African Network for Agriculture, Agro-forestry and Natural Resources Education (**ANAFE**), Pan-African Agribusiness and Agro Industry Consortium (**PanAAC**) and Agri-Business Incubator of the International Crops Research Institute for the Semi-Arid Tropics (**ABI-ICRISAT**).

The composition of the UniBRAIN partnership has been amended to include essential skills and experience in establishing successful AIIC. UniBRAIN differs from existing agribusiness incubators in that: (i) it will mainstream the intellectual and infrastructural strength of universities and agricultural research institutions into commercial agribusiness innovation, and (ii) it will link agribusiness education with agribusiness practice to ensure that the graduates are fit for employment in innovative firms or start their own agribusinesses.

The UniBRAIN implementation phase began with the establishment of six pilot agribusiness incubators. UniBRAIN partners' activities were more-or-less restricted to the five countries that have the incubators, i.e. Ghana, Kenya, Mali, Uganda and Zambia. The initiative supports six pilot AIIC, which work in the following critical agricultural value chains:

1. The **Consortium for enhancing University Responsiveness to Agribusiness Development (UniBRAIN-CURAD)** focusing on plantation cash crops; specific value chain: coffee;
2. The **Incubation and Diversification of Banana Products for Agribusiness (UniBRAIN-IDBPA)** focusing on smallholder staple food and cash crops; specific value chain: banana;
3. The **Sorghum Value Chain Development Consortium (UniBRAIN-SV CDC)** focusing on smallholder dry land food grains; specific value chain: Sorghum;
4. The **Creating Competitive Livestock-bias Entrepreneurs in Agribusiness (UniBRAIN-CCLEAR)** focusing on smallholder livestock; specific value chain: livestock;
5. The **Innovative Centre for Agro-forestry (UniBRAIN-CAF)** focusing on agro-forestry products; specific value chains: non-timber forestry products, cereals and fruits; and
6. The **Agri-Business Incubation Trust (UniBRAIN-AgBIT)** focusing on tropical fruit; specific value chain: mango.

The following details can be highlighted in the **Banana UniBRAIN-IDBPA programme** with respect to the technologies/practices, partners involved, and the innovations on offer:

- A. Technologies/Practices:
 - Product processing
 - Methods in technology
- B. Partners:
 - Researchers
 - Academics
 - Business private investors

C. Innovations:

- *Innovation being promoted*: Inactivation of spoilage and oxidative enzymes in fresh fruit products; insecticide formulation
- *Innovation that has been adopted*: Deep-frozen vacuum sealing of peeled bananas that last for six months and remain fresh for the diaspora market, for instance USA supermarkets.
- *Best technology/practices (best bets)*: Biotechnology applications in tissue culture (TC) development for improved seedlings and hybridization in various crops.

The resources and services of UniBRAIN agribusiness innovation incubators include the following:

- Access to the human and infrastructural resources of the consortium
- Sharing, dissemination and up-scaling of innovation and research outputs
- Agro-technology development and transfer
- Facilitation of social and venture capital
- Technology packaging
- Investor start-up linkages
- Technical consultancy on customer, product and business model development
- Mentoring
- Modular training programmes
- Market R&D
- Access to the incubator's brand assurance of quality
- Access to relevant agricultural research outputs
- Contribution to improvement of tertiary agribusiness curricula and training
- Support for soft landings
- Opportunities to join value-adding networks

UniBRAIN provides opportunities for partners to showcase their expertise and ingenuity at various trade fairs and exhibitions. It promotes networking through which the incubators can benefit from each other's experiences. In addition to sharing lessons and best practices, great scope exists for accelerating the spread of commercially viable agricultural technologies across the continent and globally.

Among the initiatives taken by FARA in recent years to enable and strengthen innovation and adoption of improved technology by smallholders is an inter-continental collaborative partnership between African countries and Brazil. This initiative has been more commonly referred to "Africa-Brazil" in FARA literature and documentation, and falls under the NSF5 platform for partnerships and strategic alliances. The overall objective of Africa-Brazil is "to enhance agricultural innovation and development on the African continent through the establishment and strengthening of partnerships between Africa and Brazil" (FARA, 2011). The project is premised on the proven expertise of Brazil in diverse agricultural innovations and

Table 3.9: Annual agricultural productivity growth rates for Brazil and the rest of the world

| Country/Region | % Growth Rate |
|----------------------|---------------|
| Brazil | 3.5 |
| Latin America | 2.6 |
| Developed countries | 0.8 |
| Developing countries | 1.9 |

Source: OECD, 2012

the advances that the country has made in the last 30 years in developing and utilizing technologies that serve small and large farmers alike and contribute to economic development in ways that were previously unimaginable. According to FARA (2011), Brazilian scientists and policy makers have benefitted from Brazilian initiatives like *Fome Zero*, which means “Zero Hunger”, and

combines science and policy to offer social protection measures for the poor.

According to Organization for Economic Co-operation and Development (OECD) data, Brazil’s agricultural productivity growth rates exceed the global average quite significantly and there is evidence that Brazilian agriculture is in rapid expansion and is a clear leader in the world. As Table 3.9 shows, while Brazil’s agricultural productivity has grown at an average rate of 3.5% per annum, the rest of the world is only just about managing to keep pace.

Given such an impressive performance, it is natural for the rest of the developing countries, where agriculture has not been doing so well, to see Brazil as a source of rich knowledge. The framework of partnerships has also been seen as one that can be given concrete expression under such an arrangement that affords a structured platform for exchanging knowledge among professionals and experts. According to the President of IFAD, Kanayo Nwanze, “... working together is a great form of partnership to solve global hunger and poverty, and the Agricultural Innovation Marketplace is a unique partnership that offers opportunities for African and Brazilian agricultural researchers to come together to collaborate, to cooperate, towards finding solutions to the problems of poverty and hunger.” In fact, IFAD personnel see the marketplace concept as a concrete, simple and successful example of South-South Cooperation that has a strong chance of being highly beneficial to the smallholders that predominate the agricultural scene of the continent.

This view of the innovation marketplace as an example of a successful South-South cooperation is one that the Executive Secretary of FARA, Professor Monty Jones, has pushed quite vigorously. According to Professor Jones, the elements of mutuality of interests is important for the success of this particular partnership given that Brazil is a tropical country in a position to share rich insights with other less fortunate tropical countries. Much of Brazil’s experience mirrors the situation in Africa, and became a basis for interchange as mandated under the CAADP of NEPAD and the Framework for African Agricultural Productivity (FAAP). Given these links, the potential for such a collaboration to help African nations achieve the Millennium Development Goals (MDGs) was identified.

The main driver of the initiative on the Brazilian side is the Brazilian Agricultural Research Corporation (Embrapa). Embrapa’s mission is to provide feasible solutions for the sustainable development of Brazilian agribusiness through knowledge and technology generation and transfer. According to Farani and Arraes (2012), Embrapa is a federal, public organization based

in the Brazilian Ministry of Agriculture, Livestock and Food Supply (MAPA). The organization, now in its 41st year, has built up a reputation for excellence in research and technical cooperation in Brazil and worldwide. It has a total of 47 different research centres employing more than 2,400 researchers.

FARA is the key partner and co-leader of the programme in Africa, and both organizations are being supported by a plethora of development and financial organizations and governments, including the Brazilian Cooperation Agency of the Ministry of External Relations (ABC-MRE), the World Bank, DFID, IFAD, and the Bill & Melinda Gates Foundation (B&MGF).

FARA documents and website provide a huge amount of information regarding the countries in which it is currently operating.. To date, the programme is fully operational in several African countries, where over 250 scientists and policy makers are working collaboratively “to identify solutions to agricultural problems and help fund promising projects”. Table 3.10 shows the projects that are being funded and proposed.

Since 2011 when the programme started, 30 different projects have been approved in 12 countries of Africa, with 21 Embrapa research centres participating. In addition, 168 projects are in the pipeline and being screened for approval to cover 26 African countries in partnerships with 37 Embrapa research centres. These projects and the on-going ones fall within four thematic areas, namely: Productivity Enhancing Technologies; Smallholder and Poverty Alleviation Targeted Technologies, NRM, Market Policy and Institutional Strengthening, and Knowledge Management. Table 3.11 shows the relative importance of each of these thematic areas, with productivity enhancing technologies being dominant. Smallholder and poverty alleviation targeted technologies and NRM come next, while projects focusing on market policy, institutional strengthening and knowledge management seem least popular. Of course, the final mix of themes in the approved projects will be different and they could overlap since many of the projects incorporate elements of productivity enhancement and poverty alleviation, with a focus on hunger relief and smallholder empowerment.

As shown in Table 3.10, in its first year of operation in 2011, the Africa–Brazil initiative funded 10 projects in seven African countries namely, Burkina Faso, Ethiopia, Ghana, Mozambique, Kenya, Tanzania, and Togo. Each of these projects was funded to the tune of US\$80,000, with the focus spanning a wide range of agricultural technological innovation activities such as:

- Developing bee diversity to increase honey production;
- Using “rhizobium inoculant” to enhance smallholder cowpea production;
- Adapting sweet sorghum varieties for ethanol production;
- Developing a push-pull IPM strategy for smallholder cotton farms;

Table 3.10: Projects launched and planned under the Africa–Brazil Initiative 2011–2013

| Year | Number of Projects | Status |
|------|--------------------|------------------------------------|
| 2011 | 10 | Successfully launched and on-going |
| 2012 | 15 | Successfully launched and on-going |
| 2013 | 10-15 | Planned |

Source: Based on World Bank project briefs, 2013.

Table 3.11: Distribution of Africa-Brazil projects by predominant thematic area

| Thematic area | Relative importance based on number of projects | Examples |
|--|---|--|
| Productivity enhancing technologies | 58 | <ul style="list-style-type: none"> • Approaches to biological nitrogen fixation and utilization • Improvement of livestock breeds and health • Soil, water and crop management • Storage technologies |
| Smallholder empowerment and poverty alleviation Targeted technologies | 18 | <ul style="list-style-type: none"> • Improvement of cash flow for farmers • Improvement of information flow and agricultural lending systems |
| Natural resources management | 17 | <ul style="list-style-type: none"> • Crop rotation techniques • Regeneration of degraded lands • Conservation agriculture |
| Market policy and institutional strengthening and knowledge management | 7 | <ul style="list-style-type: none"> • Market access studies • ICT development • Communication strategies used by farmers • Re-engineering institutions • Engagement of private sector in agriculture |
| Total | 100 | |

Source: Report on Africa-Brazil Innovation Marketplace Website, 2012

- Introducing and screening of stunt-resistant Napier grass for dairy feed;
- Improving NRM in agricultural landscapes;
- Using planned grazing to rehabilitate degraded arid and semi-arid rangeland; and
- Implementing a food security and conservation strategy that taps the nutritional potential of native tree species.

Two projects that were examined more closely through an analysis of the videos posted on the Africa-Brazil website are those being implemented at the University of Dare Salam in Tanzania and Mekelle University in Ethiopia. These projects focus on two of the four thematic areas, namely productivity enhancing technologies, and smallholder poverty alleviation targeted technologies. Highlights of the project activities are presented in Boxes 3.2 and 3.3.

In late 2012, about 20 new projects were in the process of being launched in Uganda, Nigeria, Mali, Ethiopia, Benin, Ghana and Kenya. In addition, five projects have been selected under the Africa–Brazil marketplace framework to be implemented in Latin America and the Caribbean, notably, Nicaragua (improved sustainability), Bolivia (ensuring survival of wild peanuts), Costa Rica (deploying soil health management practices), Cuba (promoting long-term conservation of pineapple germplasm), and Colombia (massive propagation of clean cassava stocks). New insights are continually emerging and incorporated into the design of the interventions and the R&D processes of the partnership.

Box 3.2: Cotton varieties and pest management, University of Dare Salam, Tanzania

- Project duration: 24 months
- Thematic area: Productivity enhancing technologies
- Activities:
 - Acquired germplasm
 - Tested the germplasm to determine performance
 - Traits showing resistance to diseases selected and integrated into the local varieties

Box 3.3: Bee diversity and honey production for food security

- Project duration: 24 months
- Thematic area: Smallholder empowerment and poverty alleviation targeted technologies
- Activities:
 - Performing honey characterization
 - Conducting bee diversity assessment
 - Overcoming severe infrastructure constraints in Ethiopia
 - Creating access to facilities through the Africa–Brazil partnership

3.2.8 Platform for African–European Partnership on Agricultural Research for Development (PAEPARD)

The need to align the work of international research institutions with the priorities and development agenda of African countries has long been recognized although little has been done in the past to address it effectively. To address this lack, the FARA secretariat entered into partnerships with several European institutions to establish a platform within which resources and expertise could be mobilized to implement projects in which European experience and know-how will add value. The organizations partnering with FARA include EFARD, NATURA and the European Commission.

PAEPARD seeks to forge collaborative partnerships between African and European institutions to attract European expertise where it would be most valuable. One such initiative is RAILS, which has been described earlier. More broadly, PAEPARD aims to strengthen African ARD stakeholders' capacity to participate in European-led development initiatives for Africa and to create more responsive development programmes for Africa (FARA Website, 2011). Its specific objectives are:

- To conduct studies that will assess and analyse past and present EU–Africa cooperation and its corresponding instruments of partnerships and identify gaps and opportunities for future collaboration.
- To hold consultations to validate the study and present its rationale and findings.

- To develop an information and communication strategy that can be used to increase the participation of ARD stakeholders from Europe and Africa in efforts to implement the EU strategy for Africa and CAADP.
- To strengthen the capacity of African ARD stakeholders to take part in African agricultural innovation and to participate in European development initiatives for Africa.
- To establish mechanisms for sustainable European–African partnerships.

The Africa–Europe agricultural research collaboration mechanism will be based on existing frameworks such as the EU strategy for Africa and NEPAD’s CAADP. It will facilitate implementation of approaches that increase value addition in EFARD and FARA programmes.



CHAPTER 4: Effectiveness of FARA's partnership models



4.1 Introduction

The descriptions in the preceding chapters of the partnership typologies introduced and managed by FARA reveal that a well-entrenched and vibrant set-up is in place, involving diverse actors and activities. Given that different partnership arrangements were designed with different aims in mind, it will be helpful to assess their effectiveness more thoroughly, which is what we will proceed to do in this chapter. The partnership models already examined above will be assessed for each sub-region, and conclusions regarding effectiveness will be drawn on the basis of the assessment.

To begin with, let us clarify what is meant by “effectiveness” in the context of this assignment and the partnership models that are being examined. Effectiveness refers to the extent to which objectives are achieved and targeted problems resolved. It does not refer to how much has been achieved, but whether the right thing has been done (Business Dictionary, 2011). This clarification is important to avoid confusing it with the explicit impact assessment that is taken up in the next chapter.

4.2 Effectiveness of FARA partnership models in Southern Africa

To assess the effectiveness of the FARA partnership models, it is important to inventory the range of partnership models that the organization has developed and promoted. The foregoing section has inventoried these partnerships and provided brief descriptions of their purpose and the issues around their implementation and contributions. Effectiveness is best

assessed by examining the programme's objectives, and then looking at the outcomes. The FARA secretariat has shared a sizeable amount of documentation on the various programmes to enable such an assessment. This information is also posted on FARA's website and much of this has been summarized above. At the time of the consultancy, all the six partnership arrangements had wound up and their successor initiatives were being managed by the SROs for the most part. The overall impression is that these models have been very successful and are now in the process of being embedded into the national programmes, with FARA and the SROs involved in their coordination and replication.

The SSA CP implemented in Malawi was one of the more directly investigated programmes under the present consultancy. Telephonic interviews were conducted with the team for the SCARDA programme implemented in Lesotho. Additionally, the team e-mailed the programme's final report to the consultant.

(a) SSA CP in Malawi

As indicated earlier, this programme was highly successful in reaching the target beneficiaries. Substantial progress was made in the matter of improving the production of vegetables and the adoption of a variety of improved practices. The IP members' enthusiasm was also very high, as reflected in the large number of fully attended meetings and the fact that membership continually grew over the years until the expiry of the project in 2010.

One way to assess the effectiveness of the SSA CP project in Malawi is to look at how well it addressed a crucial local need. The major challenge that the Thyolo district faced prior to the inception of the project was the problem of land scarcity, and the fact that the majority of the farmers who grew vegetables were not making a profit due to the lack of effective and profitable markets for their produce. Additionally, profitability was very low despite proximity of the district to the Blantyre commercial centre, which had a diverse, metropolitan population. The production challenges that the farmers and the district faced were also numerous – lack of access to inputs being a major one. The formation of the IP was the only option that promised a quick and credible solution to the problem.

As part of the platform intervention, the farmers were taught optimum farming practices, including appropriate seed-bed preparation, spacing, level of investment and sequencing of crops and enterprises to get the most out of farming. They were also taught about fertilizer use and alternative methods of improving soil fertility and how a mixture of manure and fertilizer could be used to improve soil fertility. Farmers were also told that continuous recycling of seeds led to declining output because, after the third cycle, seeds cannot give optimum yield. So they were encouraged to buy improved seeds. Agro-dealers who were involved in the IP provided assistance by pricing the inputs in such a way that resource-poor farmers found them affordable.

Farmer-to-farmer learning was encouraged even before extension services entered the scene. Generally, farmers are better able to understand and explain processes to their peers. As part of the training farmers were taken to major retail outlets such as the Shoprite Supermarket

and shown what good quality produce looked like and what prices they commanded. This served as a motivation for them to produce better quality yield. The value of diversification was also explained, and farmers were encouraged to diversify to take advantage of the changes in supply, demand and weather patterns. The idea of integration of crop and livestock was introduced and many farmers are now engaged in organic farming.

In the words of Mr G. Wanda, the District Agricultural Development Officer (DADO), what happened upon the formation of the platform “blew everybody’s mind”. The enthusiasm to join the IP and attend the group consultations and participate in platform events and workshops was phenomenal. Initially, the IP brought together a few farmers, but quickly it expanded to embrace the rest of the community. The discussions at the platform meetings centred around the key constraints faced by farmers, but in manner never contemplated before, as the multi-sectoral dimension was recognized and all the entities involved in food production and nutrition were identified and incorporated. For instance, the health department and the hospital in Thyolo joined the platform as they helped to assess the nutritional levels and the scope for acquiring adequate nutritional values from farmers’ produce and provided guidelines for monitoring nutritional performance at all the relevant levels.

A relevant development from the point of view of effectiveness assessment is that the members re-organized the erstwhile clubs once they realized that these institutions would be unable to cope with the new demands of engaging with the farmers to address their multiple needs. Prior to the establishment of IP, the majority of the farmers sold their produce individually although a few belonged to clubs, which were for the most part ineffectual.

The farmers took the initiative to dismantle the old clubs and began to submit to the principles of IP. Then, as the SSA CP project was nearing expiry, it was thought expedient to form associations that could be transformed into modern cooperatives to internalize and transfer the learning. These cooperatives would have a more formal organizational structure, and follow democratic principles and be guided by a written constitution. The idea to form cooperatives and align group operations to the demands of market-oriented producers emanated from the IP and were not explicitly foreseen by FARA in the initial project document. But it represents a desirable development outcome that can be anticipated to result from successful implementation of the project once buy-in has been achieved and stakeholders accept the idea of collective action. Mr Wanda made a it point to stress that the FARA officials who attended their meetings did so as any other stakeholder and contributed just like anybody else and were not responsible for the final decisions taken by the IP about how to move the system forward.

Outcomes in terms of improved livelihoods were in evidence. At the end of the day, the programme sought to improve the quality of life. The IP tracked the evidence of this outcome through on-going impact assessments, which were being conducted at the level of the Extension Planning Areas (EPA). The Thyolo district was divided into six EPAs. As learnt from the IP members, the farmers were buying durable and high-value items such as iron sheets for roofing, livestock, cellular phones, radios and bicycles. A report on the impact assessments at the EPA levels was promised but has not yet been received.

Reservations were expressed though with respect to the SSA CP project's exit strategy in Malawi and Mozambique. The DADO and other officials and IP members seemed to have been taken unawares when the project ended, for the general impression was that the project would continue beyond its end date in 2010. As they indicated, the farmers were already beginning to organize in readiness for expansion of the programme and felt a sense of betrayal. The feedback is that farmers were unhappy with the way events turned out, and this might have a negative impact on future engagement with the farmers.

(b) SCARDA programme in Lesotho

A rapid institutional analysis conducted for FIs in the SADC region (Pound, 2007), had revealed that NUL had the potential to serve as the capacity building hub for the country's agricultural research system. The institutional analysis identified that the faculty at the University needs to be strengthened so that it could, in turn, place its knowledge and skills at the disposal of the rest of the NARS institutions in the country. The key intervention of SCARDA in the country was the drawing up of an action plan known as the Lesotho National Agricultural Research Systems CMAP. In keeping with the plan, the Lesotho Centre for Coordination of Agricultural Research and Development (LECCARD) was established. According to the report on the workshop to discuss the case study on institutional change of the Lesotho NARS (2011), LECCARD was expected to perform the following key functions:

1. "Coordinate research, dissemination of information and outreach across the Lesotho NARS.
2. Establish and operationalize a think tank for agricultural policy development, lobbying and advocacy,
3. Create a platform for the development of partnerships, linkages and networking locally, regionally and internationally,
4. Mobilize resources for the promotion of agricultural research in Lesotho."

According to Pound, Macala and Mokhothu (2011), the SCARDA project produced a number of interesting results that deserve a mention. The role of the project in the development of new research structures within Lesotho's NARS is perhaps the most visible of these results. But the new approach to agricultural research, which was now beginning to use more participatory methods, owes a lot to the SCARDA project (Pound et al, 2011). The one word of caution was that the changes arising from the SCARDA project could be short-lived unless support to the new institutions was sustained (Pound et al., 2011).

4.3 Effectiveness of FARA partnership models in East and Central Africa

In assessing the effectiveness of the FARA partnerships in East and Central Africa, it is also necessary to identify the crucial local need that these partnerships targeted and how well they did so. One of the most frequently mentioned constraints for the region remains

insufficient market access, which needs to be addressed by collective action. To a large extent, interventions by development organizations have critically targeted this need and FARA's work is no exception. Another issue is that a number of technologies already exist but lack a coordinated approach to ensure their effectiveness. The focus of FARA's work has therefore been on capacity building to implement a coordinated approach, popularizing technologies already developed, and establishing mechanisms to make marketing more efficient.

FARA's participation has been through the SRO ASARECA and this has had both a negative and a positive impact on NARS. The most dominant strategy has been to identify steps to avoid bureaucratic bottlenecks. The lesson learned is that through partnership a lot can be achieved. Using the Innovation Platform for Technology Transfer (IPTA) in the projects has brought a new approach, which has helped speedier dissemination and adoption of technology (QPM). Also the training sessions and provision of technology-related equipment were helpful. The use of uptake pathways that were no longer in use (farmer field school, field days, agricultural shows, QPM fair, etc.) was less obvious.

Let us now examine each of the partnership models identified and described in the previous chapter.

(a) DONATA

The main activities undertaken under the DONATA programme in the ECA sub-region are:

- Capacity building (in terms of training) and purchase of equipment, seed and other inputs for production (metal silos, cooking ovens, moisture meters)
- QPM and OFSP used to improve the health of malnourished children and breastfeeding women
- Marketing of QPM and OFSP based agro-processed products (cake, bread, flour, mandazi, doughnuts and biscuits)
- Capacity building of NARIs staff (short-term courses and MSc training).

The following broad conclusions can be drawn from DONATA's efforts in achieving its objectives:

- The use of IPs for technology adoption in disseminating QPM has had its success and failures.
- There is increased awareness of quality protein technologies and innovations. Many farmers are now aware of the benefits of using QPM and have adopted it in several counties.
- Hiccups were experienced at the launch of the project, with the lack of seed being the main challenge. This, however, has improved with time, with Kenya Agricultural Research Institute acquiring patents of two varieties (KH631Q and KH500Q) from CIMMYT and producing seed for farmers in the project areas. Subsequently, one seed company has been producing the seed and selling it through seed agents. Farmers themselves have responded to the lack of seed in different ways: one is recycling OPV seeds, which however, has its challenges as it is not known how much protein quality is lost due to

cross-pollination. Others have responded through identifying farms where seed could be produced and were willing to be contract farmers, but this has not been actualized because the seed company opted to produce the seed in a farm sited within an irrigation scheme.

- Through their own initiatives, farmers were able to identify different forums to showcase QPM technologies and innovations successfully: different QPM products at the world food days and agricultural shows and diocesan radio to create awareness among farmers regarding QPM technologies and innovations.
- Clear understanding and knowledge can help different actors to work together to achieve their desired objectives.
- There is no one blueprint for the IPTA, therefore we should be identifying principles rather than blueprints.
- IPTA starts at the community level. The concept of value chain has allowed a better understanding of IPTAs' composition. The value chain analysis is important in that it helps identify the common goals among the IPTA members. Seed is still an important issue across the board: building sustainable seed systems will help IPTA perform well and be sustainable
- There must be joint planning and learning to achieve common goals within IPTA. Progress depends on the time allocated by the focal person, the quality of technical backstopping, and the institutional strength of the host institution and its partners
- The sharing of experiences is necessary for a better understanding of the functioning of IPTAs.
- It is important to involve the beneficiaries in the M&E of the project's processes.
- Existing IPTAs can evolve to handle new challenges along the value chain.
- Regular value chain analysis and involvement of more numbers of stakeholders is always useful. The definitions of IPTAs are as diverse as the existing IPTAs.
- Though communications exist in the value chain it is mostly informal. Weak farmers need to be supported for scaling out activities. It also important to meet market demand in terms of both volume and quality, and involve more farmers in the process.
- Social capital plays an important role in encouraging IPTA activities. Enhancing knowledge flow along the value chain requires systematic partnership. To establish functional IPTAs, one needs to have a thorough understanding of the value chain and of the role of the actors in it.
- DONATA and RAILS could play a more important role in experimenting rather than implementing and dissemination Their networks could use the enormous knowledge base and serve as a laboratory to try out new ideas.
- Training on QPM value addition has allowed farmers to diversify and increase their income from products like bread, wine, and QPM popcorn.
- Uptake pathways should be diversified for the QPM promotion. Farmer field school, fairs, agriculture shows, demonstrations, testimony sessions, sensitization sessions, field day, and media are the best ways for scaling out.

- Gender sensitivity and empowerment has to be built into the entire process.
- Participation of physicians and nutritionists can go a long way in creating awareness and trust in QPM and contribute to its scaling-out
- Breeders have shifted from feeding imported feed to their poultry to QPM. Even advanced farmers in the new IPTA are feeding QPM to their pigs.

Involved partners are proud of their participation in the IPTA, and contribute to QPM scaling out. Their statements illustrate that: “If all INERA technologies could have been disseminated the way QPM is being promoted, a lot of technologies could have reached end-users and contributed to the improvement of their lives.”

(b) UniBRAIN

We have seen in the preceding chapter that UniBRAIN seeks to build capacity for self-employment of graduates of universities as one way to deal with the growing problem of graduate unemployment on the continent. In the East and Central Africa sub-region, the main questions around which action has been focused are low human resource availability, weak and poor infrastructure, weak policy framework and insufficient entrepreneurial skills among fresh graduates. It is imperative that agricultural technologies are commercialized to encourage innovation and that agricultural education at the universities and other tertiary educational institutions is made more practical and incorporates business skills so that fresh graduates can become entrepreneurs rather than wait in vain for the public sector to provide them jobs.

The UniBRAIN program has six agribusiness innovation incubator consortia, which work in the critical African agricultural value chains.

The Banana UniBRAIN-IDBPA has achieved the commercialization of products in the national and international markets with over 50 farmers and over 10 traders benefiting from the commercial enterprises. The application against weevils in crops with various farmers as beneficiaries has been equally successful. In both Uganda and Kenya, the project has led to the planting of disease-free banana, which is expected to lead to a dramatic increase in the production of banana in the two countries. FARA, in partnership with UniBRAIN, has created a fund for Afri-Banana Products (ABP) sponsored by DANIDA, in what was initiated as an IDBPA consortium, with a patent and US-FDA certification in place.

(c) SCARDA project

At the end of the SCARDA programme in about 2010, agricultural research management capacity strengthening plans were developed and implemented by all 12 FIs in 10 countries. These institutions can now identify benefits arising from specific SCARDA-initiated change management interventions as confirmed by the FI employee survey results. Measured against its set objectives, SCARDA has been reasonably successful and effective in overcoming the weaknesses that negatively affect NARS’ capacity to design, conduct and manage agricultural research.

4.4 Effectiveness of FARA partnership models in West and Central Africa

FARA has promoted and facilitated diverse partnerships and strategic alliances programmes between 2008 and 2012 that have contributed to the sustainable improvement of broad-based agricultural productivity, competitiveness and markets.

(a) DONATA

The DONATA programme is based on the concept of innovation platform. A number of new knowledge and insights were derived in the course of its implementation, they include:

- The concept was unclear during the initial phase of the project and therefore difficult to manage, especially that of value chain analysis. Since the concept was new, there was a strong need to sensitize stakeholders and explain the concept to them..
- At the inception, there was also a strong need to bring on board other stakeholders (civil society organizations in agriculture, i.e. farmer organizations, private sector or agri-businesses, NGOs, policy makers, and micro-financers, etc.) along the cassava and maize value chains in all the countries.
- DONATA focuses on participative approaches, requiring involvement of a wide range of stakeholders. In the beginning, this constituted a big challenge for the FIs and persons involved in the day-to-day management of the project. This challenge has now been overcome.
- Understanding the roles of the different stakeholders is key to ensuring effective functioning. The roles of stakeholders on the IPTAs need to be defined in a participative manner and it does not suffice for the lead institutions to assign roles to the different actors. The lead institution should encourage contract/functional linkages among stakeholders along the production-consumption continuum.
- The platform is not just an annual activity as conceived in the PSTAD, but a chain of activities linking a wide range of stakeholders along the value chains, involving considerable dynamics and complex relationships.
- The sustainability of IPTA merits very close examination since DONATA has a short life span. The issue is how will IPTAs function once the project is over. There needs to be a mechanism to ensure sustainability and ownership of the initiative by all stakeholders.
- Timely disbursement of project funds merits to be given due consideration by all stakeholders (AfDB, FARA, CORAF/WE CARD) since this has been the principal cause of delay for the non-execution of activities on the IPs for technology adoption.
- Farmers have learned that coming together and collaborating with different people with varied expertise adds value to a process. They have realised that by using the knowledge of different partners they can go a long way.
- There has been remarkable progress in implementation of activities
- A clear understanding and knowledge of the processes can help different actors to work together to achieve their desired objectives.

- IPTA starts at the community level.
- The value chain analysis helps the IPTA members to identify shared goals.
- Building sustainable seed systems will help IPTA perform well and be sustainable.
- There needs to be joint planning and learning within IPTA to achieve the common goals.
- Diversity should be embraced and celebrated throughout.
- Progress depends on the time allocated by the focal person, the quality of technical backstopping, and the institutional strength of the host and the partners.
- The sharing of experience is necessary for a better understanding of the functioning of IPTAs.
- Farmers must be introduced to improved planting materials (clean materials without disease).
- Involving the beneficiaries in the M&E of the project processes is important.
- The concept of value chain has allowed a better understanding of the composition of the IPTAs.
- The methodology used to analyse the value chain has generated new that added value to knowledge in value chain analysis.
- Capacity strengthening of RAILS is a prerequisite for it to be able to play a more effective role in the functioning of IPTAs.
- The strategic value chain approach is a sustainability mechanism for IPTA.
- Existing IPTAs can be equipped to handle new challenges along the value chain.
- The programme is strengthened by regularly sharing the lessons from the value chain analysis and by involving more stakeholders.
- Those farmers who are weak need to be supported for scaling out activities.
- It is important to meet market demand in terms of both volume and quality and to reach more farmers.
- There is need for systematic partnership to enhance the knowledge flow along the value chain.
- The choice of the crops is not imposed on producers.

(b) Effectiveness of SCARDA in the West and Central Africa sub-region

The SCARDA project has been very successful in West and Central Africa. Its major focus has been on development of human resource capacity and training of young and mid-career professionals to obtain post-graduate qualifications in key disciplines relevant for agricultural development. A clear distinction is necessary between “effectiveness” as employed here, and “impact” of the FARA partnerships programmes, which is the subject of the next chapter. It has been pointed out that the implementation of the SCARDA project has necessitated the application of several methodologies to gain insights into the pre-existing institutional arrangements and their appropriateness for capacity strengthening at the scale required for

the success of the programme. As Pound *et al.* (2011) noted for Lesotho, the institutional analysis methodology was vital in gaining an understanding of the prior situation, which allowed for the elaboration of a framework for action. This is also the case for the West and Central African sub-region, where institutional arrangements are relatively better established but infrastructure shortcomings may often pose serious constraints.

In East and Central Africa, SCARDA embedded the capacity strengthening interventions in a change management process, which started with a rigorous institutional analysis of the FIs, identifying their weaknesses and capacity strengthening needs. This differentiates SCARDA's approach from that of other capacity building projects. The outcome of the institutional analysis was then channelled into the following three different training modules offered: (i) MSc level training in areas where the FIs were lacking capacity; (ii) research management training courses; and (iii) short, professional skills up-grading courses such as proposal writing, IPM, and farmer participatory research (FPR) to improve the capabilities of researchers and technicians. To ensure that the new skills and knowledge acquired by the trainees would actually be used, SCARDA used two strategies: (i) a mentorship scheme, whereby the MSc students and other trainees were mentored after the training events to help them achieve particular goals based on their newly acquired skills and knowledge; and (ii) a CMAP formulated by the management trainees in consultation with the management of their respective FIs to improve the organization's overall performance.

SCARDA was implemented in 12 FIs within their respective NARS in 10 African countries spread across the three sub-regions of sub-Saharan Africa. A fundamental principle of SCARDA's design was that, while focusing primarily on FIs, the programme had an in-built opportunity for 'multiplier effect' and value-addition through inclusion of NARS organizations in geographical proximity to the FIs (known as satellite institutions) in the capacity strengthening activities. Engagement of the wider NARS constituents underscored the unfolding recognition of innovation systems approaches to national agricultural development. Gender issues were an integral part of SCARDA's approach, requiring affirmative action to improve opportunities for women's careers in the NARS and to promote gender equity amongst research partners and beneficiaries.

SCARDA was coordinated by FARA and implemented by SROs. The implementing SRO was supported by a LSP, which was AGHRYMET for West and Central Africa. The programme also enlisted a number of service providers to facilitate the various aspects of implementation. By all accounts, the programme objectives have been addressed effectively.

(c) The SSA CP

As has been highlighted earlier, SSA CP's primary goal was to remove the constraints of agricultural markets, reframe inappropriate policies and stop natural resource degradation in Africa. Agricultural research needed to be part of the broader innovation system, where knowledge from various sources could be integrated and put into use. We have already seen what the specific objectives of SSA CP were in a preceding chapter (p. 42....) How effective was the programme in achieving these goals?

To determine effectiveness, it is necessary to examine the IAR4D concept. Getting an empirical evidence of whether IAR4D works, the extra benefits it delivers compared to those delivered by traditional approaches given the same resources and whether it is replicable beyond SSA CP PLS will ultimately be dependent on the “Proof of Concept” being undertaken through Meta-analysis. This work is currently in progress and is expected to be completed early in 2014, considering the lag in the program funding.

A framework for deriving principles and guidelines from the IPs has been developed and 36 IPs, 12 in each PLS, have been established and are operating effectively, although they are at different stages of development. Most were established during 2008, some in 2009 and have had only three years of field activities. Despite this short period, a variety of technological, market, policy and institutional innovations have been developed. Some of these are highlighted:

Institutional innovations

- Formation of farmer groups at village level sometimes referred to as village clusters represented on District/LG IPs made up of the key partners.
- Farmers appointed by their groups to test, demonstrate or provide learning sites for alternative technologies.
- Community-based seed producers linked to Seed Companies growing seed on contract.
- Seed loans by seed companies being repaid in kind with seed donations also being made to other farmers, in what is termed *pass-on-seed* scheme.
- Farmer groups sourcing inputs and marketing produce collectively.

Production and marketing innovations

- New crop varieties being selected, tested and adopted by farmers. This includes cereals (maize, sorghum, millet, groundnuts and rice), legumes (cowpeas, groundnuts, and soybean) and roots and tubers (cassava and potatoes).
- The promotion of local processing of legumes often by women thereby improving household nutrition and providing additional income
- R&D involving an indigenous sorghum porridge for a non-alcoholic “*Mamera*” sorghum beverage now sold in local supermarkets
- Potato washing, grading, packaging using locally made bio-degradable material and marketed in hotels and supermarkets
- Increasing use of organic and inorganic fertilizer often associated with conservation techniques to conserve moisture
- The development and sale of vegetable boxes by agro-dealers. These contain seed, fertiliser and chemicals sufficient for 0.1ha with credit being available for their purchase (ZMM).

Reports from partners show enthusiastic use of innovation systems and IAR4D approaches. The three PLS are each contributing to improved knowledge and information sharing among IP members leading to increased awareness about potential technical and institutional innovations,

market opportunities and NRM practices. Consequently a variety of institutional, production and marketing innovations have been developed and used by stakeholders in other areas.

There are reports of partners committing their own resources to IP processes including scaling up activities in other areas. The Agricultural Research Council of Nigeria is now providing grants to Nigerian Research Institutes based on IAR4D approaches. The Sierra Leone Government is reported to be using similar strategies for its agricultural research activities. The Malawi Government has developed a sector wide agricultural plan based on CAADP processes which provide for District Stakeholder Panels, comparable with IPs. The UK Government through its Department for International Development has focused on promoting innovation systems approaches based on the establishment of IPs in five African countries (Malawi, Nigeria, Rwanda, Tanzania and Sierra Leone).

Successes have been achieved, lessons have been learnt and there are many challenges remaining, the most important being:

Institutional and policy led challenges

- Ensuring on-going capacity development amongst all actors but especially for empowering farmer organisations
- Integrating IP programs into District and Local Government development plans.
- Improving farmers' access to production and marketing information.
- Ensuring support to strengthen women groups on some IPs.
- Developing scaling out strategies to ensure wider participation and benefits

Production challenges

- Ensuring seed availability of improved varieties, especially for vegetatively propagated material that can take up to two years to be widely available.
- Enhancing farmer capacity to meet their financial contributions, both in raising sufficient deposit for loans and in some cases making loan repayments ensuring the success of micro-credit initiatives.

Marketing challenges

- Providing support for technical and business management skills for agro-dealers and other entrepreneurs.
- Balancing NGO-driven food security relief programs and production for marketing.
- Ensuring safe post-harvest storage, local processing for value addition and marketing initiatives.

NRM challenges

Balancing effort to promote improved NRM with effort to improve productivity.

CHAPTER 5: Impact of the partnership models on agricultural research and development on smallholders livelihood

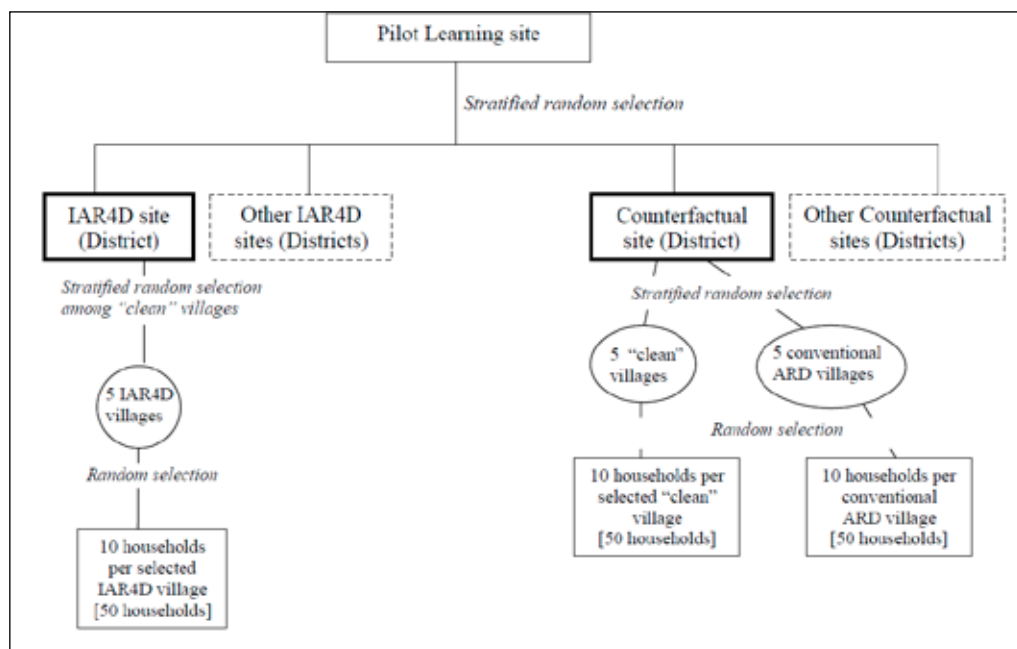


5.1 Introduction

To assess the impact of the partnership models on national systems and the livelihoods of small farmers, the intention was to combine extensive document analysis with primary data from the selected sites within each of the three sub-regions. Time constraints turned out to be a major issue for the latter and a large number of questionnaires administered to respondents were not returned. However, on the basis of the discussions with stakeholders and a further review of the published information, sufficient insights into the impact of the FARA partnership models within the region were gathered. Each sub-region has been presented according to the format in which the information became available. In general, and wherever possible, the baseline information is presented at the outset, followed by a description of the impact, which was derived from a comparison of the current situation with the findings of the baseline survey (see Figure 5.1).

5.2 Impact of FARA partnerships on ARD systems and smallholders in the Southern African Sub-Region

This section presents the findings with regard to SSA CP and DONATA. Field visits were planned for Zambia and Malawi to obtain data directly from the relevant stakeholders. But due to constraints of time only one intensive case study was undertaken within Malawi, while document analysis was relied upon to gain insights into the implementation of DONATA. To assess the impact of the partnership models on the relevant indicators, it is necessary to have a basis for comparison.



Source: Research Plan 2008-2010 (FARA, 2008), cited in ZMM Baseline Survey Report, 2009.

Figure 5.1: Design of the baseline study

(a) Sub-Saharan Africa Challenge Programme

For SSA CP, a baseline study was undertaken at its inception in Malawi and Mozambique (Mapemba and Pitoro, 2009). Its findings provided a strong justification for the choice of these countries for this project in terms of the conditions that prevailed in the smallholder-farming sector of these countries prior to the introduction of the project. While the baseline survey was very comprehensive and examined a wide range of issues, only a few aspects of the farmer environment will be considered for purposes of the present assessment. The research design adopted for purposes of the baseline survey followed the research plan developed by FARA in its broad methodological guide, namely *Research Plan 2008-2010*, which allowed for the a stratified random selection of locations within each PLS. In the case of the ZMM PLS, it is important to recall that it was not implemented in Zimbabwe, therefore the PLS comprised only the Mozambique and Malawi components.

Within each of these countries, the plan required that specific research sites corresponding to the basic administrative divisions within the country be selected on a random basis. Within Malawi, this basic administrative unit is a district. One district was randomly selected for the implementation of IAR4D activities, while a second district was selected as the counterfactual site similarly on random basis. As described by the *Baseline Survey Report* (Mapemba and Pitoro, 2009), the stratification of the sites was based on “four development domains

delineating the combination of market access potential and agro-climatic potential”. This can be interpreted to mean that the sites differed according to the extent of market access (proxied by the condition of access and marketing infrastructure such as roads, storage facilities, and amenities for facilitation of exchange of goods and services), and were drawn from different agro-climatic zones of the relevant geographical unit under investigation.

Within each district, focal villages were again selected on a random basis. The criteria for inclusion of a focal village were that no IAR4D or ARD-type project had been implemented in or around it in the 2–5 years preceding the launch of SSA CP. On the basis of these selection criteria, two categories of villages emerged: (i) those that have not had prior ARD exposure, and (ii) those that have had such an exposure. The terminologies employed for describing these two categories of villages were “clean” to refer to villages that had had no previous ARD exposure (at least in the 2–5 years preceding the project launch), and “conventional” to capture the villages that had such exposure and were therefore included as counterfactual villages for the purposes of a comparative analysis of the baseline results. Again, this was as prescribed by the research plan developed by FARA (FARA, 2008).

For purposes of the baseline survey, the set of hypotheses established by SSA CP for candidate focal villages were tested as a way of benchmarking characteristics that will be tracked during the life of the project to evaluate the impact of the IAR4D intervention. Out of the households eventually enumerated under the baseline survey, at least 10 households were identified in each village for M&E. The results of the PLS baseline survey for Malawi are presented in this section with respect to the sample size, village characterization, needs and aspirations for vegetable production, and volumes of vegetables produced and sold per harvest, per month and per household. According to Table 5.1, three treatment categories were established for focal villages as follows: “IP” villages where the IAR4D activities were undertaken, “Conventional” villages that had some previous exposure to ARD in the past, and “Clean” villages which had never experienced any ARD-related projects previously.

The field visits under the present consultancy focused on the IP at Thyolo District. In the cases of the “conventional” and “clean” villages, the relevant information was gleaned from the various progress reports, minutes of meetings and mission reports as well as the impact assessment report prepared by the project team over the years. Table 5.2 presents information on the characteristics of the Malawi focal villages with

Table 5.1: Number of households interviewed per village based on SSA CP intervention treatments

| Treatment | Districts | Households interviewed |
|------------------|-----------|------------------------|
| IP | Zomba | 61 |
| IP | Thyolo | 67 |
| Sub-Total | | 128 |
| | | |
| Conventional | Phalombe | 59 |
| Conventional | Mulanje | 59 |
| Sub-Total | | 118 |
| | | |
| Clean | Phalombe | 42 |
| Clean | Mulanje | 97 |
| Sub-Total | | 139 |
| TOTAL | | 385 |

Source: ZMM Baseline Survey Report, 2009

respect to attributes such as population, pattern and amount of rainfall, and number of organizations functioning in each of the enumerated villages. The baseline survey presented a breakdown of the number of organization in terms of input suppliers (known locally as agro-dealers), processors and marketing organizations, NGOs, microfinance groups and assorted marketing groups.

The clear indication is that a wide range of groups operate within the PLS (i.e. in both Malawi and Mozambique). A distinctive feature is that, at inception, most of these groups were informal groups and unregistered. In such a situation, a large number of groups registering and acquiring more permanence in the form of having regular scheduled meetings, constitutions, a fixed physical address and other features that define a purposeful and formal organization would be a performance indicator. Table 5.2 suggests that the Malawian IAR4D site had only five groups that were registered, while, in the case of Mozambique, there were six such groups. The observation that the “clean” sites had no registered groups in both countries, whereas the “conventional” sites in Malawi had 15 registered bodies against three in Mozambique may suggest that formation and registration of organizations is a developmental action that is probably driven by an intervention such as a participatory rural innovation programme. The gender dimension of these groups was also evaluated. There did not seem to be any mixed gender groups in the project area prior to the intervention.

Another element that was evaluated was the existence of special interest groups and evidence of concern for conservation and environmental sustainability. Forty groups focusing on NRM

Table 5.2: Village Demographic Characterization

| Common characteristic | Intervention sites | Clean sites | Conventional sites |
|---|--------------------|-------------|--------------------|
| Population (No of individuals) | | | |
| Min | 250 | 756 | 250 |
| Max | 3680 | 1697 | 3680 |
| Mean | 3364 | 1234 | 1510 |
| Rainfall (mm) | | | |
| Min | 984.7 | 984.7 | 984.7 |
| Max | 1197.8 | 1197.8 | 1053.2 |
| Mean | 1112.6 | 1018.9 | 1076.0 |
| Number of Organizations | | | |
| No. of villages with input suppliers | - | - | - |
| No. of villages with marketing / processors organizations | - | - | - |
| Other (NGO, research, other) | - | - | - |
| No. of registered groups | 5 | 0 | 15 |
| Proportion of women-only to men-only groups (%) | | 350.00 | 466.67 |
| No. of NRM groups | 40 | 0 | 13 |
| No. of market groups | 7 | 2 | 1 |

Source: ZMM Baseline Survey Report, 2009

were identified in Malawi, while Mozambique had 14. It was observed that the Malawian villages that had not previously experienced participatory processes had no such specialized groups, unlike Mozambique, where it was observed that about seven groups specializing in NRM were in operation.

Marketing was another evaluation criterion when it came to collective action. It was shown that Malawi had more marketing groups than Mozambique. Interestingly, even the “clean” sites had marketing groups in Malawi; probably because marketing is more intertwined with the lives of the people than many other agricultural activities. Nonetheless, an increase in the number of groups devoted to marketing would represent a significant breakthrough and vindication of the value of collective action or at least a faith in it. For one thing, it could represent an easing of constraints to marketing development or, better still, a response to the increasing demand for facilitation of access to markets or improved value addition for consumers unable to access commodities of that quality and in those volumes that are consistent with their expectations. Similarly, an increase in the production of specific commodities desired by the residents of a village or in its neighbourhood may be a reason to form a group to exploit synergies and complementarities. Another reason to form groups is to generate sufficient quantities for bulk transportation of produce, which would normally reduce unit costs to the individual members of the group. Therefore, an increase in the number of groups formed around commodity marketing over the baseline values may reflect an increase in production of the particular commodity and increasing market orientation of production, both of which are positive and desirable outcomes.

An interesting finding of the baseline surveys was the complete absence of input supplier groups in Malawi at the inception of the project. Given the income profile of the area and the low level of agricultural production, it is not surprising that commercialization of the smallholder system would be so low that the purchase of inputs would either be absent or highly insignificant. In such a scenario, an increase in the number of agro-dealerships will reflect the growing commercialization of agriculture as well as a change in the mind set about the value of improved technology. Such a trend may also reflect an increase in extension contact in the project area, indicating that the project elements are operating optimally.

Apart from the aspects of the baseline survey dealing with village identification and characterization, the baseline also investigated individual household production and consumption patterns and habits, including aspirations and needs and investment priorities at the inception of the project. How much of current production is consumed and what proportion is sold in the market or distributed as gifts are also interesting parameters and the baseline sought to garner information in those areas.

Changes in these criteria have important practical implications for predicting the role of interventions that are designed to alter behaviour positively from the point of view of transforming smallholder agriculture and improving the livelihoods of farmers. The information displayed in Table 5.3 represents one attempt of the baseline survey to map the current and future production patterns of the project area in terms of individual investment plans for

Table 5.3: Distribution of farmers according to intention to adopt improved varieties of assorted vegetables

| Vegetable Crop | IP | Conventional | Clean | Total |
|-------------------|----|--------------|-------|-------|
| African Eggplants | 12 | 49 | 81 | 142 |
| Amaranthus | 15 | 43 | 77 | 135 |
| Blackjack | | | 2 | 2 |
| Cabbage | 14 | 16 | 15 | 45 |
| Carrot | | 1 | | 1 |
| Cucumber | | 1 | | 1 |
| Green Paper | 1 | | | 1 |
| Jute Mallow | 13 | 33 | 66 | 112 |
| Lablab | | 2 | | 2 |
| Local Rape | 15 | 59 | 81 | 155 |
| Mpilu | 1 | 1 | | 2 |
| Mushroom | | | 1 | 1 |
| Mustard | 9 | 11 | 11 | 31 |
| Nightshades | 7 | 30 | 54 | 91 |
| Okra | 23 | 59 | 90 | 172 |
| Onion | 5 | 6 | 2 | 13 |
| Pepper | | 1 | | 1 |
| Pumpkin Leaves | 16 | 60 | 89 | 165 |
| Rape | | | 1 | 1 |
| Spider Plant | 7 | 48 | 66 | 121 |
| Tomatoes | 11 | 7 | 3 | 21 |
| Watermelon | | 1 | | 1 |
| Cauliflower | 1 | | | 1 |

Source: ZMM Baseline Survey Report, 2009

vegetable production. It reveals a wide range of vegetables, in fact, a total of 23 vegetables were counted, that could be grown there. The indication is that farmers saw vegetable production as an important activity in which investment to adopt improved practices was welcomed.

According to the evidence, 11 of the 23 identified vegetables are very popular in the system and include African eggplant, amaranthus, cabbage, jute mallow, local rape, mustard, nightshades, pumpkin leaves, okra, spider plant, and tomatoes. For the entire sample of farmers, that is crop and livestock farmers in all the three categories of villages (intervention, clean and conventional sites), Table 5.4 presents results of an assessment to determine the proportion of farmers producing marketed surplus.

As Table 5.4 shows, crop production for the market was popular in the Malawian districts that were enumerated for purposes of the baseline survey. According to the results, more farmers, as a proportion of total enumerated, grew crops for the market in the conventional villages (that is those villages where previous ARD-related projects had been implemented) than in the other villages. The intervention villages came second in terms of the number of commercial

Table 5.4: Percentage of farmers marketing crop, livestock and livestock products

| Commodity Type | Household Structure | Intervention sites | Clean sites | Conventional sites |
|--------------------|---------------------|--------------------|-------------|--------------------|
| Crops | Male-headed | 61.5 | 61.8 | 71.8 |
| | Female-headed | 67.4 | 40.9 | 78.2 |
| | All households | 65.6 | 56.7 | 76.1 |
| Livestock | Male-headed | 40.0 | 40.0 | 20.0 |
| | Female-headed | 40.0 | 30.0 | 40.0 |
| | All households | 40.0 | 30.0 | 30.0 |
| Livestock products | Male-headed | - | 30.0 | - |
| | Female-headed | 10.0 | 20.0 | - |
| | All households | 10.0 | 30.0 | - |

Source: ZMM Baseline Survey Report, 2009

Table 5.5: Volume of vegetables sold per harvest (Kg)

| Vegetable Crop | IP | Conventional | Clean | Total |
|------------------|-----|--------------|-------|-------|
| Amaranthus | | 20 | 15 | 35 |
| Spider Plant | | 0 | 0 | 0 |
| Roselle | | | 0 | 0 |
| Onion | | 0 | 0 | 0 |
| Lettuce | | | | |
| Garlic | | | | |
| Cucumber | | | | |
| Tomato | | 0 | 882 | 882 |
| Cabbage | | | | |
| White Cabbage | 650 | 225 | 50 | 925 |
| African Eggplant | 0 | 0 | 0 | 0 |
| Okra | 0 | 0 | 97 | 97 |
| Other Legumes | 0 | 0 | 0 | 0 |
| Pumpkin | | 0 | 540 | 540 |

Source: ZMM Baseline Survey Report, 2009

crop producers. It appears that commercialization of livestock production was at the same level in all three village categories, although the conventional villages did not seem to have any activity related to marketing of livestock products as a product group. Looking more closely at the crop farming, the indication (Table 5.5) is that much of the marketed produce revolved around 5 crops, namely cabbage, tomato, amaranthus, okra and pumpkin, despite responses given by the farmers about their aspirations for the future (Table 5.3). This was probably because these crops were the major vegetables consumed locally and constituted the dietary staples of the people.

But overall volume of production and sales may have been very low as revealed by the figures in Table 5.5. For instance, only about 35 kg of amaranthus was sold in one season. Cabbage sales were the largest at 925 kg in the year, followed by tomatoes and pumpkin. But these figures may also reflect the fact that other households were producing for own consumption and therefore did not participate in the market to the extent that would have encouraged higher sales. The volumes of vegetable sold in the different focal village categories by survey farmers are presented in Table 5.6, Table 5.7, and Table 5.8, for white cabbage, tomato, and amaranthus, respectively.

Overall, the IP villages appeared to exhibit stronger agricultural intensification than the conventional and clean villages, either separately or together.

5.2 Impact assessment results

By comparing the results obtained during the site visits carried out in October/November

Table 5.6: Volumes of white cabbage sold in a particular month (which one?)

| Treatment | Month | White Cabbage |
|--------------|-------|---------------|
| IP | 3 | 200 |
| | 8 | 200 |
| | 9 | 250 |
| Conventional | 9 | 225 |
| Clean | 6 | 0 |
| | 8 | 50 |
| Total | 3 | 200 |
| | 6 | 0 |
| | 8 | 250 |
| | 9 | 475 |

Source: ZMM Baseline Survey Report, 2009

Table 5.7: Volumes of tomato sold in a particular month

| Treatment | Month | Tomato |
|-----------|-------|--------|
| Clean | 2 | 500 |
| | 3 | 15 |
| | 8 | 220 |
| | 9 | 30 |
| | 10 | 117 |

Source: ZMM Baseline Survey Report, 2009

Table 5.8: Volumes of vegetables sold dried or fresh

| Country | Treatment | Form | Amaranthus | White Cabbage | Tomato |
|---------|--------------|-------|------------|---------------|--------|
| Malawi | IP | Dried | | | |
| | | Fresh | | 650 | |
| | | Total | | 650 | |
| | Conventional | Dried | | | |
| | | Fresh | 20 | 225 | |
| | | Total | 20 | 225 | |
| | Clean | Dried | 15 | 50 | 16.5 |
| | | Fresh | | 0 | 865 |
| | | Total | 15 | 50 | 881.5 |
| | Total | Dried | 15 | 50 | 16.5 |
| | | Fresh | 20 | 875 | 865 |
| | | Total | 35 | 925 | 881.5 |

Source: ZMM Baseline Survey Report, 2009

2012 as part of the present consultancy, some indication of the impact of the FARA partnership programme was obtained. In addition, the document analysis and literature review also yielded insights into how behaviour and responses have changed in the project area and to what extent these changes can be attributed to the interventions. While changes were revealed in many areas, time permits closer examination of only the following criteria: farm investments, crop volumes harvested and marketed, asset ownership status, and loan repayment behaviour. A few random details that emerged from focus group meetings were also documented even where they did not feature in the reported baseline results or form part of systematic study under the consultancy. The expectation was that the consolidation of the findings from the different sub-regions would enable a more comprehensive documentation of these issues.

5.2.1 Changes in farm investments

Agriculture is increasingly being seen as an important sector in the war against hunger and destitution; this will necessarily mean more investment in farming with more people taking it up as a primary occupation. If you look at Malawi, it is an agrarian economy without a doubt, but the sector has known a fair amount of instability in terms of the number of farmers, the level of agricultural investment and intensification, and the extent of self-reliance attained in the main staple crop, maize. According to Chibwana *et al.* (2010), prior to the 1990s, Malawi



Figure 5.2: Conducting farmer interviews showing the Vegetable Pack

had attained self-sufficiency in maize mainly due an agricultural policy that promoted input subsidy as a way of stimulating domestic demand for improved inputs, raised farm wages, brought food prices down to affordable levels, and generally promoted economic growth and development, a point that was made earlier by Crawford *et al.* (2003). But the dismantling of this subsidy policy on the advice of the World Bank in the early 1990s led to serious food crises, including food shortages that lasted many years (Chibwana *et al.*, 2010).

To deal with this crisis, the Malawian government re-introduced agricultural subsidies in 1998, initially through a scheme known as the Starter Pack Scheme (SPS), under which a package of seed and fertilizer sufficient to cultivate an individual farm holding of a tenth of a hectare (0.1ha) was distributed to households; the goal was to promote food security at the household level, and boost yields through improved management of soil fertility. Several studies have since been conducted to evaluate the scheme, and the general consensus is that it was successful in boosting food production and restoring national food security (Levy and Barahona, 2002). There was, therefore, reasonable expectation that an intervention of this nature would produce similar results within the Malawian context.

The assessments could not determine the actual number of farmer to confirm if larger numbers of people had taken up farming as a primary occupation since the launching of the FARA project. But the indication from the specialists (heads of the District Agricultural Department and the Bvembwe Agricultural Research Station) is that interest in farming has grown since the launching of the project. One outcome of this growing interest is the proliferation of agro-dealerships. The agro-dealers are sellers of improved varieties and their numbers have grown quite phenomenally over the years, especially since the FARA project was established.. During the period of the consultancy, in Thyolo District, it was observed that a large number of agro-dealers operated to serve farmers. This was also the case in Blantyre, where several shops carried signages of agro-dealerships.

Another index of agricultural activity is the market. Two flea markets were observed on two days in the Thyolo district and what was striking was the sheer volume of locally produced commodities on display. These commodities were either generally transported to the market by mini-vans or light trucks or carried on bicycles or simple motorized transport. The generally exuberant air that characterized the markets provided strong evidence of a vibrant agricultural economy and lively domestic demand for agricultural commodities. A focused market study is needed to elicit more information from these markets on the diversity of the products on offer, their villages of origin, the extent to which they have changed over time, and what the price dynamics are. A bubble graph can be developed on the basis of the results of such a study.

5.2.2 Crop volumes harvested and marketed

The assessment of the changes in crop volumes harvested and marketed provides an insight into how the FARA project has impacted individual household livelihoods. When households are able to produce surplus, they can make more money by selling some of their produce in the market. Alternatively, they up household production to meet their domestic food needs,

thus saving cash for other uses. A focus group meeting yielded important insights in this respect. Though the consultant did not have scales to determine the precise quantities of the commodities produced, and could not conduct site visits to every plot, since both the research directorate head and the specialist deputed to this project were present during the discussion, there was no reason to doubt the veracity of the figures.

A quick assessment was conducted around the cabbage crop, which emerged as the most popular crop in the area, both nutritionally and commercially. Five farmers participating in focus group agreed to recall their cabbage harvests for the previous year. Table 5.9 presents their responses in terms number of heads of cabbage harvested from the small homestead gardens they live on. As has been noted, the plot sizes generally average 0.5 ha, but it is increasingly the case that they are much smaller than that, perhaps around 0.1ha due to further fragmentation of existing holdings among several family members. Land is a very scarce commodity in the district as in other parts of the province. It seems that the tea estates operating throughout the district have occupied the bulk of the land. Local people are extremely unhappy with that situation. At the focus group meeting with the members of the IP, the sentiment was expressed rather strongly—the choice land being appropriated by the tea company being a matter of deep anger among several members. Of course, the ownership of those estates has become strongly Malawian, but that does little to assuage the feelings among the smallholders of being “robbed” of their choice land, which could be better utilized in producing vegetables, whose benefits and costs are all internal.

According to the results in Table 5.9, there has been a noticeable change in the size of the harvests. The change seems, however, to have been mainly due to prevention of losses and increasing the area cultivated than to yield increases. Sub-optimal production seems to be predominant because the research station estimates seem to suggest that total production from one hectare of farmland could go over 10,000 heads of cabbage. Part of the reason for the sub-optimal production is the use of the vegetable pack developed and sold under the IP.

Each vegetable pack consisted of an assortment of inputs and seeds designed to be sufficient to cultivate a 0.5 ha plot. According to Mr Lovemore Chopi, who is the managing director of Chopi Agro-Dealers, each pack has the items and quantities shown in Table 5.10.

Table 5.9: Changes in quantity of cabbage harvested by farmers in Thyolo District, Malawi

| Farmer Identification | Current Production (head of cabbage) | Previous Production (head of cabbage) | Reason Given |
|-----------------------|--------------------------------------|---------------------------------------|--|
| No.1 | 2,000 | 500 | Cultivated only a part of the farm previously, but now cultivates the entire plot. |
| No.2 | 1,800 | 900 | Lost up to 100 post harvest, but not anymore. |
| No.3 | 1,400 | 900 | Lost up to 100 post harvest, but not anymore |
| No.4 | 900 | 900 | Lost up to 100 post harvest, but not anymore |
| No. 5 | 800 | 800 | Lost up to 200 post harvest, but not anymore |

Source: Focus Group Meeting November 2012.

Table 5.10: Composition of the vegetable pack sold by Chopi agro-dealers under the IP

| Item Included | Quantity (Kg)/Ml/Grams | Number of Units |
|--------------------|------------------------|-----------------|
| NPK Fertilizer | 5 kg | 01 |
| Urea Fertilizer | 5 kg | 01 |
| Dithane (MANCOZEB) | 1 kg | 01 |
| Copper (Hydrocide) | 1 kg | 01 |
| Dimethoate | 250 mls | 01 |
| Cypermethrin | 250 mls | 01 |
| Cabbage Seed | 10 kg | 01 |
| Tomato Seed | 10 kg | 01 |
| Rape Seed | 15gm | 01 |
| Mustard Seed | 20 gm | 01 |
| Chinese Cabbage | 15gm | 01 |

Source: Meeting with Mr Lovemore Chopi, November 2012.

As Table 5.10 shows, each vegetable pack contains an assortment of 11 items, which comprised improved seeds of 5 vegetable crops (two cabbage varieties, tomato, rape seed and mustard), fertilizers and pest control chemicals. This concept of the vegetable pack resembles SPS and its successor, the Targeted Inputs Programme (TIP), introduced in Malawi in the late 1990s to boost farmers' use of improved inputs, and under which all households was eligible to receive sufficient fertilizer and maize seeds to cultivate 0.1ha of farmland (Chibwana *et al.*, 2010). The cost of this pack is currently 3,000 Malawian Kwacha. But many farmers found it exorbitant and unaffordable. During the focus group discussion in Nlukula Tayamba village, several farmers indicated that they could not afford the pack and, therefore, had to buy the seeds and fertilizers from other agro-dealers on a piecemeal basis. That is, they buy the cabbage seeds this month and then the fertilizers next month and so on. When asked if such a staggered purchasing pattern would enable them to adhere to the guidelines on the sequencing of the different inputs and processes, they confirmed that they could not help the situation. The farmers said that the pack included several items that were unnecessary from their own perspective. For instance, if the farmer wanted to plant cabbages, he is forced to also buy rape seeds, tomatoes and mustard seeds, even if he did not want them. However, by going outside the IP to buy seeds, the farmer loses access to the recommended quantity of pesticides included in the pack. Similarly, timeliness in the application of a particular chemical or fertilizer is compromised, leading to a failure to optimize the complementarities among the different inputs.

In the farmer group of 40 members enumerated in Nlukula Tayamba village, only one person bought the standard vegetable pack from Chopi, and his production was clearly superior to that of the other members who bought piecemeal from other agro-dealers according to perceived needs. The rest of the members were aware that this single farmer's yield was good and they wished that they could attain such levels of output.

The farmers were asked if they had any suggestions on how the situation could be remedied so that they had access to improved seeds and chemicals. The consensus was that Chopi should

reduce the range of seeds included in the vegetable pack so that they could buy only what they wanted. It seems that the farmers would favour the retention of cabbage and the removal of all the others from the pack. Of course, they expect that this reduction in the range of seeds would be accompanied by a reduction in the price, which would allow more farmers to buy and use them. In a separate meeting with Mr Lovemore Chopi, these concerns were presented and he declared a willingness to review the contents of the pack and its pricing so that his operations could be aligned to the circumstances of the farmers, since the goal was to improve their welfare. This seems to be a positive development and offers the basis for a discussion on the possible realignment of the policy and practice.

5.2.3 Changes in asset ownership status

It is expected that, ultimately, the changes in farmer support procedures with their attendant changes in the adoption behaviours of the farmers would be accompanied by changes in the level of farm investments and market orientation of production, and eventually lead to poverty reduction. When people have more spare cash at their disposal, they are more likely to channel a larger proportion into acquiring durable household items that alter their asset ownership status. To evaluate this parameter, the consultancy included a short open-ended question requiring the farmers to mention at least one item that they had bought during their participation in SSA CP (that is since 2008/2009 when the IPs were established in Thyolo District). The responses of the first 13 respondents at the meeting are recorded in Table 5.11.

The project leader, Mr Thomson Chilanga, and the horticulturist/researcher, Mr Charles Malidadi, who participated in the focus group discussion, confirmed that the items listed above represented significant achievements in the local contexts. The respondents mentioned

Table 5.11: Changes in asset ownership of farmers due to the FARA project

| Farmer Identification | Items bought | Expenses Incurred | Home Improvement |
|-----------------------|------------------------------------|--|---------------------------|
| Farmer No. 1 | Cow | | |
| Farmer No. 2 | 1 pig and 6 goats | | |
| Farmer No. 3 | 1 pig | | |
| Farmer No. 4 | 1 bicycle, 1 pig, 3 goats, 1 radio | | |
| Farmer No. 5 | 1 goat | School fees for children in grades 3 & 4 | |
| Farmer No. 6 | 6 pigs | | |
| Farmer No. 7 | 1 bicycle | | |
| Farmer No. 8 | 1 sprayer, 4 chairs and 1 table | | 6 corrugated iron sheets |
| Farmer No. 9 | 1 bicycle | | |
| Farmer No. 10 | 1 bicycle, 1 pig and 2 dogs | | |
| Farmer No. 11 | 1 pig | | 28 corrugated iron sheets |
| Farmer No. 12 | 1 bicycle and 1 cell phone | | |
| Farmer No. 13 | 1 bicycle | | |

Source: Focus Group Meeting November 2012.

these with pride and were apparently quite happy with themselves for their achievements. An interesting asset to note was the acquisition of two dogs by one of the farmers. The local community is not one where personal security is an issue. Therefore, acquiring dogs was clearly luxury consumption and meant that the farmer in question was doing very well. In addition, the farmers were asked directly to express their opinion about the benefits of the FARA project and their views about its continuation. It was clear that the farmers were impressed with the project and saw it as having made a huge contribution in their lives.

5.2.4 Loan Repayment Behaviour

One of the problems of most rural credit schemes is the poor repayment rates on account of making loans to small farmers, who often run into difficulties and are unable to repay the loans. High default rates are common on many such schemes and it is not uncommon to find schemes that have wound up because the loan capital dried up as a result of the loans not being properly serviced. In view of this, despite it not being explicitly measured by the baseline survey, the consultancy sought information on the extent to which loan repayment behaviour was being monitored and if any changes had been observed over the years. Surprisingly, this turned out to be an issue which the IP had paid some attention to and for which some information had garnered from project inception.

The Malawi Rural Finance Company (MRFC) Limited is represented on the IP in Thyolo district by Mr John Njaya, the general manager. Mr Njaya has lived in the community for many years and has an excellent understanding of its dynamics. According to him, the community's income profile has been changing quite dramatically over the years. At the beginning, he had carried out a financial needs assessment, which revealed the credit needs of the residents and confirmed that much of the problem stemmed from low saving rates. The baseline survey had quite correctly revealed that incomes were very low, which explains the low savings rates, but Mr Njaya was of the view that the local people could save slightly more than they were managing to do if they were advised accordingly and helped along the difficult route of saving in spite of low incomes.

Against this background, MRFC has tried to maintain comparative figures of loans disbursed and recovered since 2008. MRFC's records are valuable because they capture conditions that can in and of themselves mirror a control environment against which changes can be confidently measured. Table 5.12 presents this information for Thyolo district, while Table 5.13 presents similar information for Mulanje district. FARA is being implemented in the former but not in the latter. On the other hand, the credit programme operates in both districts. MRFC is therefore in a position to compare the changes across geographical space as well over time.

The figures confirm FARA's strong impact on the financial situation in the project area. It clearly emerges that the loanees are repaying the loans to a much greater extent since the project came into existence in Thyolo. Without a doubt, the two districts seem to have been relatively well behaved to start with, but marked improvements have taken place nonetheless. The fact that all borrowers repaid their loans in 2011 is highly encouraging and reaffirms the

Table 5.12: Changes in loan disbursement and recovery in Thyolo district (2008–2011)

| Year | Amount disbursed Malawi Kwacha (MK) | Recovery % |
|------|--|------------|
| 2011 | 27,747,300 | 100 |
| 2010 | 22,050,148 | 97.8 |
| 2009 | 3,473,148 | 96.2 |
| 2008 | 1,479,750 | 95.2 |

Source: MRFC, 2012

Table 5.13: Changes in loan disbursement and recovery in Mulanje District (2008–2011)

| Year | Amount disbursed Malawi Kwacha (MK) | Recovery % |
|------|--|------------|
| 2011 | 14,118,077 | 97.4 |
| 2010 | 9,200,264 | 92.9 |
| 2009 | 7,957,423 | 91.2 |
| 2008 | 2,513,690 | 94.0 |

Source: MRFC, 2012

value of the intervention. It also confirms that financial management guidance contributes in a big way towards instilling a healthy production culture and entrepreneurship among the people. Apart from the remarkable success in recovery rates, the results also show that the total disbursements have grown quite significantly. In both areas, the gross loan amount ranged between MK1.5million and MK2 million at the beginning of the period for which this information was kept. In Mulanje, the result showed that the amount tripled within one year and grew steadily up to 2011, when it was about six times its level in 2008. In the case of Thyolo—the intervention site of the FARA project—the build-up was initially modest, but within a year of the project, the loan disbursements rose exponentially, increasing by nearly 20 times their levels in 2008. More than anything else, this phenomenal increase in the loans disbursed confirms that the FARA project has had an exceedingly positive impact on the rural financial system, which seems to have been stimulated to a very significant degree.

(b) Results (Southern Africa DONATA)

A review of the FARA document entitled *Making things happen*, yielded a number of highlights of the DONATA programme in Zambia. These can be summarized around the headings of nature of the platform, the key constraints addressed, and the results. IPTA for Zambia is located at Lusitu, which is situated about 200 km south of the capital Lusaka. IPTA is bringing together researchers and farmers to confront and address the problem of drought in that country by promoting the adoption of drought-resistant sorghum. The focus of the programme has been on increasing access to improved seeds so that farmers can cultivate improved varieties that

are drought-resistant. Additionally, it also addresses the problem of market access since many farmers were unable to find markets for surplus produce and resorted to either giving it away at no charge or letting it rot in storage. *Making things happen* is based on interviews with more than 200 farmers who benefitted, and indicates that these constraints have been largely addressed under IPTA and that the farmers are now producing more and receiving higher revenues.

5.3 Impact of FARA partnerships on ARD systems and smallholders in the ECA sub-region

This section presents preliminary evidence of the impact of IAR4D on poverty and food security from a draft report of a study conducted by FARA researchers at the Lake Kivu PLS. Evidence of impact is based on a systematic comparison of outcomes in randomly placed IAR4D sites (12 IPs spread across three countries: Uganda, Rwanda and the DRC) with outcomes in two types of control sites: clean sites and conventional extension sites. In addition to IAR4D, this section also presents information on the impact of the DONATA and SCARDA programmes in the East and Central Africa sub-region.

5.3.1 Impact of IAR4D

The assessment's objective was twofold: (i) to demonstrate the IAR4D intervention's impact on clean and conventional intervention sites in terms of reduced poverty and food insecurity, and (ii) to document the mechanism linking intervention to impact. Key results indicate that there is mixed evidence of some impact, but the evidence is not robust across sites, nor about model specifications. It is postulated that, given the short time since implementation of the platforms, this outcome was to be expected. It is highly unlikely that the IAR4D approach would yield consistent effects on complex phenomena like poverty and food security after one or two cropping cycles only.

5.3.1.1 Socio-economic profile of Lake Kivu

Table 5.14 presents the socio-economic and demographic characteristics of the sample households in the Lake Kivu PLS. It reveals that the sample households are rather similar across intervention and control sites. Aggregating across the three countries, household heads are, on an average, 46 years old and 83% of them are male. There is minimal variation in the age and gender of the household heads across the three treatment groups. Likewise, education attainment varies marginally across the three groups. About 16% of the household heads have secondary school level of education, whereas a majority (71%) have, at most, primary education. Given the low level of education of the majority of the households, nearly 80% are reliant on agriculture as the main source of livelihood. Although crop production is the principal economic activity undertaken by the sample households, their scale of operation is often small and the enterprise is vulnerable to vagaries of weather, necessitating diversification of sources of rural income. For instance, besides crop production, the sample households draw income

Table 5.14: Household demographic and socio-economic characteristics

| Variable | Uganda (n=653) | | | DRC (n=703) | | | Rwanda (n=537) | | | Lake Kivu (N=1893) | | |
|--------------------------------------|----------------|---------|---------|-------------|---------|---------|----------------|--------|--------|--------------------|---------|---------|
| | Clean | Conv. | IAR4D | Clean | Conv. | IAR4D | Clean | Conv. | IAR4D | Clean | Conv. | IAR4D |
| % male-headed | 0.83 | 0.79 | 0.81 | 0.92 | 0.90* | 0.94* | 0.74 | 0.76 | 0.81 | 0.84 | 0.83 | 0.83 |
| Age of household head | 47.81 | 47.77 | 46.08 | 46.73 | 45.82 | 46.72 | 46.42 | 48.69 | 45.24 | 46.97 | 47.20 | 46.46 |
| Education of level of hh head | | | | | | | | | | | | |
| % with formal education | 0.65 | 0.75 | 0.68 | 0.71** | 0.75 | 0.81* | 0.65 | 0.57* | 0.66* | 0.68 | 0.70 | 0.71 |
| %with primary education | 0.65 | 0.75 | 0.68 | 0.71** | 0.75 | 0.81* | 0.67 | 0.57* | 0.66* | 0.68 | 0.70 | 0.71 |
| %with secondary education | 0.13 | 0.14 | 0.13 | 0.26 | 0.25 | 0.31 | 0.10 | 0.04 | 0.07 | 0.18 | 0.17 | 0.15 |
| % with post-secondary | 0.03 | 0.05 | 0.03 | 0.01 | 0.00** | 0.02** | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 |
| Demographic | | | | | | | | | | | | |
| Household size | 6.36 | 6.41 | 6.41 | 7.51 | 7.58 | 7.46 | 6.04 | 6.22 | 6.09 | 6.78 | 6.86 | 6.59 |
| Productive labour force | 0.50 | 0.49 | 0.48 | 0.43 | 0.46 | 0.47 | 0.50 | 0.55 | 0.47 | 0.47 | 0.50 | 0.45 |
| Adult dependency ratio | 0.08 | 0.08 | 0.08 | 0.06 | 0.05 | 0.09 | 0.1 | 0.08 | 0.10 | 0.08 | 0.09 | 0.09 |
| Child dependency ratio | 0.40 | 0.41 | 0.43 | 0.51 | 0.41 | 0.47 | 0.43 | 0.43 | 0.46 | 0.45 | 0.45 | 0.45 |
| Household income | | | | | | | | | | | | |
| Per capita income (US\$) | 79.29 | 90.72 | 91.15 | 78.07 | 63.45 | 48.31 | 111.85 | 100.71 | 100.83 | 87.97 | 82.58 | 84.68 |
| % of which crop income | 0.48 | 0.44 | 0.45 | 0.56 | 0.57 | 0.55 | 0.49** | 0.43 | 0.38** | 0.52 | 0.49 | 0.45 |
| % of which livestock income | 0.09 | 0.07 | 0.11 | 0.02 | 0.05 | 0.04 | 0.13* | 0.16 | 0.20* | 0.07*** | 0.09** | 0.11*** |
| % of which off-farm income | 0.44 | 0.48 | 0.44 | 0.42 | 0.38 | 0.42 | 0.49 | 0.43 | 0.38 | 0.40 | 0.38 | 0.39 |
| Land ownership and use | | | | | | | | | | | | |
| Baseline | | | | | | | | | | | | |
| Owned land (ha) | 1.07 | 0.96 | 1.37 | 0.9*** | 0.79*** | 1.56*** | 0.51 | 0.58 | 0.47 | 0.8* | 0.78*** | 1.13 |
| Cultivated (ha) | 0.48 | 0.55 | 0.51 | 0.28 | 0.25 | 0.24 | 0.35 | 0.42 | 0.38 | 0.37 | 0.39 | 0.4 |
| End line | | | | | | | | | | | | |
| Owned land (ha) | 0.92** | 0.76 | 0.72** | 0.56*** | 0.65* | 0.88 | 0.63 | 0.54 | 0.57 | 0.81 | 0.66 | 0.64 |
| Cultivated (ha) | 0.19*** | 0.16*** | 0.27*** | 0.27** | 0.31 | 0.40** | 0.24 | 0.23 | 0.23 | 0.24** | 0.24** | 0.29** |

***, **, * denote significant differences between proportions at 1%, 5% and 10% respectively

from diverse sources, such as livestock production and non-farm income. Crops, livestock and off-farm income account for about 50%, 40% and 7% of the household per capita income respectively. Again, the pattern is relatively consistent across the three treatment groups.

On an average, a farm household in this PLS consists of seven people. Adult dependency ratios range from 0.07 in the clean to 0.09 in the IAR4D sites, while child dependency ratio is 0.45. The data thus indicate that the majority of the household members are in the economically productive age, with less than half the population consisting of dependants. In the baseline, the average sample household in the conventional and clean sites own 0.76 and 0.80 ha of land respectively, whereas, on average, households in the IAR4D sites own 1.13 ha. Households cultivate about 0.37, 0.39 and 0.41 ha in the clean, conventional and IAR4D sites, respectively. Our data suggest land fragmentation and greater reliance on off-farm activities, even over a relatively short time, because both our measure of land holdings and land area cultivated declined across all three categories. On an average, households own and cultivate an average of 0.80 ha and 0.26 ha, respectively.

5.3.1.2 Impact of IAR4D on poverty and food security

Main results of the impact of IAR4D on poverty and food security are summarized in Table 5.15. The three impact proxies are the headcount ratio, a food consumption score (FCS), and a coping strategy index (CSI). The headcount index is simply the percentage of households living in the village with income *per capita* below the poverty threshold (set at US\$ 1.25 across all sites). The assessment also explored alternative poverty indicators such as poverty gap measure and squared poverty gap measure, and found the main results to be robust.

Food consumption indicators are designed to reflect the quantity and/or quality of people's diets. FCS is a proxy indicator that represents the dietary diversity, energy and macro and micro (content) value of the food that people eat. It is based on dietary diversity (the number of food groups a household consumes over a reference period); food frequency (the number of days on which a particular food group is consumed over a reference period, usually measured in days); and the relative nutritional importance of different food groups. The FCS is calculated from the

Table 5.15: IAR4D impact on selected outcomes

| Outcome | OLS As compared to | | OLS interacted As compared to | | 2SLS As compared to | |
|--|-----------------------|----------------|----------------------------------|----------------|------------------------|---------------|
| | Clean | Conventional | Clean | Conventional | Clean | Conventional |
| Poverty | | | | | | |
| Incidence of poverty (headcount ratio) | -9.61(2.48)*** | -7.55(2.56)*** | -9.65(2.52)*** | -8.16(2.57)*** | -7.46(2.74)*** | -6.44(2.48)** |
| Food security | | | | | | |
| FCS as indicator | 5.18 (1.24)*** | 1.80 (1.37) | 5.26 (1.27)*** | 1.60 (1.41) | 5.45 (1.28)*** | 1.71 (1.38) |
| CSI as indicator | 0.08 (1.29) | 0.022 (1.45) | 0.23 (1.370) | 0.61 (1.48) | 0.086 (1.33) | 0.020 (1.46) |

NB: *** Significant at 1% level; OLS= Ordinary Least Squares; 2SLS = Two-Stage Least Squares

types of foods and the frequencies with which they are consumed during a seven-day period. Alternatively, we use CSI, which is also often used as a proxy for food security; it measures the components of coping strategies. The index is based on responses to answers like: “In the past seven days, if there have been times when you did not have enough food or enough money to buy food, how many days has your household had to ...”, where possible answers include “relying on less preferred food”, “going hungry”, “borrowing food” or “consuming seed stock”, etc.

The results for the pooled data suggest that the IAR4D strategy had a positive impact. The results for the poverty headcount are particularly strong, with five out of six estimated coefficients significant at the 10% level or better. Only the 2SLS models comparing the performance of the IAR4D sites to the conventional extension sites does not indicate a significant impact (even if the coefficient has the expected sign). Overall, however, the findings suggest that the IAR4D’s intervention significantly reduced the incidence of poverty in the Lake Kivu PLS.

The results for the food security indicators provide a more mixed picture. While all regression models indicate that the FCS proxy is better for the IAR4D sites than for the clean control sites, we do not detect any differences between IAR4D sites and conventional intervention sites. Similarly, it does not appear as if the IAR4D intervention had a significant impact on coping strategies.

Returning to the poverty results, two further caveats are relevant. First, and obviously, we are still in the process of checking all the data so these numbers should be viewed as preliminary. Impact assessment can only be as good as the quality of the underlying data, and the set we are currently working with must be qualified as “work in progress”. Second, the positive IAR4D impact does not materialize robustly across all sites. When breaking down the poverty numbers across the countries, we find that the IAR4D approach did seem to reduce the incidence of poverty to a greater extent than conventional extension efforts in Rwanda and Uganda, but there was no significant effect for DRC. The incidence of poverty fell equally in clean, conventional and IAR4D sites in DRC (see Table 5.15). Follow-up research should reveal why the impact of IAR4D varies with the context.

5.3.1.3 Awareness and adoption of key innovations

Across multiple sites, IAR4D aimed to promote the adoption of an improved variety of Irish potatoes as a potentially important cash crop, and the adoption of bench terraces as an important means to promote sustainable soil management. We have compared the fraction of respondents in the treatment and control villages that was aware of these innovations, and the fraction that actually adopted them. However, we did not detect significant differences across sites (regression results contained in Table 5.16). This negative result could be due to the fact that the IPs did not promote Irish potatoes or bench terraces across all villages, hence any effect materializing in IPs successfully targeting potatoes or terraces was “diluted”.

Table 5.16: Impact of IAR4D on selected outcomes

| Outcome | OLS As compared to | | OLS interacted As compared to | | 2SLS As compared to | |
|----------------------------------|-----------------------|--------------------|----------------------------------|--------------------|------------------------|---------------------|
| | Clean | Conventional | Clean | Conventional | Clean | Conventional |
| Awareness of technologies | | | | | | |
| <i>NRM</i> | -0.017 (0.19) | 0.02 (0.02) | -0.0001 (0.02) | -- | -0.018 (0.019) | 0.003 (0.02)* |
| <i>Irish potato variety</i> | 0.04 (0.02)** | 0.04 (0.02)* | -- | -- | 0.003 (0.02) | 0.04 (0.02)* |
| Adoption of technologies | | | | | | |
| <i>NRM</i> | 0.0047 (0.027) | 0.026 (0.026) | | | 0.455 (0.295) | -0.052 (0.113) |
| <i>Irish potato variety</i> | 0.0067 (0.018) | 0.0014 (0.018) | | | -0.843 (0.363)** | -0.052 (0.113) |
| Productivity | | | | | | |
| <i>Land</i> | -114.94 (80.38) | -90.08 (80.2) | -120.37 (80.31) | -147.2 (80.73)* | 849.75 (513.60)* | 109.73 (294.09) |
| <i>Labour</i> | -0.45 (1.29) | -1.82 (1.29) | -0.74 (1.29) | -2.03 (1.31) | -3.05 (7.83) | 0.07 (4.49) |
| Market participation | | | | | | |
| <i>Sorghum</i> | -17.03 (9.05) | -9.43 (9.18) | -16.61 (9.08) | -9.68 (9.20) | -73.91 (41.85) | -33.77 (24.88) |
| <i>Bean</i> | -9.13 (7.56) | -11.01 (7.35) | -9.13 (7.56) | -10.96 (7.35) | -201.90 (48.70)*** | -63.65 (30.05)** |
| <i>Irish potato</i> | -14.06 (29.14) | -3.95 (29.43) | -14.72 (29.06) | -3.96 (29.340) | -43.49 (62.55) | -66.36 (65.70) |
| <i>Cassava</i> | 35.76 (29.56) | 23.42 (29.83) | 34.73 (29.65) | 21.48 (29.95) | 62.85 (59.49) | 47.49 (49.89) |
| <i>Banana</i> | 38.15 (18.31)** | 42.66 (18.30)** | 37.47 (18.37)** | 41.65 (18.38)** | 181.02 (80.05)** | 8.64 (74.10) |

Note: ***, **, * denote significant differences between proportions at 1%, 5% and 10% respectively ; OLS= Ordinary Least Squares; 2SLS = Two-Stage Least Squares

5.3.1.4 Productivity of land, labour and capital

Despite the pivotal role of improved technologies (soil and water conservation, improved cultivars and soil fertility improvement practices) in improving agricultural productivity and resource-use efficiency, evidence across sub-Saharan Africa indicates that the level of uptake and use of these technologies is still below economic threshold (Baidu-Forson and Bationo, 1992; Scoones, 1998; Kaya et al., 2000; Ndjunga and Bantilan, 2005). Was IAR4D successful in raising factor productivity—one of its stated objectives? Partial productivity indices of land, labour, and capital are constructed to explore this issue, where the productivity ratios are derived by dividing the value of output by land under cultivation or quantity of labour used in crop production.

Table 5.17: Changes in levels of factor productivity

| Region | Clean | Conventional | IAR4D |
|---------------------------|---------|--------------|----------|
| Uganda (n=581) | | | |
| <i>Land</i> | 292 | 401.97** | 138.85** |
| <i>Labour</i> | -2.12 | -0.88 | -3.64 |
| <i>Capital</i> | -89.37 | -1.16 | -37.28 |
| DRC (n=350) | | | |
| <i>Land</i> | -416.44 | -468.91 | -68.07 |
| <i>Labour</i> | -0.52 | -0.46 | 0.64 |
| <i>Capital</i> | -11.63 | -13.87 | -402.31 |
| Rwanda (n=378) | | | |
| <i>Land</i> | 112.09 | -80.19 | -891.27 |
| <i>Labour</i> | -0.23 | 1.56 | -0.08 |
| <i>Capital</i> | -0.032 | -1.68 | -0.329 |
| Lake Kivu (n=1309) | | | |
| <i>Land</i> | 15.96 | -35.31 | -108.04 |
| <i>Labour</i> | -1.17 | 0.026 | -1.52 |
| <i>Capital</i> | -44.13 | -5.776 | -102.38 |

Note: The Bonferroni adjusted t-test was used to test for significant differences in the changes

We have computed levels of factor productivity in treated and control villages, both before and after the intervention. The resulting changes in factor productivity are reported in Table 5.17. The results are variable—across factors and across sites—and generally do not support the view that factor productivity at IAR4D sites has improved relative to factor productivity at control sites. Indeed, if anything, the overall picture suggests the reverse. Most of the models indicate that the intervention has not significantly impacted productivity. A few coefficients enter significantly, but the sign varies, and the significant coefficients do not match one-to-one with on-going activities at the IAR4D sites (productivity interventions focused on Irish potato in Uganda, Rwanda and DRC, cassava in DRC, beans in Rwanda and DRC and banana in DRC.) Overall, it appears as if further research into factor productivity is needed.

5.3.1.5 Market participation

Market integration is often mentioned as a key ingredient of a successful intensification strategy. Farmer linkage to output market is being facilitated for sorghum and pineapple in Uganda; for beans in Rwanda and DRC; for Irish potato in DRC, Rwanda and Uganda, and for cassava and bananas in DRC. Our baseline data confirm the general problem of poor market participation rates among farmers (not shown), which was for most of the targeted crops less than 30%, except for sorghum (38–71.6%).

We have collected baseline and endline data on the mean value of crops sold. To determine whether or not the IAR4D intervention has been able to promote market integration and

Table 5.18: Market participation: mean differences in crop sales

| | Clean | Conv. | IAR4D |
|----------------------------------|-------------------|--------------------|--------------------|
| Sorghum (n=167; 165; 314) | 10.4 ^a | -28.4 ^b | -2.1 ^{ab} |
| Bean (n=383; 445; 385) | 3.0 | 14.0 | 2.0 |
| Irish Potatoes (n=535; 592; 672) | -2.3 | -7.3 | -8.3 |
| Cassava (n=245; 618; 173) | 52.6 | 64.3 | 20.2 |
| Banana (n=235; 256; 168) | 13.2 | 4.1 | 11.7 |
| Pineapple (n=169; 168; 316) | 0.0 | 0.0 | -7.1 |

Notes: 1. Different sub-samples were used for different crops depending on the activities of IPs. These were as follows: sorghum (Uganda); bean (DRC and Rwanda); Irish potatoes (DRC, Rwanda and Uganda); Cassava (DRC); Banana (DRC); pineapple (Uganda);

2. Superscript letters denote statistically significant

improve access to (output) markets, we compare the difference in crops sold. The results for the treatment and the control villages (see Table 5.18) are very volatile, and do not paint a uniform picture. While the value of crops sold increased for most crops, this is not true across the board. Surprisingly, crop sales from Irish potatoes seem to have declined, both in control and treatment villages.

The findings in Table 5.18 do not support the conclusion that market integration has improved as a result of the intervention. Detailed regression analysis reveals that IAR4D has only raised the value of bananas sold, relative to banana sales in clean and conventional villages. This could be a statistical artefact, or due to factors other than the intervention. Alternatively, it could be a sign of success. Note that a near-immediate response in terms of extra banana sales may be facilitated by the fact that bananas are perennial unlike other seasonal crops. Perhaps, once a market outlet was facilitated, farmers were able to harvest from already growing banana plants and sell. The market response is lagged and a little more difficult for other crops that are grown seasonally, with yield dependent on a number of other factors.

5.3.2 The DONATA Programme

For the East and Central Africa sub-region, DONATA's approach has been to work with diverse institutions that are strong at the grassroots. The institutions with which the programme has had collaboration include schools, hospitals, local government, ministry of agriculture, private sector (seed companies), research institutions (KARI), NGOs (Catholic Relief Service), churches, the media, agro-processors, public extension providers (where separate from the ministry of agriculture, although rarely so), farmer groups, cooperative societies and chickens breeders, among others. As might be clear from the nature of the organizations and institutions enumerated, such collaboration may either involve working on an equal footing with these institutions to address common goals, or working to strengthen the capacities of such institutions to address project goals and the broader national agenda.

The above partners play diverse roles towards realizing the goals of the partnership, in this case, transfer of innovation and technology adoption. Essentially, their roles revolve around

IPTA coordination, dissemination of information about innovations and available technologies, training on good agricultural practices (GAP), mobilization of group enthusiasm and interests as well as support from relevant support structures. Other roles are those of backstopping; development of technologies; provision of inputs, especially seed; coordination and training; improving consumption of QPM; provision of inputs; seed production inspection based on standards; demonstrating QPM nutritional value on humans; sensitizing patients to QPM diets for fast recovery; provision of land for QPM production to actors who do not have land; and production and use of QPM in feeding chickens.

A number of highly innovative technologies have been channelled through IPTAs in the sub-region under DONATA. These technologies relate to the production and processing of QPM and OFSP, and have to do with the popularization of a wide range of GAP, including crop rotation, intercropping and weeding technologies as well as soil and water management initiatives. The technologies for QPM and OFSP are described separately below.

5.3.2.1 The QPM technologies and innovations promoted and adopted

The QPM varieties and related technologies being promoted include the following:

- (a) KH631Q, (b) KH500Q, (c) WS104Q; processing QPM grain into flour, cakes, bread, biscuits and wine; and good agricultural practices which comprise: (a) crop rotation
- (b) Intercropping mixes, (c) weeding regimes and (d) soil and water management (tied ridging, open ridging, terracing, intercropping, zai pitting).

Quite a good number of the innovations have been adopted. In Kenya, for instance, the QPM varieties: KH631Q and KH500Q (Kenya). These varieties are in high demand in medium altitude maize zones amongst the farmers, who have been made aware either directly or indirectly. Farmers and other agents involved in dissemination of agricultural technologies have adopted the IP as a way of addressing problems. In the DRC, the QPM varieties that have gained popularity are MUDISHI 1 and MUDISHI 3, which have spearheaded the emergence of QPM-based bread, QPM-based wine, QPM-based biscuits, and QPM munkoyo. A number of these practices have emerged as best bets and there is evidence that the IP partnership concept is being enthusiastically adopted.

5.3.2.2 The OFSP technologies and innovations promoted and adopted

The OFSP technologies being promoted include rapid and conventional multiplication techniques, use of fertilizer for vine multiplication, agronomic practices for root production, rogueing for virus management, solar driers, baking ovens, and noodle machines for value-addition activities. The new technologies that are being introduced and validated include use of miticide and foliar fertilizer for the control of erinose mites (Busia IPTA, Kenya); net protection for foundation material to reduce virus transmission by white flies (Kenya); in-ground storage technology (Mumias IPTA, Kenya); storage and processing by using a simply designed packing material is being validated by Sengerema IPTA (Tanzania); compost making for sweet potato production is being piloted by Ukerewe IPTA (Tanzania); and “Triple S” (sand, storage, and

sprout) technology for using selected stored roots to sprout for planting material (Lira and Bungoma IPTAs). The Lira IPTA (Uganda) is promoting the sale of vines in smaller bundles so that they are available at an accessible price for farmers. In addition, various processed products such as juice, porridge, *mandazi*, *chapatti*, *bagiya*, doughnuts, crackers, and cake have been promoted.

5.4 Impact of FARA partnerships on ARD systems and smallholders in the West and Central Africa sub-region

This section focuses on the impact of the FARA partnerships in the West and Central Africa sub-region. The different partnerships typologies were examined and their impacts recorded in the course of several face-to-face interviews, administration of open-ended and semi-structured questionnaires and document analyses. The results are presented separately for each partnership modality.

5.4.1 Impact of SSA CP on ARD organizations and stakeholders

SSA CP was established with the aim of promoting appreciable increase in the impact of ARD for improved rural livelihood, increased food security and sustainable NRM throughout sub-Saharan Africa.

It was obvious from both literature and the survey that some partners have committed their own resources to the IP processes, including scaling up activities in other areas. A good example is the Agricultural Research Council of Nigeria, which is reported to be providing grants to Nigerian Research Institutes based on IAR4D approaches. The Sierra Leone government is also using similar strategies for its agricultural research activities. SSA CP's capacity development activities have equipped researchers and extension agents to use participatory research and extension methods more effectively than before. Similarly, capacity has been built for farmers' organizations by improving their leadership skills, communication systems and bargaining power. As a result, these organizations have been registered with local authorities. Many farmers now use improved seeds with a higher plant population density and efficient fertilizers.

Private organizations, such as Seed Company, have supported farmers in producing seeds, and are now contracting with some for the purchase of improved seed for sale in other communities. The seed crops are inspected by inspectors of the National Seed Agency to ensure that they comply with seed quality standards. A good example is the Jubaili Agrotec in Kano State, which has played a key role in improving access to pest control material; providing training to farmers, extension agents and agro-dealers; and supporting field days. Local agro-dealers are now able to purchase the necessary inputs from Jubaili for onward sale to farmers. In some instances, new crops such as soybean have been introduced to assist in Striga control and soil fertility improvement when grown in rotation with cereals. This has resulted in training of local women in production, harvesting and local processing to

produce a variety of soy products, including milk, cheese and soy-meat, thereby improving household nutrition and health. At the same time, Grand Cereals is purchasing soybean from farmers for industrial scale processing to produce soybean oil and livestock feed. Another significant achievement of SSA CP is the greater support that state and Local Government Area (LGA) policy makers have extended towards agriculture. A good example is Dandume, the local government area (LGA) of Katsina state in Nigeria, where the programme now covers all villages in Dandume LGA from the initial five pilot villages. Similarly, the local government is now taking ownership and leadership of the IP by providing resources for additional inputs and mechanization.

A good example is also the Sahel taskforce of the Kano-Katsina-Maradi PLS of SSA CP. The IP workshops and meetings helped dissolve the major production, marketing and policy constraints and also identified all the players, both present and absent. The experience of groundnut value chain IP (Table 5.20), Integrated Soil Fertility Management (ISFM) IP (Table 5.21), and rams and male goats fattening confirmed that technological innovations are adopted and help improve the livelihood of small farmers when combined with institutional innovation, particularly access to credit. For collective ownership of the programme, an IP steering committee with specified responsibilities was established. For the vegetables IP, an IFAD project contributed irrigation wells and animals to draw water from deep wells. For the groundnut IP (see Table 5.20) and integrated soil fertility management IP, all the farmers' organizations received credit from a micro-financing institution (ASUSU) to buy inputs after receiving training, which helped them put together the required documents and get the registration done. Access to credit changed perceptions and more farmers started joining the farmers' organizations.

Some of the reasons for the success of IAR4D include:

- i. The development of strong partnerships to address the constraints and needs identified by local communities.
- ii. The establishment of IPs in three districts in Maradi and one LG in Katsina designed to encourage local ownership and sustainability after project completion.
- iii. The addressing of marketing constraints through developing links between farmers and agro-input suppliers and marketing, with provision of seed being addressed through supporting community-based seed producers.
- iv. The use of research knowledge to promote the use and local adaptation of new technologies.
- v. The recognition of the role of farmers, their needs and capabilities as being key to all interventions. Central to this has been the use of participatory approaches.
- vi. The strengthening of community based farmers' organizations and groups. This is being undertaken through training of both male and female farmers in organizational development to improve group cohesion, leadership, communication and, importantly, technical training associated with new technologies.

Table 5.20: Groundnut IP: Summary of farmers, area, and inputs needed for the 2010 season

| Village | Number of farmers | Area (ha) | Seeds (bags of 40 kg) | Fertilizer (bags of 50 kg) | Fungicide (sachet) |
|--------------|-------------------|--------------|-----------------------|----------------------------|--------------------|
| Badaria | 133 | 97 | 291 | 194 | 582 |
| Garin Walli | 85 | 58.5 | 174 | 116 | 348 |
| Katatouma | 140 | 78.5 | 234 | 156 | 468 |
| Dan Hadjara | 104 | 64 | 192 | 128 | 384 |
| Gadé | 107 | 66.5 | 199.5 | 133 | 399 |
| Total | 569 | 364.5 | 1090.5 | 727 | 2181 |

Table 5.21: Situation of farmers involved in Integrated Soil Fertility Management IP in 2010

| Villages | Gender | Members | Non-members | Total |
|--------------------|--------|------------|-------------|------------|
| Koringo | Male | 52 | 57 | 109 |
| | Female | 8 | 17 | 25 |
| Total | | 60 | 74 | 134 |
| Fagagaou | Male | 60 | 36 | 96 |
| | Female | 8 | 8 | 16 |
| Total | | 68 | 44 | 112 |
| Karanguiya | Male | 35 | 54 | 89 |
| | Female | 35 | 23 | 58 |
| Total | | 70 | 77 | 147 |
| Karoussa | Male | 46 | 24 | 70 |
| | Female | 15 | 23 | 38 |
| Total | | 61 | 47 | 108 |
| Saé Tsaouni | Male | 58 | 188 | 246 |
| | Female | 28 | 5 | 33 |
| Total | | 86 | 193 | 279 |
| Grand Total | | 345 | 435 | 780 |

Table 5.22: Vegetables IP: Summary of farmers, area, and inputs needed for the 2010 rainy season tomato production

| Village | Number of farmers | Area (m ²) | Seeds (g) | Fertilizer (kg) |
|----------------|-------------------|------------------------|--------------|-----------------|
| Assaya/ Gotché | 74 | 19 601.5 | 588.60 | 2 352.18 |
| Birnin Kouka | 25 | 2 088.0 | 62.64 | 250.56 |
| Gollom | 52 | 11 898.0 | 356.94 | 1 427.76 |
| Gourjia | 73 | 191 455.0 | 5 743.65 | 22 974.60 |
| Jan Kouki | 107 | 66,5 | 199,5 | 133 |
| Total | 331 | 225.109 | 6.951 | 27.138 |

5.3.2 Impact of DONATA on ARD organizations and stakeholders

The concept of IPTA was adopted for dissemination of technologies and innovations to the key stakeholders. Assessments have revealed that DONATA has had many achievements. Its specific achievements in eight countries of sub-Saharan Africa have been documented, in 2012, in a book titled *"Making things happen"*. Two of these eight countries, Burkina Faso and Mali, are from West Africa. Highlights of the achievements documented in that book include the following:

- Gender mainstreaming has been promoted with a record of over 30% of the audience being women.
- About 3,200 hectares were reportedly allocated to the various commodities by the farmers and yields of 2-5mt/ha for maize and 15-33mt/ha for cassava were recorded in the West and Central Africa sub-region.
- Many farmers have found DONATA beneficial because of the timely availability of inputs made possible by the cooperation among the stakeholders. This has led to increase in farm sizes for maize and cassava with readymade markets for their produce.
- DONATA has improved farmers' accessibility to loans.
- IPTA is seen as a point of entry into the commodity value chain in the sub-region. Demonstrations, Farmer Field Schools, field days and media were the principal tools for learning and creating awareness about project activities in the IPTA communities.
- In Côte d'Ivoire, IPTA members cultivated 5.05 ha to evaluate different varieties of cassava. The Bocou1 variety was found to give the best yield with 29.49 t/ha, followed by TMS 4(2)1425 with 27.61 t/ha, Bocou3 with 22.04 t/ha, Bocou2 with 18.65 t/ha and the local Mamanwa with 17.55 t/ha.
- In Gambia, about 1,340 farmers (males and females) were directly sensitized and another 1460 persons indirectly in the four IPTA communities. During this process, key actors in production, processing and marketing of the selected improved crop varieties were identified and over 29 ha was earmarked for production activities.

Burkina Faso posted some particularly impressive results, many of which can be used as case studies. A few highlights of these results include:

- DONATA has been able to provide improved seeds to the farmers, which have been multiplied and distributed to other farmers.
- With respect to marketing, the *Société nationale de gestion de stock de sécurité alimentaire* (SONAGES) has become a strategic partner in DONATA. Zakari Sebgo, marketing manager of SONAGES, confirmed that through the DONATA project, *Fédération Nian-Zwé* (FNZ which means 'hunger????') as already made deliveries to them. 'In 2010 alone, there was a delivery contract of 532 tonnes that they were able to fulfil.'
- In Burkina Faso there are many stakeholders apart from SONAGES, which include food processors and poultry farmers who have joined the platform since 2009. The latter have become members because almost 70% of maize in the area goes into poultry production. They have all commended DONATA's approach.

- IPTA members totally produced 4,357.5 tons of hybrid and OPV maize in Burkina Faso, while FEPPASI farmer seed entrepreneurs produced a total of 170 tons of quality seed maize. About 1000 tons of commercial maize grains were contracted at 130 CFA/kg by SONAGESS (500 tons) and l'Association des Aviculteurs de Ouagadougou (500 tons) from FEPASSI. Seed maize sold at 400 CFA to FEPPASI farmers.
- Among the stakeholders are microfinance and finance groups. Zongo Basile Xavier, credit officer at *Agence communautaire pour le financement de la micro entreprise* (ACEFIM) indicates that his office identifies and receives requests from producers and grants them loans. If the group consists of five farmers, the lowest amount that an individual can avail is 150,000 FCFA (USD 315) and the highest is 350,000 FCFA (USD 735). With regard to the farmers' association, it can aim at a loan of half a million francs (USD 1050) or even a million francs (USD 2100). These loans are meant for the purchase of agricultural inputs.
- In general, DONATA, in Burkina Faso, has shown how all the stakeholders in the value chain can work together to achieve progress, prompting many farmers to express their views on DONATA's achievements. Farmers have reported an increase in their farm sizes, yield increases from 1 tonne/hectare to 3 tonnes and a spurt in incomes.
- FNZ sums up DONATA's achievements in a single sentence: "from subsistence to substance." Though it existed before the creation of the DONATA platforms for maize production and marketing, its incorporation into the IPTA has enable it to pursue its objective to convert food security into agricultural entrepreneurship.
- DONATA has been able to disseminate the concept of ARD, for many organizations have adopted its approach, especially in Burkina Faso, Mali and Senegal. According to Professor Gnissa Konaté in Burkina Faso, "the platform concept is being adopted by the national agricultural extension system, which is incorporating its tools and methods so as to popularise and disseminate technologies."
- Many researchers at INERA also acknowledged DONATA's impact on their activities. The programme has opened them to opportunities in the external world and made them collaborate with rural communities and other partners. Similarly, in Senegal, ISRA, the national DONATA coordinator, acknowledged that it is currently using the platform approach, as a result of DONATA, for livestock production.
- DONATA, through sub-regional training workshops, has also been strengthening the capacity of NARIS to analyse commodity value chains. Consequently, it was reported that the number of IPTAs established increased between 2010 and 2011.
- Through IPTAs, farmers planting maize, and cassava were assisted in accessing advice to address the challenges in crop management, post-harvest handling and input/output access.
- The training and mentoring of scientists, extension agents and even farmers has made them more competent. It has enhanced commodity value chains analyses as well as the use of innovation systems approach for dissemination of agricultural technologies and advisory services to farmers.
- Similarly, the M.Sc. programme and in-country training have enhanced the management skills of the NARS staff . A total of 12 stakeholders participated in the M.Sc. programme under DONATA in different universities, of which three of them were women as shown in Table 5.23.

Table 5.23: Enrolment of students for the MSc training on DONATA project in West and Central Africa

| University | No. of students | No. of males | No. of females students |
|-----------------------------------|-----------------|--------------|-------------------------|
| KwaZulu Natal, South Africa | 4 | 3 | 1 |
| IAV, Morocco | 2 | 2 | - |
| Dschange, Cameroon | 3 | 2 | 1 |
| KNUST, Ghana | 1 | - | 1 |
| UPN, DRC | 1 | 1 | - |
| Jomo Kenyatta University, Nairobi | 1 | 1 | - |
| Total | 12 | 9 | 3 |

Source: Compiled from 2011 PSTAD Annual Report

5.4.3 Impact of RAILS on ARD organizations and stakeholders

The key achievements and impact of RAILS are highlighted below:

a. Agricultural Information System and access to scientific databases

The continental agricultural information and learning portal—eRAILS (www.erails.net)—was maintained and used by various stakeholders, particularly at the national level. Trainings of trainers (ToT) was conducted at the sub-regional level to strengthen the capacity of partners to use this integrated information system to link relevant information from partners into a comprehensive national, sub-regional and regional portal for African ARD. Consequent to the training, a number of trainees were able to organize training sessions in their respective countries. The portal allowed various organizations and individuals involved in agricultural research for development in Africa to create their own websites and/or link their existing websites/databases. Such linkages created a unique entry point to a diversity of web-based information and knowledge resources.

b. Establishing eRAILS platform at the national level

Almost all the countries have now established their portals. Specific entries have been created on the continental portal to enable the FARA and SROs secretariats have their own space on the portal. More stakeholders are using the portal to create their websites at the national level and this is reflected in the steady increase in both the number of accounts holders and the number of websites created. It is also reflected in the continuous increase in the number of visitors as well as the number of pages visited.

The eRAILS portal has provided an online platform for the CTA-supported Question and Answer Service (QAS) in Ghana. <http://www.erails.net/GH/insti/qas---ghana>. Now, clients can access agricultural information from the eRAILS portal remotely. This has increased the number of clients who access the QAS. Also, in Ghana, efforts are on to sign a memorandum of understanding (MoU) with the College of Agriculture and Consumer Sciences, University of Ghana, Legon on Open Access??. The idea is to upload theses and other academic work of students on the eRAILS platform.

Examples of websites created by stakeholders at the national and sub-regional levels are shown in Images 5.1, 5.2 and 5.3. Many different stakeholders disseminate a range of information on the portal, including market-related information (**Image 5.1**), project information, corporate information, research information, etc.

Farmer organizations are also using the eRAILS portal to increase their visibility and share information related to their activities not only with the external world, but also with their members as shown in Image 5.2 for Togo.

By the end of 2011, eRAILS portal had 367 user accounts, and 575 websites, gathering a total of 2408 pages.

Since one of the functions of RAILS is to disseminate information generated by DONATA, several websites were created to publicize DONATA's activities in countries like Cote d'Ivoire (Image 5.3), Ghana, Burkina Faso and Togo.

c. Stakeholders' sensitization and capacity strengthening on use of eRAILS

In response to the need expressed by some countries for training on the use of the eRAILS portal, FARA and SROs organized ToTs. The objective was to train selected NARS' representatives, who would, in turn, train other stakeholders. Image 5.4 displays the training for CORAF/WECARD.

Following these ToT workshops, several countries have organized local training programmes within their NARS, holding testimony to the impact of the RAIL partnership. The countries include Cote d'Ivoire, Congo Brazzaville, Togo, Burkina Faso and Gambia.



Source: PSTAD Annual Report 2011 – March 2012

Image 5.1: Website developed by Market Unit/Market Data Analyst: Planning Services Unit, Department of Agriculture, Ministry of Agriculture, Gambia.



Source: PSTAD Annual Report 2011 – March 2012

Image 5.2. Website created by a farmer organization in Togo



Source: PSTAD Annual Report 2011 – March 2012

Image 5.3: DONATA website in Cote d'Ivoire

An estimated 105 NARS stakeholders have been trained on the use of the eRAILS portal.

d. Usage statistics of the eRAILS portal

The eRAILS portal is being used not only to create websites but also to retrieve local and global information. The number of visitors and pages visited has been reported to be continuously increasing since its launch in July, 2009.

e. Improved Internet network and infrastructure

Although the participating partners' Internet connectivity leaves much to be desired, considerable effort has been made to facilitate the process. Efforts have been made to improve the logistics and the procurement process has been initiated. By the end of 2011, eleven national partners had signed a contract with suppliers for the establishment of Internet facilities.

f. Procurement of hardware and accessories

Procurement of computers, servers and other ICT accessories for the project partners using the shopping method was one of the outputs of Component one. Attempts to conclude this process by the end of 2011 was unsuccessful due to the peculiar situation with country partners, especially the lack of capacity to handle the process. Consequently, training was organized for NARS to enhance their capacity to execute the procurement process in accordance with the bank's procedures. The status of procurement of goods in the respective countries is as given in Table 5.24. With the recent availability of computers and VSAT online service, countries like Sierra Leone and Ghana have begun training their partners to use the service to regularly discuss available technologies for dissemination and adoption.

g. Improved data collection, exchange, analysis and storage

In facilitating data exchange and analysis, eRAILS now has 43 active national portals and 367 account holders in sub-Saharan Africa. Five-hundred-and-seventy-five websites have been created, and they have, on an average, 3500 visitors per month.



Source: PSTAD Annual Report 2011 – March 2012

Image 5.4: Website on ToT in CORAF/WECARD

Table 5.24: Status of ICT equipment delivery to West African countries as of 28/2/2012

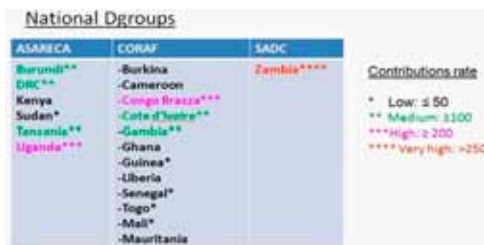
| S/N | Status | Countries | No |
|-----|--|--|----|
| 1 | Equipment delivered and paid for | Burkina Faso, Cameroun, Cote d'Ivoire, Ghana, Guinea, Guinea Bissau, Liberia, Gambia, Niger, Sierra Leone, | 10 |
| 2 | Equipment delivered and not yet paid for | Senegal, Mauritania, Togo, Tchad, Cape Verde | 5 |
| 3 | Equipment awaiting delivery | Mali | 1 |

h. Strengthening and supporting information and knowledge sharing at all levels

D-groups is an online communication tool that makes it possible for individuals and organizations in the development sector to come together and interact with one another, and share knowledge.

Such groups have been established in the three SROs with the highest establishment in CORAF/WECARD. The

establishment of Dgroups communities is improving communication and knowledge-sharing among PSTAD stakeholders at the national, sub-regional, and continental levels. Figure 5.3 shows the number of D-groups created and their strength in the CORAF/ WECARD sub-region.



Source: PSTAD Annual Report 2011 – March 2012

Figure 5.3: National D-groups and usage rate

5.4.4 Impact of the SCARDA Initiative on ARDs and stakeholders

- Agricultural Research Management (ARM) capacity strengthening plans were developed and fully implemented by all 12 FIs.
- Through the SCARDA project in Mali, Congo, Ghana and Gambia as well as the CORAF secretariat, managerial skills of 227 senior and middle level NARS managers and scientists were enhanced. Some of the key subjects include M&E, advocacy and negotiation techniques, marketing and public relations, strategic agricultural research planning and programming, financial resource management, and gender mainstreaming in agricultural programmes. Marketing and advocacy plans applicable at various levels of development are available at IER in Mali and CRI in Ghana.
- The technical skills of 164 NARS staff from Mali, Congo, Ghana, and Gambia in science and proposal writing, integrated pest management, and maintenance of ICT and laboratory equipment were strengthened. Mali and Gambia in particular have secured modest funding for at least one proposal each.
- Twelve articles were produced for publication.
- A gender action plan on mainstreaming gender in agriculture programmes and research and training institutions (CRI, SARI, KNUST, UDS) in Ghana was completed with the active participation of management and general support staff.
- Twenty-six of the 27 MSc students (Ghana 6, Gambia 10, Congo 6, and Mali 5) trained at the African Universities (KNUST in Ghana, Abomey-Calavi in Cotonou, Republic of Benin, and Dschang in Cameroon) successfully graduated and were integrated into their national programmes/organizations.
- Twenty-seven laptops have been procured for each graduate student to network and to help them keep pace with the needs of clients and other collaborators.
- The verifiable positive effect of SCARDA MSc students on the NARIs of Gambia, Congo and Ghana was documented and placed on the RUFORUM websites with an open access/

link to SROs and other partners. Some of the graduates have taken up higher-level ARD responsibility in their organizations. The positive attitudinal change of their respective managements, which can be partly attributed to the SCARDA processes, contributed to creating an enabling work environment for young graduates on the one hand, and an enhanced collaboration within and outside the countries on the other.

- SCARDA's policy brief has been produced and disseminated. It was derived from the key lessons needed to inform evidence-based regional capacity strengthening on technical and managerial competencies and skills of ARD actors.
- The Republic of Congo's parliament adopted a law that created two research institutes for agronomy and forestry respectively. This is one key outcome of the SCARDA-facilitated strategic planning process in Congo.
- At least 70% of the course participants expressed satisfaction with ARM training and mentorship in each FI.
- The capacity strengthening plans on quality agricultural research in all FIs was developed and implemented.
- About 25% of the FIs and research staff from 10 satellite institutions (20% female) per country were trained in at least one subject area.
- At least 70% of the participants expressed satisfaction with the training and mentorship in the identified competence areas.
- All the FIs strongly endorse the SCARDA approach. They believe that the programme is highly relevant (i.e., it addresses crucial bottlenecks in their organizations) and offers the right mix of capacity strengthening instruments to address them: ARM courses, short courses to improve research and technical skills, and MSc-degree education.
- The various capacity strengthening activities will have a lasting impact; particularly so because of the 'embedded' approach to capacity strengthening, which involves proper identification of capacity strengthening needs and post-training mentoring.
- Innovation capacity through cross-institutional and cross-border collaboration has been strengthened. At the national level, stakeholder analysis has helped to place the issue of cross-institutional collaboration on the agenda. In particular, the collaboration between research organizations and universities has improved because of SCARDA. Regional ARM courses and other regional events have helped establish contacts across borders.
- FIs can identify benefits (expected and actual) arising from specific SCARDA-initiated change management interventions. This has been confirmed in the FI employee survey results.
- SCARDA has had a tremendous impact on the FIs in the West and Central Africa sub-region. A number of SCARDA MSc graduates in Congo and Gambia are now heading programmes and or units in their NARIs.
- A SCARDA-supported MSc graduate at CSIR-CRI in Ghana won the fifth prize (top five awards??) in a contest that sought to identify young professionals in science in sub-Saharan Africa. The Government of Ghana, through the Ministry of Environment, Science and

Technology, recognized him as a budding scientist and presented the bronze award to him in the young scientist category for the year 2011.

- Gambia can be used as a case study to outline SCARDA's impact. Described as a "country beset by critical skills shortage", SCARDA played the role of a "catalyst" bringing about crucial changes in NARI in Gambia within three years. SCARDA helped introduce gender balance in NARI as the Institute had no female programme leaders (it now has two); the Institute is also now engaged in robust research activities.

5.4.5 Impact of SABIMA on ARD organizations and stakeholders

- Twelve focal persons have been trained in ToTs in biotechnology stewardship in agriculture.
- In turn, the trainers have trained 1,412 other persons.
- Report on the status of biotechnology and biosafety in sub-Sahara Africa was published in 2011.
- An up-to-date comprehensive database on biotechnology and biosafety is now available on the FARA website.
- Stewardship training materials are also available on the FARA website.
- Advocacy and awareness creation activities in project countries have advanced the course of biosafety legislation. This is especially so for Ghana, Nigeria, Malawi and Uganda.
- All countries have produced stewardship policy statements.
- The first pan-African conference on stewardship in agri-biotech was held in November 2011.

CHAPTER 6: Best practices in partnerships and strategic alliances



6.1 Introduction

In this chapter, the lessons learned from the impact assessments presented in the previous chapter and earlier reviews and analysis of diverse documentation on the subject are distilled to identify a number of best practices in the partnerships and strategic alliances. The idea of best practices in partnerships and strategic alliances is an important one to discuss and examine, although what constitutes “best” at any one period will depend on a number of unique and local contexts. For instance, the particular challenge calling for collective action differs from place to place and it is important to put this in perspective (see Table 6.1). This section will examine how partnerships can be formed based on the concepts developed under the ARD project and documented in the *Collective Innovation Resource Book*. It will also look at the lessons learned under the different partnership models. As in the previous chapters, the information is presented separately for each of the sub-regions after the common section addressing general considerations or conceptual questions and best practices in partnership formation and management. Since the best practices are based on the components already evaluated in the previous chapter, it is necessary to clarify the structure of the chapter and the manner in which the subject-matter is presented. For each sub-region, all the best practices associated with all the partnership programmes covered for the sub-region are presented and the key achievements and lessons learnt are discussed. The presentation is either mostly tabular information, as in the case of the SSA-CP in East and Central Africa, or narratives presented in prose format. What distinguishes the items included here as “best practices” is the fact that they are actual projects that are either operational or prospective that are based on the positive evaluation of the partnership arrangements implemented by FARA over the years.

6.2 General considerations

Partnerships have been seen as veritable tools that help deploy the crucial benefits of innovation in the development process, a point that has been made severally by the World Bank (2007) and a host of other researchers, including Kim, Larsen and Theus (2009). It is also well known that partnerships provide the much-needed impetus for resource-poor, small-scale farmers to muster sufficient muscle to take advantage of new technology at scales that can produce noticeable and meaningful changes in their circumstances and lives. This has normally been at the heart of arguments in favour of collective action, such as those made by people like Devaux *et al.* (2009), Hall *et al.* (2001), Kaganzi *et al.* (2009), and Wall (2007). It is believed that the main issue here is the need to reduce transaction costs so that small farmers can access improved technology and the innovations that are associated with them in order to improve their lives. Without a doubt, transaction costs are the key obstacles restraining countries from developing at the desired pace. Transaction costs are the costs of adjustment, information, negotiation, monitoring and enforcing of contracts. They arise because of asset fixity, imperfect information (information asymmetry), inadequate calculation ability and opportunism. These transaction costs allow some people to take advantage of others, resulting in unscrupulous behaviour because of economies of scale. Some people will be able, through collective action, to influence public interventions and policy in ways that will suit them at the expense of society. For example, if large farmers or self-interested people come together, they can, through collective action, influence the direction of technical and institutional change. Thus, some of the resulting changes through technical innovation will not be optimal because of transaction costs and abuse of collective action. It is therefore crucial to identify elements that make for the establishment of partnerships that work and are effective in a particular local context. This consultancy was therefore expected to examine the contexts in which the FARA projects have been implemented in the different regions and countries, and identify elements of these diverse partnerships and strategic alliances that constituted best practices that can be recommended for scaling up and replication.

As to what constitutes best practice in partnerships and strategic alliances, it is important to have a sufficiently large population of partnerships to draw from and make comparisons against set criteria standardized across geographical and socio-political and economic contexts. Of course, even after such a large sample has been drawn, it would still be necessary to compare these through time to see how stable such relationships are and what circumstances influence changes one way or another.

There are at least six considerations that are important when forming partnerships and strategic alliances. According to ICRA (2009), the following are important:

- i. Objectives
- ii. Partners
- iii. Organization
- iv. Management
- v. Funding
- vi. Reflection and Learning

Partnerships that combine different actors could thus make available distinct knowledge and resources needed for the innovation process. Particularly in fragmented supply chains, partnerships provide a framework to bring together the key actors needed to design and implement innovative practices that facilitate smallholder inclusion (Weidinger & Schmitz-Hoffmann, 2007). Hence, from an Innovation Systems (IS) perspective, partnerships are presumed to lead to the generation of different innovations for quality improvement, such as technical, institutional and organizational (co-innovation) (Hall et al., 2004).

This means that induced technical innovation occurs in the direction of successful collective action. However, for the success of induced technical innovation there should be some ways to reduce transaction costs and constrain abuse of collective action (i.e. reign it in).

6.3 What does forming partnerships involve?

To initiate an ARD learning cycle, different organizations or individuals who have an interest in a particular “development challenge” agree to work together to address that challenge. The starting point is an initial recognition by one or more of these stakeholders that a single individual or organization cannot solve the challenge.

The “challenge” can be represented by a “problem” such as environmental degradation or the inefficient use of irrigation infrastructure in a particular area, or it can be an “opportunity” such as selling a new product in national/ international markets, or establishing a viable re-settlement scheme. The common feature of all such complex challenges is that they require collective action, involving a range of stakeholders working in partnership.

The most important factor in the success of any partnership is shared objectives. At an early stage of partnership formation, the wider objectives (development goal, desired outcome) need to be provisionally identified, as do the more specific outputs that might contribute to the shared goal (e.g. improved information services to farmers, improved policy recommendations, institutional change, research proposals, etc.). It is important that partners are honest in sharing their expectations from the partnership; that each partner recognizes her/his own role and that which others have to play in meeting the shared objectives.

Following the definition of these objectives, a preliminary plan of interaction and financing will normally be necessary. At this stage, the work plan has to be directed mostly towards relatively short-term actions over several months to further analyse the situation with additional stakeholders and achieve a common understanding of what needs to be done in the longer term (i.e. over several years). The output of this short-term phase could thus be a long-term “concerted action plan”, including activities such as rural services (production, marketing, financial and business services), additional research, policy change and institutional development, etc.

An important issue here is how to manage the partnership. Some kind of a steering committee (managerial team, taskforce) may be needed to agree on shared objectives, commit resources

Table 6.1: Key questions/considerations for establishing partnerships and strategic alliances

| Key Considerations | Associated Questions |
|-------------------------|---|
| Objectives | <ul style="list-style-type: none"> • What goals do the partners want to achieve together? • What are the desirable medium-term outcomes, which will contribute to a specific goal? • What are the concrete outputs that different partners need to produce to achieve the outcome? • What are the main assumptions made when constructing a series of causal linkages between objectives? • What activities are necessary to achieve the outputs identified? |
| Partners | <ul style="list-style-type: none"> • Which stakeholders are most interested in addressing the development challenge identified? • Which organizations have the mandate, the competencies (disciplinary expertise) and resources to address the challenge? • Who should be included in the partnership? • Who will be responsible for the different outputs or activities planned? |
| Organization | <ul style="list-style-type: none"> • How can the partners organize to address the challenge? • How will the activities of the different partners be coordinated? • What teams are needed to steer and implement the process of working together? • Who can best represent each partner in these teams? • What is the optimum size for these teams? • Is a formal agreement between partners necessary? |
| Management | <ul style="list-style-type: none"> • How will the teams established by the partnership be managed? • What sort of leadership is most appropriate for the teams? • What is the role of each team member? • Are the time allocations for joint activities and logistical arrangements acceptable to all? • What measures will be taken if institutional partners or team members do not live up to the expectations of others? |
| Funding | <ul style="list-style-type: none"> • What resources (human, financial, material) are necessary to implement the proposed activities of the partnership? • If additional funding (over above what is included in the “regular” institutional budgets) is necessary, what are the potential sources of such funding? • What information will these potential funding sources require to be able to approve such funding? What activities will generate this funding? |
| Reflection and Learning | <ul style="list-style-type: none"> • What activities will the partners carry out to monitor and evaluate the achievement of the agreed activities and objectives (outputs and outcomes)? • What activities will the partners carry out to monitor and evaluate the process of working together? • How will the lessons learned be used to mould future activities of the specific partnership and the management and organization of the individual institutions involved? |

Source: ICRA (2009), *ARD Resource Book*

of individual partners and oversee the work. It may be useful, in some cases, to cement the partnership with a formal agreement or MoU. To implement the actions implied in the “ARD Learning Cycle” as described here, it is assumed that an inter-institutional team will be formed to analyse the challenge, and to develop and oversee the activities.

The management of these committees and teams will require clear planning, roles, and rules of conduct—including agreed mechanisms of decision-making. The partnership will need to agree on which tasks should be undertaken jointly, and which should be allocated to individual organizations, subgroups or persons based on mandate, expertise and skills. It will also need to agree on how these tasks can be coordinated. Team members need to be clearly mandated by their organizations and be given the time and other resources to make their contributions to the team. The challenges of working in teams should not be underestimated. Most professionals are educated as individuals; few have formal training in teamwork. Facilitating effective teamwork is usually the most difficult aspect of the ARD process.

Leadership is also a critical issue in teamwork, especially when the team is very diverse (different disciplines, cultures, age, experience, etc.). The team has to decide the type of leadership that will most help achieve the objectives:

A more facilitative type of leadership, where the leader creates conditions for other members to work better without necessarily having authority over them, is more effective where organizations and individuals come together as equals, and where new ideas need to be freely generated.

However, a more affirmative type of leadership, where a particular person is recognized by the other team members as having the authority for decision-making, may be efficient in situations where time constraints exist and decisions must be made in order to meet deadlines.

6.4 Best practices and lessons learned in East and Central Africa

For FARA, partnership and strategic alliance have distinctive meanings. The distinction between the two terms is that in partnerships, the partners in the relationship share the same interests and objectives, while those in a strategic alliance do so only partially and hence may be seeking different benefits from the alliance (FARA 2010b). The two concepts suppose an interaction between at least two actors. This explains why FARA has, since its establishment, recognized that successful agricultural innovation depends on efficient and effective interaction between different stakeholders. These stakeholders include research institutions, agricultural extension organizations, agricultural development institutions, the private sector, policy makers, farmers and consumers, who, in fact, comprise the agricultural value chain. One of the key challenges of FARA’s NSF5 is to facilitate the organization of these actors into partnerships and strategic alliances arrangements incorporating the key competencies and knowledge required to address problems, opportunities and/or the entry points that prompt their establishment. This section documents the lessons learned from different FARA partnerships and strategic alliances initiatives in Eastern and Central Africa since 2008. It also spells out the best practices and lessons learned from examining the diverse partnerships in the sub-region. The assessment covers the SSA CP, the DONATA, the SCARDA, and the UniBRAIN programmes.

6.4.1 Best practices and achievements under SSA CP

The implementation of the SSA-CP in the East and Central Africa Sub-Region has been instrumental to the evolution of myriad activities around the particular Innovation Platforms (IPs) that formed the nuclei of the projects during the implementation phase. This section examines the best practices emerging exclusively from the SSA-CP within the region.

6.4.1.1 Best Practices

The various IPs are described in Tables 6.2–6.13 to summarize the best practices (innovations).

Table 6.2: Chahi Innovation Platform

| Country | Uganda |
|------------------------------|--|
| IP name | Chahi Ifatanyabubasa |
| Focus enterprise/value chain | Potato |
| Location | Kisoro District |
| Participating villages | Three parishes and their respective sub-parishes |
| Date IP initiated | November 2008 |
| Partners | |
| Farmers | Core IP members (individual and farmer group representatives) |
| Private sector | UNADA, UNPSA, Equity Bank, MECRECO, Transporters, Joro Investment Ltd, Kampala Potato Traders Group, HUNTEX |
| Policy makers | Local government (district, sub-county, local councils II – parish and I – sub-parishes) |
| Researchers | NARO, Makerere, AHI, CIP, CIAT, ICRISAT, ISAR |
| Extension | NAADS, Kulika |
| Training institutions | Kyambogo, Kabale, Makerere, and Kenyatta Universities |
| Innovations | <ul style="list-style-type: none"> • Knowledge sharing to better understand the problem; • linkages with traders, credit institutions (MECREGO, Equity Bank); • business plans, registration, constitution, proposal development; • participatory experimentation with three varieties (Kachpot 1, Victoria, and Kinigi); • rotation with climbing beans; • availing basic seed of participatory selected variety for training and demonstration on seed plot technique. |
| Achievements | <ul style="list-style-type: none"> • Attitudinal change and increased growing of Victoria (demand for 120 bags of Victoria variety); • 120 farmers linked to the market; • proposal written to access credit to purchase Victoria potato seed worth US\$ 6,000 (this was expected to raise 60MT of ware?? potato worth UgShs 36M (U\$18,000); • fast and timely information flow, facilitating price renegotiation. |

Table 6.3: Bufundi Innovation Platform

| Country | Uganda |
|------------------------------|--|
| IP Name | Bufundi |
| Entry point | Soil and water conservation |
| Focus enterprise/value chain | Potato |
| Location | Kabale District |
| Participating villages | 5 parishes and their respective sub-parishes |
| Date IP initiated | November 14, 2008 |
| Partners | |
| Farmers | Core IP members (individual and farmer group representatives) |
| Private sector | UNADA, Equity Bank, Bufundi SACCO, Transporters, Joro Investment Ltd, Kampala Potato Traders Group |
| Policy makers | Local government (district, sub-county, local councils II – parish and I – sub-parish) |
| Researchers | NARO, Makerere, AHI, CIP, ICRISAT |
| Extension | Kulika, NAADS |
| Training Institutions | Kyambogo, Kabale, Makerere, and Kenyatta Universities |
| Innovations | <ul style="list-style-type: none"> Improved seed potato; organized markets and improved potato sales to Kampala; collective action for soil and water conservation; linked to financial credit institutions, e.g. SACCO. |
| Achievements | <ul style="list-style-type: none"> IP established and accepted in district Formulated bylaws for ensuring effective implementation of SWC Established four subcommittees (market, M&E, NRM and production) Formed watershed associations/groups at parish level for joint action in trench making IP members participating in monthly meetings Market identified and IP linked (farmers signed MoU with Kampala Potato Traders Group) Some sales made through Joro Investments Ltd. Access to improved planting materials (Victoria and Katchpot 1 versus local Kinigi) Participatory varieties selection through on-farm trials Crop management skills improved IP executive and steering committees composed of women and men participating effectively in meetings Each parish has a learning site for farmers in sub-parishes Instrumented benchmark learning watershed (stream flow meters, rain gauges, evaporation measuring equipment-Stevenson screens, 12 runoff plots) International expert seminar on IWM and climate change involving communities and University of Siegen, and Makerere, Dare Salaam and Kenyatta Universities to agree on student research topics |

Table 6.4: Bubare Innovation Platform

| Country | Uganda |
|------------------------------|---|
| IP Name | Bubare |
| Focus enterprise/value chain | Sorghum |
| Location | Kabale District |
| Participating villages | Eight parishes |
| Date IP initiated | September 2009 |
| Partners | |
| Farmers | Core IP members (individual and farmer group representatives) |
| Private sector | HUNTEX, UNADA, Millers, Grain traders, Porridge makers, Muchahi SACCO, Transporters, Joro Investment Ltd. |
| Policy makers | Local government (district, sub-county, local councils II – parish and I – sub-parish) |
| Researchers | NARO, Makerere, AHI, ICRISAT |
| Extension | NAADS |
| Training Institutions | Makerere University |
| Others | ODL Network |
| Innovations | <ul style="list-style-type: none"> Local government support for participatory evaluation of new, market preferred line-planted and fertilized sorghum varieties; Market development using packaged and branded product. |
| Achievements | <ul style="list-style-type: none"> Increased knowledge of production practices, and growth in yield and income; Diversified market; Consumer acceptability; Increased income by the processor (1200 litres of sorghum porridge-Bushera sold, generating Ug. Shs. 3 M per month equiv. U.S. 1,500) during incubation period. |

Table 6.5: Ntungamo Innovation Platform

| Country | Uganda |
|------------------------------|--|
| IP Name | Ntungamo |
| Focus enterprise/value chain | Organic Pineapple |
| Location | Ntungamo District |
| Participating Sub-counties | Five |
| Date IP initiated | September 2009 |
| Partners | |
| Farmers | Core IP members (individual and farmer group representatives) |
| Private sector | NOGAMU, Fruits of the Nile (FON) |
| Policy makers | Local government (District, sub-county, local councils II – parish and I – sub-parish) |
| Researchers | NARO-MBAZARDI, Makerere, AHI |
| Extension | NAADS |
| Training Institutions | Makerere University |
| Others | Africare, ODL Network |

| Country | Uganda |
|--------------|--|
| Innovations | <ul style="list-style-type: none"> • Organic farming; • Planting in lines; • Mulching; • Solar drying; • Training in organic certification and inspection |
| Achievements | <ul style="list-style-type: none"> • Demonstrations set up; • Market linkages with FON; • Certification; • Planting material, specifically smooth cayenne; • Solar drying technology; • LG (Policy makers) buy-in; • Collective action and decision making. |

Table 6.6: Isangano Gataraga Innovation Platform

| Country | Rwanda |
|------------------------------|--|
| IP Name | Isangano Gataraga |
| Focus enterprise/value chain | Irish potatoes |
| Location | Gataraga Secto, Musanze District |
| Participating villages | Ten |
| Date IP initiated | November 2009 |
| Partners | |
| Farmers | Core IP members (group representatives) |
| Private sector | Gataraga SACCO, Input trader |
| Policy makers | Local authorities (executive secretary of the sector) |
| Researchers | ISAR, CIAT, Makerere, NUR, Institute of Agriculture and Animal Husbandry (ISAE) |
| Extension | Urugaga Imbaraga (National Farmers' Federation), public extension |
| Training institutions | NUR, ISAE, Wageningen University Research |
| Others | - |
| Innovations | <ul style="list-style-type: none"> • Potato washing, grading and packaging in woven sacks and bags made out of banana fibres; • Facilitating access to good quality planting material of market preferred variety; • Dehaulming before harvest. |
| Achievements | <ul style="list-style-type: none"> • Improved quality and increased potato yield; • Improved shelf-life of potato; • Increased access to niche markets with good price; • Improved hygiene and sanitation; • Better preservation and packaging; • production costing???? • Linkage to Kigali potato niche market and regular sales to supermarkets and hotels |

Table 6.7: Huguka Mudende Innovation Platform

| Country | Rwanda |
|------------------------------|---|
| IP Name | Huguka Mudende |
| Focus enterprise/value chain | Milk and Irish potatoes |
| Location | Mudende Sector, Rubavu District |
| Participating villages | Five |
| Date IP initiated | July 2009 |
| Partners | |
| Farmers | Core IP members (farmer group representatives) |
| Private sector | Mudende SACCO, RDB (Rwanda development bank), Inyange Industries |
| Policy makers | Local authorities (executive secretary of the sector) |
| Researchers | ISAR, CIAT, Makerere, ISAE, NUR |
| Extension | Urugaga Imbaraga (National Farmers' Federation), public sector extension |
| Training institutions | NUR, ISAE |
| Innovations | <ul style="list-style-type: none"> Cost sharing access to credit to procure a milk-cooling system to meet the standards of Inyange Industry. |
| Achievements | <ul style="list-style-type: none"> Quality and quantity of milk improved, and milk price increased from 90 frw to 140 frw |

Table 6.8: Dufatanye Remera Innovation Platform

| Country | Rwanda |
|------------------------------|--|
| IP Name | Dufatanye Remera |
| Entry point | Soil conservation and fertility |
| Focus enterprise/value chain | Common beans and passion fruits |
| Location | Remera Sector, Musanze District |
| Participating villages | Five |
| Date IP initiated | September 2009 |
| Partners | |
| Farmers | Core IP members |
| Private sector | Urwibotso Enterprises |
| Policy makers | Local authorities (executive secretary of the sector) |
| Researchers | ISAR, CIAT, ISAE |
| Extension | Urugaga Imbaraga (National Farmers' Federation), public sector extension, Urwibotso Enterprises |
| Training institutions | NUR, ISAE |
| Innovations | <ul style="list-style-type: none"> Improved soil conservation and fertility through planting of fodder species on terrace slopes and use of manure; Improved human nutrition due to increased cow ownership, and better breeds; Improved common varietielike passion fruit plantlets. |

| Country | Rwanda |
|--------------|--|
| Achievements | <ul style="list-style-type: none"> • IP established and accepted at the sector level; • IP members participating in meetings; • Women participating effectively in meetings and holding positions in IPs' executive and steering committees; • Introduction of four fodder species • 500kgs of two improved bean varieties distributed for multiplication; • Collective marketing of bio-fortified beans; • 600 seedlings of passion fruit distributed; • Introduction of one snap bean variety (1214/2/2); • 10 members received cows on credit for milk and manure. |

Table 6.9: Gerakuntego Rwerere Innovation Platform

| Country | Rwanda |
|------------------------------|---|
| IP Name | Gerakuntego Rwerere |
| Entry point | Soil conservation and fertility |
| Focus enterprise/value chain | Chilli and milk |
| Location | Rwerere Sector, Burera District |
| Participating villages | Five |
| Date IP initiated | September 2009 |
| Partners | |
| Farmers | Core IP members |
| Private sector | Banque populaire du Rwanda, Urwibutso enterprises |
| Policy makers | Local authorities (chairmen of villages) |
| Researchers | ISAR, CIAT, Makerere, ICRISAT |
| Extension | Urugaga Imbaraga (National Farmers Federation), public extension, Action Nord-Sud (ANS), Send a Cow Rwanda (SACR) |
| Training institutions | NUR, ISAE, Wageningen University Research Centre |
| Opportunities addressed | <ul style="list-style-type: none"> • Improved soil conservation and fertility through planting of fodder species on terrace slopes and use of manure; • Improved nutrition due to ownership of high-yielding cow breeds and growing more chilli nurseries. |
| Achievements | <ul style="list-style-type: none"> • IP established and accepted at the sector level; • IP members participating in meetings; • Women participating effectively in meetings and holding office positions in IPs' executive and steering committees. • Problems of nutrition, incomes and soil fertility addressed by aligning activities with government policy of one cow one family and zero grazing through signing of contracts between farmers and cow providers, facilitated by local government; |

| Country | Rwanda |
|---------|---|
| | <ul style="list-style-type: none"> • 48 farmers received improved cow breeds for milk and manure; • 20 farmers trained in hygienic milk production, milk handling and transportation; • Benchmark learning watershed instrumented – automatic weather station installed; • Introduction of four new fodder species. |

Table 6.10: Buuma Innovation Platform

| Country | DRC |
|------------------------------|---|
| IP Name | Buuma |
| Focus enterprise/value chain | Cassava |
| Location | Masisi District, Mfuni Shanga groupement (sub-county), Kituva location |
| Participating villages | 4 antennae (collection of several villages) |
| Date IP initiated | October 2009 ¹ |
| Partners | |
| Farmers | Core IP members (individual and farmer groups representatives) |
| Private sector | MECRECO, ProNAPLICAN |
| Policy makers | Chef de village, chef de localite, chef de police |
| Researchers | INERA, CIAT-TSBF, OVG, Makerere, ICIPE, ICRISAT |
| Extension | GAP-Pharmakina, public service agronomist, DIOBASS, SYDIP |
| Training Institutions | Kiroche primary and secondary schools |
| Others | Faith-based organization (for meeting venues and information flow) |
| Innovations | <ul style="list-style-type: none"> • Improved mosaic disease-tolerant varieties; • Improved post-harvest handling technologies; • Improved crop management; • More agro-forestry nurseries. |
| Achievements | <ul style="list-style-type: none"> • IP established and accepted in district • IP members participating in meetings • Setting up of four commissions (Market, M&E, Credit and Production) • Learning sites established • Access to improved planting materials • Crop management skills improved • Improved household gender relations—men have joined their spouses in growing the improved disease-resistant varieties; • Women participating effectively in meetings; • Women holding office positions in IPs' executive and steering committees; • Two tree nurseries with 35,000 seedlings each opened; • Each village has a cassava seed multiplication field; • 40 champion farmers, ten in each of the four antennae, used as learning sites for other farmers and for seed multiplication; • Instrumented benchmark, learning watershed (stream flow meters, rain gauges, evaporation measuring equipment, 12 runoff plots); • Capacity building in market identification; • M&E, erosion control and fertility, production techniques. |

Table 6.11: Maendeleo Innovation Platform

| Country | DRC |
|------------------------|--|
| IP Name | Maendeleo |
| Focus enterprise/value | Beans |
| Location | Rutshuru District, Groupement (Sub-county) Kisigari, Rubare localization |
| Participating Villages | 6 Antennae |
| Date IP initiated | 10 October 2009 |
| Partners | |
| Farmers | Core IP members (individual and farmer groups representatives) |
| Policy Makers | Chef de Villages |
| Researchers | INERA, CIAT-TSBF, OVG, ICIPE |
| Extension | GAP-Pharmakina, public service agronomist, DIOBASS, SYDP |
| Training Institutions | Iowa State University |
| Others | Faith-based organization (for meeting venues and information flow) |
| Innovations | <ul style="list-style-type: none"> • Introduction of four improved varieties: nguaku-nguaku, MORE, VCB, Kiangara; • Record keeping by individual farmers (record book availed); • Post-harvest technologies cleaning and sorting. |
| Achievements | <ul style="list-style-type: none"> • The Goma-Kinshasa traders have formed an association, and farmers have formed a marketing association; • Access to credit from MECREGO; • Improved varieties availed; • Participatory varieties testing and selection; • linkage with PABRA seed system. |

Table 6.12: Musanganya Innovation Platform

| Country | DRC |
|------------------------|--|
| IP Name | Musanganya |
| Focus enterprise/Value | Banana |
| Location | Masisi District, Mpfuni Shanga, Bweremana Location |
| Participating villages | 5 Antennae |
| Date IP initiated | December 2008 |
| Partners | |
| Farmers | Core IP members (individual and farmer groups) |
| Private Sector | MECRECO, ProNAPLICAN |
| Policy makers | Chef du village, chef de localite, chef de groupement, King |
| Researchers | INERA, CIAT-TSBF, OVG, Makerere, CIALCA, ICIPE |
| Extension | GAP-Pharmakina, DIOBASS, SYDIP, public agronomist ACF, Faith-based organization |

| Country | DRC |
|--------------|--|
| Innovations | <ul style="list-style-type: none"> • Market development using packaged and branded product—Kaskisi wine; • Standardization of packaging and pricing of banana varieties; • Linking of producers and traders; • Collective marketing of banana; • Facilitating access to clean planting materials through community “greenhouse” macro-propagator. |
| Achievements | <ul style="list-style-type: none"> • Increased knowledge of production practices; • Diversified market; • Increased income; • Value addition—processing and packaging of banana wine (<i>Kasiksi</i>) and juice (<i>Mutobe</i>) |

Table 6.13: Muungano Innovation Platform

| Country | DRC |
|-------------------------|---|
| IP Name | Muungano |
| Focus Enterprise/value | Irish potatoes |
| Location | Rushuru District, Kisigari Groupement, Rumangabo Location, |
| Participating Villagers | 5 Antennae |
| Date IP initiated | 29 January 2009 |
| Partners | |
| Farmers | Farmers in five Antennae |
| Private sector | MECRECO, Urwibutso Enterprises |
| Policy makers | Chef de Groupement, Administrateur resident |
| Researchers | INERA, CIAT-TSBF, OVG, ISAR |
| Extension | GAP-Pharmakina, DIOBASS, SYDIP, Faith-based organization |
| Innovations | <ul style="list-style-type: none"> • Clean seed of new varieties; • Demonstration plots for three varieties: Kinigi, Kahinga, and local mixture • Participatory selection of Kahinga (seed variety); • Participatory selection of NPK fertilizer; • Crop management. |
| Achievement | <ul style="list-style-type: none"> • Clean planting materials accessed; • Producers and traders linked; • Marketing associations formed; • Farmers gain knowledge in post-harvest technologies and disease management. |

6.4.1.2 Lessons learnt and suggestions for improvement of SSA CP

Following the tabular information above, the lessons learned in respect of each IP and institutional partnership are presented. The sub-regional details are then wrapped up by presenting suggestions for improvement that emerged from the evaluation carried out as part of the present exercise.

Lessons Learnt

The lessons learnt from the implementation of SSA CP in LKPLS cover a range of attitudinal, conceptual, methodological and practical elements. All the lessons are centred on the so-called IP, which is the main vehicle used by IAR4D to bring stakeholders together; in fact, the IP, in itself, may be viewed as an institutional innovation.

1. Preliminary market research at the pilot sites has been completed and the knowledge generated has been used to re-organize domestic markets and link farmers to profitable and efficient markets successfully (FARA report 2011).
2. Adoption of crop-livestock and NRM technologies has been tested with market incorporation. Preliminary results are positive. Combining crop with livestock, NRM, markets, and policies produced very encouraging results at all sites.
3. Participatory testing of post-harvest technologies and strategies (value addition, packaging, labelling and marketing) for various commodities has shown positive results.
4. Innovation systems so far seem to indicate that IAR4D is a strategy that can improve the livelihoods of many small-scale farmers in Sub-Saharan Africa, even within a short span of two years.
5. That self-empowerment has been achieved is established by the fact that the farmer associations within the pilot sites continued to improve after 2010 when the funding stopped.
6. Collective action by IPs at the community level increases bargaining power; and improves access to higher prices, credit, information, and inputs that motivate smallholder farmers to increase crop productivity, including social, financial capital.
7. Improved crop productivity has a positive impact on education, training, access to information and other avenues of making actors knowledgeable, in other words, building human capital.
8. Institutional innovations are premised on reducing transaction costs within the value chain, not only in joint activities, but also in core mandates. This improves profitability for both producers and traders.
9. Integration of the education, research, extension and policy domains has the potential to overcome outstanding constraints—human resource, technology generation and use, inefficient interlinked output-input markets, unavailability of credit— and promote sustainability of the system.

10. Successes in the application of institutional innovations depend critically on the quality of linkages and interactions and are highly context specific. They also depend on the quality of facilitation and the strength of the market-led and knowledge-based interactions.
11. There is need for a “public social enterprise body” to foster linkages and interactions, broker innovations and collective action within the broader public–private partnership framework. Institutional innovations evolve at different speeds depending on the interests of the different stakeholders.
12. Involvement of stakeholders in the learning cycle leads to increased interaction and trust amongst them.

Suggestions for strengthening SSA CP

The following suggestions emerged from the exercise:

- a. There is need for greater research in understanding the natural resource base, and possible intervention needs to be explored to boost productivity
- b. Greater emphasis needs to be placed on soils research, which needs to be linked to the SSA soil programmes like Afsis.
- c. Forages R&D for crop-livestock improvements needs to be included in the next phase.
- d. Efforts with watershed management need to continue; during the previous phase, we only managed to set up some environmental monitoring equipment. This needs to be linked to CGIAR program on Climate change for further research and intervention.
- e. Integrated pest and disease management led by ICIPE under CIAT coordination has been initiated but needs to be moved to the next level.
- f. Market research, which includes understanding the market scenarios, players and market access factors coordinated by CIAT, should be continued.
- g. What constitutes good market access should be thoroughly examined, including monitoring the changes that are necessary and proposing interventions that will make markets work for the target population of small-scale African farmers.
- h. With regard to the policy environments in the PLS coordinated by CIAT, the policy research on the impact on various aspects of IAR4D undertaken in the previous phase, needs to be analysed and interventions need to be identified.
- i. In the previous phase, 12 IPs were established and basic capacity building activities were undertaken. In the next phase, these efforts will be evaluated and documented for the anticipated scaling out when the proof of concept is completed.
- j. The IP management processes, which include participatory M&E, will be fine-tuned. In the previous phase some PM&E tools were developed and applied according to the stage at which the research was. In the next phase, the remaining tools will be applied and monitored accordingly.
- k. There will be greater focus on inclusion of gender R&D. This was one of the major gaps in the way the previous project was designed.

In general, it is considered that stronger links with CAADP is essential to complete the innovation cycle for African agriculture. This can be achieved by:

1. Strengthening the value chains for accessing credit and other inputs
2. Improving collaboration between scientists from different programmes/disciplines within the same NARI through
 - joint planning, decision-making, and goal-setting
 - communicating frequently
3. Improving collaboration between scientists from different NARIs within the same national agricultural research system, e.g. Rwanda Agriculture Board (RAB) scientists and lecturers in the Faculty of Agriculture of the National University of Rwanda (NUR) and ISAE in Rwanda
4. Improving collaboration between scientists and extension agents through meetings at sub regional (LKPLS), national and innovation platform levels

6.4.2 DONATA

A number of lessons were learned from the DONATA programme. These have been summarized and itemized below. On the basis of the learning, a few suggestions have made on how the programme can achieve its full potential.

6.4.2.1 Lessons learned

The use of IPs for technology adoption in disseminating QPM has had its success and failures.

Among the successes is that there is an increased awareness of quality protein technologies and innovations. Farmers in several counties are now using QPM.

Initially, the project experienced hiccups primarily due to the shortage of seed. However, the situation improved with time, with KARI acquiring patent of two varieties (KH631Q and KH500Q) from CIMMYT and producing seed for farmers at the project areas. Now, one seed company produces and sells the seed through seed agents. The farmers responded to the lack of seed in different ways, including recycling OPV seeds, which however, has its challenges. It is not known how much protein quality is lost due to cross-pollination. Others responded by identifying farms where seed could be produced with the intention of becoming contract farmers, but this was not actualized because the seed company opted to produce seed at an irrigation site.

Through their own initiatives, farmers were able to identify different forums to showcase QPM technologies and innovations: world food days; agricultural shows; diocesan radio, using these fora to create awareness and train farmers in QPM technologies and innovations.

The lessons learnt include the following:

- A clear understanding of the goals can help different actors to work together to achieve their desired objectives

- There is no single blueprint for IPTA; therefore, we should identify the underlying principles rather than preparing blueprints.
- IPTA starts at the community level. The concept of value chain has allowed a better understanding of the composition of IPTAs. Further, the value chain analysis has helped in identifying a common goal among the IPTA members. Seed remains an important issue across the board and building sustainable seed systems will help IPTA perform well and remain sustainable.
- There needs to be joint planning and learning to achieve the common goal. Progress depends on the time allocated by the focal person, the quality of technical backstopping, and the institutional strength of host institution and partners.
- The members also need to share experiences for a better understanding of the functioning of IPTAs.
- Involving the beneficiaries in the M&E of all the process of the project is important

The dynamics of the actors of the value can help in promoting agricultural value chains;

- The dynamism or involvement of actors is strong on the downward side
- Existing IPTAs can transform to handle new challenges along the value chain
- The regular update of the value chain analysis and involvement of people who were not involved helps a lot; The definitions of IPTAs are as diverse as the existing IPTAs
- Communication in the value chain can be existent but informal; Weak farmers need to be strengthened for scaling out activities; Meeting market demand volume & quality are important; and we need to reach more farmers
- The importance of social capital in encouraging activities in the IPTAs; Enhancing knowledge flow along the value chain requires systematic partnership; Mastering of the value chain and of the role of the actors is a prerequisite for the establishment of functional IPTAs
- Experimenting rather than implementation and dissemination: RAILS and DONATA networks could use the enormous knowledge base; they could serve as experimental box by focusing on what they can do best
- Training on QPM value addition has allowed people to practice and really increase their income from bread, wine, QPM popcorn
- Uptake pathways should be diversified for the QPM promotion; Farmer Field School, fair, agriculture shows, demos, testimonies sessions, sensitization sessions, field day, media are the best ways for scaling out.
- There is still need to go on sensitizing people on taking into account women implication and recognize women capabilities
- Physicians and nutritionists statements or acts create awareness and trust for QPM uptake and then contribute to QPM scaling-out
- Population has shifted feeding poultry with imported feed to QPM use as poultry feed even advanced farmers in the new IPTA are using QPM for feeding pigs

- Involved partners are proud of their participation in the IPTA and then contribute to QPM scaling out. Their statements illustrate that: “If all INERA technologies could have been disseminated the way QPM is being promoted, a lot of technologies could have reached end-users and contributed to the improvement of their lives”.

6.4.2.2 Suggestions for the improvement of the DONATA project

- Have more interactive stakeholder workshops;
- Hold an inception workshop to familiarize partners to the different approaches to be used for the promotion of technologies;
- Support a national inception workshop for the same purpose;
- Support regular monitoring and evaluation at all levels (national, sub-regional) and ensure regular feedback reporting;
- Train partners on all aspects of technology promotion;

6.4.3 Lessons learnt from the implementation of the SCARDA project

- The success of SCARDA’s change management strategy hinges on sustained implementation of the CMAPs or change plans. Getting the various authorities and key stakeholders on board is essential for the success of these projects. In fact, the introduction of CMAPs into FIs requires a great deal of commitment and involvement from the FI management as well as the higher levels of authority (i.e., Ministry of Agriculture, Ministry of Higher Education, Ministry of S&T, etc.). This entails sensitizing key decision makers regarding the change plans and getting them on board. The FI management and line ministries should understand and endorse CMAPs. This process takes time and requires sustained mentoring, even some degree of advocacy. How successful change management is also depends on the staff’s willingness to change and the management’s skill in communicating difficult changes to the staff. It is too early to assess the post-training elements of the SCARDA approach, i.e., the CMAPs and mentoring activities. More time is needed to watch how these instruments unfold in practice.
- A crucial first step in capacity strengthening is FI analysis. The rigour of this analysis determines the relevance of the capacity strengthening strategy as well as the CMAP formulated by the FI. Broad participation of staff and external stakeholders in this analysis helps to improve its relevance and ownership. Another observation is that the institutional analysis should be continuous, from which stems the question as to whether capacity strengthening is a one-off intervention or a more permanent function of an organization. For SCARDA, it was the latter, making it necessary to regularly update the institutional analysis and the capacity strengthening strategy.
- One of the tasks of the project has been to identify the best study programmes in each of the sub-regions that can meet the demand for MSc training. In many instances, these programmes were identified outside the country, which has not always been appreciated by the local universities. There is clearly a trade-off between offering the most adequate MSc training and local capacity building of universities. Also, a unique feature of the

MSc training component of the SCARDA programme is that: (a) students are advised to select a research topic that is of relevance to their institute's research programme (and, if logistically possible, implement it at their institute); and (b) they should have two thesis supervisors, one from the university and one from their own institute. The latter arrangement was not always feasible because of resource and time constraints. One suggestion, therefore, would be to provide funding for university lecturers to visit their students' research organizations to get a better understanding of local needs, conditions and constraints.

- Very few MSc students studying abroad conducted their research at their home institutes. This was mainly because the regular MSc programme afforded little time for such an arrangement. Therefore, if this model is to be pursued, the time span of the study programme needs to be extended. Further, the scholarships were usually insufficient to cover the living and other costs incurred by the students.
- The impact of the research management training in terms of the management changes introduced differs across the FIs. Despite having received the same training, some FIs have advanced more with their CMAPs than others. Apparently, the success of the SCARDA approach hinges squarely on the quality of the institutional analysis and the keenness of an FI to introduce change. Priming an institute for change is a critical factor to increase impact.
- Innovation capacity was strengthened through cross-institutional and cross-border collaboration. At the national level, stakeholder analysis helped to place cross-institutional collaboration on the agenda. In particular, collaboration between research organizations and universities improved because of SCARDA, particularly in SADC/FANR. Sub-regional ARM courses, lesson-learning workshops and PMTs helped establish contacts across borders. However, for such linkages to be more functional, there is need to formalize instruments of engagement through, for example, MoUs and contracts.

6.4.5 The UniBRAIN in the ECA sub-region

This section reviews the UniBRAIN programme in the ECA sub-region and looks at how it operates and what are some of its achievements. Based on the assessment, some suggestions are provided on how to improve the programme in the sub-region.

6.4.5.1 Achievements

- Over 50 farmers and 10 trades have benefitted from the commercialization of products in both national and international markets.
- Various farmers have benefitted from the efforts to combat weevils in crops.
- FARA has, in partnership with ABP, helped farmers in Uganda and Kenya increase banana production through planting disease-free banana TC plantlets.

FARA, in partnership with UniBRAIN, has created a fund for Afri-Banana Products (ABP) sponsored by DANIDA in what was initiated as the IDBPA Consortium with a patent and US-FDA certification in place.

6.4.5.2 Suggested improvements to the FARA's partnership/alliance programme

- To create more forums of demonstration such as agriculture and agribusiness shows and exhibitions.

6.5 Best practices and lessons learned in West and Central Africa

The best practices and lessons learned from the diverse partnerships examined in the West and Central African sub-region are presented in this section. The review covers SSA CP, DONATA, RAILS, SCARDA, UniBRAIN and SABIMA..

6.5.1 SSA CP in the West and Central African sub-region

This section presents the lessons learnt and the best practices and innovations introduced in the sub-region as a result of SSA CP.

6.5.1.1 Lessons learnt from SSA CP partnership

We learnt a number of lessons in the process of establishing SSA CP. They include the following:

- The active involvement of district or local government leaders and traditional leaders in supporting IPs provided the IP with legitimacy and ensured active participation of other partners. For example, the Katsina state governor's wife participated in one of the IP field days, encouraging greater participation from other local leaders.
 - It is important to establish IPs in areas where the environment is conducive to its success. A suitable policy environment for supporting the agriculture sector can assist in this process.
- Facilitators and other partners need to have adequate capacity for IP coordination. KKM (Nigeria) was reported to have strong capacity for coordination.
- It can take longer to build partnerships where roles are clearly understood and acted upon in an atmosphere of trust, openness, and equity than originally conceived.
- It is necessary to have good facilitation, leadership and champions from inception. This will involve one-on-one meetings with stakeholders to promote understanding and lobby for active support in the early stages itself.
- It is also necessary to involve local leaders, decision makers and policy makers during the early stages so that they assist in driving the process. Ideally, meetings should be chaired by local participants and facilitated by R&D participants.
- It is important to ensure a sound understanding of systems analysis and value chains; challenges/opportunities need to be identified and prioritized to meet local challenges.
- Private sector involvement in input supply, marketing and finance provision should be encouraged during the early stages. Such partners are unlikely to attend long or frequent meetings; hence, there is a need for a timely and clear identification of their roles and opportunity for commercial activity.

- It is important to identify “quick wins” for farmers and other private sector beneficiaries, and build on early successes.
- The formation and establishment of IPs cannot be subjected to rigid rules and approaches, as differences in socio-cultural and institutional settings may have an overbearing effect on the willingness of individuals or groups to work together and innovate.
- Sound action plans clearly delineating the role of each participant helped the IP to understand and sanction the plans. Similarly, farmers could research and test the options for addressing opportunities identified in the action plan sufficiently early. This sent out a signal to the farmers that the IAR4D process did not mean “business as usual”. The entire process was clearly linked to participatory research and extension or learning approaches involving learning sites, demonstrations or farmer field schools located on the farmers’ own fields.
- Short-term commercial opportunities and possible linkages with national agricultural programmes strengthen private sector interest. A good example was found in Kano State of Nigeria, where the program was linked with the Special Mass Food Production Programme of the government.
- Innovation systems are becoming widely acknowledged as a promising approach to conduct ARD. The knowledge gap, which the SSA CP aims to cover, is becoming increasingly visible, thereby increasing the strategic significance of SSA CP’s research.
- The need for capacity improvement among the project implementers especially the TF??? collaborating institutions and IP partners was evidenced.
- The substantial administrative cost incurred on the initial governance and management structure of the SSA CP was substantially trimmed down after a review to make more funds available for field activities.
- The transfer of the lead institution role from IITA to CORAF/WECARD provided an opportunity to develop capacity within the SRO.
- The success of IPs depends heavily on leadership within the group of stakeholders. Endorsement by local governments or NGOs also helps a great deal in establishing successful IPs.
- Capacity building at all levels is the key to technology adoption, use and impact creation.
- Demonstration of proven technologies quickens the pace of technology adoption.
- Network analysis is a useful tool to map the linkages between the different actors in the agricultural innovation system.
- Use of CBO/village-level farmer associations enhances information sharing among stakeholders.
- Use of media, particularly radio and TV (for farmers) and print media (policy makers), in popular languages enhances technology uptake and garners political support for farmers.
- Frequent interaction among platform members, including farmers is desirable. Mobile phones are found to be an effective tool in facilitating such interaction.

- The private sector can make an important contribution to the implementation of the IAR4D model. It is often seen as more dynamic, flexible and responsive than government agencies. However, the private sector's primary objective is to sell their products or services and to make a profit in the process. If there are no opportunities for making profit, the private sector will not participate.
- A key feature of the IAR4D process is integrating farmers into markets and moving them from subsistence to a market orientation. It has been shown that the livelihood of small-scale farmers could be improved through better yields by using technological innovations, combined with institutional innovations that favour access to credit and better marketing of their products. Yet, more time is required to get rid of some of the scepticism with the credit system and reach a win-win agreement between producers and marketers. This can be achieved through continuous capacity building, interaction, and facilitation.
 - With SSA CP's focus on research, it is very necessary to have a well-organized, structured and functional farmers' organization and also a well-organized and functional private sector. Partnership is difficult when the actors have different educational backgrounds as it is not easy to understand each other and reach an agreement. It is not possible for farmers to have access to credit and bargaining power when they do not have a strong organization.
 - Having an IP steering committee composed of representatives of key participating institution/organization with clearly outlined roles and responsibilities helps to retain the stakeholders' commitment.
 - Agriculture is a risky business, especially in the Sahel region; and when yields are low, farmers have difficulty in servicing their debts and sometimes are unable to repay at all.
 - Leaders of farmers' organizations find it difficult to deal with non-performing members when the group becomes large (more than 50 persons). It is important to build trust among the members and with the micro financing institutions to manage late payments and the penalties related to it.
- Inter- village exchange visits help farmers' organizations to learn from the other organizations how to solve some of their problems.

6.5.1.2 Successful innovations/Best practices in SSA CP

The various reports on SSA CP reveal the following successful innovations:

1. In the Sahel savannah zone: The development of the farmers system to effectively produce rainy season vegetable by the IP at Aguié prefecture in Niger.
2. Sudan Savannah: The Musawa cereal/legume IP in Katsina state.
3. The Bunkure cereal/legume IP in Kano state: Wide scale scaling out through support from local governments.
4. Northern Guinea Savannah: The Ikarra maize/legume IP in Kaduna state and rapid adoption of NRM technologies.

5. The system of warranting, also known as inventory credit, appeared to be the best approach to help small producers draw optimum return from their agricultural activities.
6. Some of the other best practices include combining organic and mineral fertilizers with improved varieties and the best cropping system, and controlling the cowpea insect by using plant extracts (pepper and tobacco) combined with chemical pesticides, and adopting the seed multiplication scheme in the villages.

6.5.2 Innovation/Best practices in DONATA and RAILS

The innovations and best practices identified under DONATA and RAILS are presented in this section. In addition, the lessons learnt under these programmes are presented and discussed.

6.5.2.1 DONATA best practices

The different stakeholders have found the following innovations useful:

- The establishment of IPTA has been generally acclaimed as one of the best innovations in project management.
- Early provision of improved seeds, especially maize and cassava cuttings, and other inputs was found useful.
- Linking farmers to readymade markets and accessibility to loans were found to be useful in improving smallholders' productivity.
- Other best practices included the use of high-yielding varieties promoted by DONATA, appropriate site selection, good land preparation, planting method, timely weeding, etc. These practices have enabled farmers' secure high yields in cassava as well as other crops.

6.5.2.2 Lessons learnt from the RAILS Initiative in West and Central Africa

Based on discussion with the stakeholders and various reports, most of the stakeholders are still in the learning stage as most countries did not adopt the initiative until late 2011. However, certain issues are noteworthy:

- The PSTAD project's requirement that the RAILS platform disseminate information on data generated from DONATA actually delayed the latter's commencement. RAILS did not commence until after the third year it was scheduled to start.
- RAILS learning teams have learnt and maximise the linkages of the RAILS platforms with the DONATA program.
- The delay in transferring of funds delayed RAILS' commencement in some countries.
- Keeping strictly to reporting deadline remains an issues with the partners.
- The linkage between the focal points of DONATA and RAILS has not been as effective as it should be in some countries.
- RAILS has helped improve Internet connectivity, but regional and international networking is still being pursued.

- In some countries, newspapers, radio and TV reports are being used to disseminate existing technologies to farmers for adoption. In particular and in a bid to scale out, efforts are on to effectively use the many community radio stations that are springing up.
- Initially some countries struggled with creating new websites and web pages but they have become more proficient now.
- Some stakeholders continue to face challenges when it comes to linking their website to external resources and using other features
- RAILS project has provided a wider platform to share information.
- RAILS has enhanced open and easier collaboration with other stakeholders.
- In addition, farmers and other stakeholders are occasionally invited to discuss their views on available technologies and the impact it is making on their lives with experts.

6.5.2.3 Innovations/Best practices in RAILS project

- Most stakeholders are excited about the opportunities that the Internet has offered them after the setting up of the portals.
- RAILS' information and knowledge management has helped to disseminate available technologies and other related information, which has been progressively yielding fruits in countries like Ghana and Sierra Leone. For example, sustained radio discussions along with TV presentations of video documentation have enabled cassava growers in the northern part of the Sierra Leone to handle the persistent problem of grasshopper infestations on the crop in the dry season. Many farmers are now aware that it is far better to plant at the onset of the rainy season than in the dry season, because the cassava crop would be older and stronger to withstand pests.

6.5.3 The UniBRAIN Programme

The innovations and best practices as well as lessons learned under the UniBRAIN programme are presented in this section.

6.5.3.1 Lessons learnt from the UniBRAIN Initiative

Since UniBRAIN's duration is from 2012 to 2015, the learning shared here is mainly from the inception phase. Despite the project's newness, a number of lessons emanated, which include the following:

- The research revealed that currently there is a huge interest in agribusiness in Africa and that UniBRAIN was initiated at an opportune time.
- There was a strong indication at the inception and during the start-up phases that UniBRAIN's partners and FARA need to adopt a more agile and responsive arrangement that is conducive for a business environment. For this to happen, there must be a change from the traditional management approach to one that is more democratic.
- The project laid emphasis on effective mentorship with follow-up guidance for both mentors and mentees.

- The inception review by DANIDA led to AIIC being allowed to determine its own leadership as against the previous assumption that university members would lead the incubators.
- The inception phase visits to stakeholders confirmed that there was a strong desire for change and a commitment to collaboration, but there are still strong institutional ties to traditional ways of doing things. This will have to be addressed by various methods such as providing incentives for academics to engage in advancing technical innovations.
- There is a need for teams comprising institutions with the right mix of skills, experience and capacities.
- Considerable care should be taken in forming partnerships, keeping in mind institutional compatibility, commonality of interests, and complementarity of mandates and capacities.
- Visits to agribusiness incubators revealed that there is a need for the incubators to be autonomous businesses that can be managed by professional managers. Also, the managers need to be carefully selected based on their technical skills, motivation and determination to succeed and grow.
- Careful attention will have to be paid to developing institutional instruments such as intellectual property protection, commercial confidentiality and benefit-sharing arrangements.
- During the subsequent phases, there will have to be a much stronger commitment to working together and adhering to the Programme Action Plan.

6.5.3.2 Innovations/Best practices in the UniBRAIN Initiative

Most stakeholders are still setting up their business incubators and, therefore, learning from the project is an on-going process. However, a reported survey of the stakeholders' demands, seems to suggest that the following could be identified as the best practices in UniBRAIN:

- Capacity building programme
- Co-marketing under common branding
- Operating Binetwork through website
- National conference on agri-business
- Mentoring and guidance of business

6.5.4 SCARDA partnership

Although the SCARDA project has ended and many achievements has been recorded in the CORAF/WECARD sub-region; the impact of AGRYHMET's (LSP in the region) was not obvious compared to the same role played by RUFORUM for ASERECA in the Eastern and Central Africa sub-region. FARA thus, needs to specify the LSP's roles clearly to avoid the type of conflict of roles that arose between AGRYHMET and the consultant hired by CORAF.

6.5.4.1 Lessons learnt from the SCARDA partnership

During the various phases of SCARDA different issues were highlighted. The following aspects came to the forefront from the inception to the end of the project:

- The deficiencies in ARM and scientific quality in sub-Saharan Africa identified in the NARS Assessment (2006) and other recent studies were confirmed and priority capacity needs in each of the sub-regions were identified.
- There was a strong demand for capacity strengthening inputs that adhere to the approach proposed through the SCARDA programme.
- The key underlying needs were generic and there were opportunities for shared learning, which clearly justified the added value of a continental capacity strengthening programme.
- One of the key deficiencies identified was the capacity to form strong multi-institutional partnerships between NARIs, universities, extension agencies, farmers' organizations, private enterprise and other groups that need to collaborate to bring about the required change.
- The feedback confirmed that previous capacity development initiatives did not achieve the desired impact because they were fragmented and only addressed single issues.
- Successful models from elsewhere have shown that a comprehensive approach targeting key organizations and their development partners could be sustainable and provide a platform for out- and up-scaling.
- Experiential learning approaches were needed to ensure that newly acquired skills were applied suitably to benefit the institution as well as the individual.
- Interventions such as mentoring required a continuing commitment over a substantial time period to be effective.
- There was adequate capacity within Africa and among international organizations working in partnership with African organizations to deliver quality capacity strengthening services.
- The timely sharing of information and experiences among the core partners during the inception phase enhanced the efficiency of the scoping studies and reinforced the programme's regional approach.
- Limited progress was initially made regarding institutionalizing the learning processes as part of the SCARDA approach. A concept note for process documentation was developed in September 2009, and the idea of workshops that would simultaneously train interested FI staff in this method, and also document processes and results was mooted. The workshops could not be conducted as planned due to funding delays. Instead, NRI staff members who were providing technical support to the FIs undertook a one-day exercise with each FI between March and April of 2010 to capture "storylines" relating to the engagement of the FIs with SCARDA. Although this ad hoc solution generated the necessary information, it failed to institutionalize the learning process.
- A crucial first step of the SCARDA approach towards capacity strengthening was an analysis of FI. The rigour of this analysis very much determined the relevance of the

capacity strengthening strategy as well as the CMAP formulated by the FI. In some countries, the original institutional analysis was rushed, which caused problems later on. Broad participation of staff and external stakeholders in the institutional analysis helped to improve its relevance and ownership.

- Institutional analysis should always be continuous. The latter observation points to another issue: is capacity strengthening a one-off intervention or a more permanent function of an organization? SCARDA's objective was the latter, in which case one has to start thinking in terms of regularly updating the institutional analysis and the capacity strengthening strategies.
- As a result of SCARDA's intervention, linkages between research institutes and universities have really improved.

6.5.4.2 Innovations/ Best practices in the SCARDA partnership

One of the tasks of the SCARDA programme has been to identify the best study programmes in each of the sub-regions that meet the demand for MSc training. In many instances, the MSc programmes that were identified were offered outside the country, which was often not appreciated by the local universities. There is clearly a trade-off between offering the good MSc training and local capacity building of universities. Other unique features of the MSc training component of the SCARDA programme include the following: (a) students are advised to select a research topic that is of relevance to the research programme of their institute (and if logistically possible implement it at their institute); and (b) students should have two thesis supervisors, one from the university and the other from their own institute. Most institutions valued the MSc programme. The students also highly appreciated the fact that the SCARDA programme provided them with laptops. Many stakeholders, especially in the CORAF/WECARD sub-region, appreciated the mentoring programme, as it was unknown to them until SCARDA introduced it.

6.5.5 The SABIMA Project in West and Central Africa

In this section, the innovations and best practices associated with the SABIMA project in West and Central Africa are presented.

6.5.5.1 Lessons learnt from the SABIMA Project

- There is a need for close consultation with partners from the concept note development phase itself through to the full-blown proposal development and final submission. This will ensure project buy-in by all participants.
- To address the frequent delays in reporting that characterized the project, the focal person and her/his deputy should be from the same institution, with the focal person undertaking the technical reporting.
- A dedicated finance staff in the project institution has to be identified and invited to the periodic project review meetings to encourage timely submission of financial reports.

- The focal person in the institution hosting the project should be given proper recognition and have the authority to enforce the implementation of stewardship principles in the institution.
- Stewardship management and training costs should be part of the institution's annual budgetary estimates to ensure project sustainability.
- A biotechnology database collation and submission official from one of the countries in the region should be identified and the required financial support provided.

6.5.5.2 Innovations/ Best practices in SABIMA

The SABIMA project has generated the following best practices:

- The process of conducting the Critical Control Point Analysis (CCP Analysis) and the subsequent development of Standard Operating Procedures (SOPs) to guarantee the integrity of product output.
- Peer audit visits to participating project countries. This allowed for self-monitoring across project countries by trained focal persons or peers.
- The community of practice, whereby trained focal persons formed a network to exchange ideas on stewardship practice.

CHAPTER 7: Recommendations



7.1 Introduction

The various assessments lead to the conclusion that FARA has largely achieved its aim of creating a conducive environment for engaging with SROs on the continent to address key constraints in capacity and the development and adoption of new technologies and innovations that positively impact the small farmers. The task of creating awareness and generating enthusiasm at multiple levels of society about its activities is also being successfully implemented. Without question, the organization has successfully established itself as a credible leader for facilitating and coordinating research and innovation across the continent and promoting a participatory methodology that is easily embraced and domiciled by regional and national entities. The platforms provide sufficient evidence of FARA's presence on the ground in several countries. It also ensures that the persons and institutions have increased access to information and the requisite knowledge to utilize the new information efficiently. The recommendations contained in this section are, therefore, intended to further strengthen the institution's operations and effectiveness in the relevant areas of its work.

When FARA began its efforts with partnership engagement in 1998, it confronted multiple challenges across the continent. These challenges were particularly more daunting because they differed from one sub-region to the other, requiring that approaches be tailored to each sub-region's unique circumstances. For instance, the West and Central African sub-region seemed probably more constrained by the non-integration of the relevant stakeholders in agricultural sector, while the preliminary findings in East and Central Africa indicated that the region is possibly disadvantaged by the lack of a critical mass of expertise to engage agricultural stakeholders to achieve their development goals. For the Southern African sub-region, the

problem seemed to be more of low entrepreneurial spirit to absorb and translate available infrastructure and policy support into welfare-enhancing activities.

A relatively more rigorous assessment by a panel of development experts revealed that the Southern African sub-region faced more severe constraints in the areas of civil society engagement and agricultural finance, while the sub-region seemed to be better equipped than the others when it came to organized markets. The Western African sub-region was the best performing from a gross human and social capital standpoint when factors such as entrepreneurial spirit, human resources, and civil society engagement were considered. The sub-region was also better endowed with better natural capital than the other two sub-regions. The Eastern African sub-region seemed to be the least performing in all respects.

The best practices and innovative arrangements identified in the diverse partnerships in the course of the present exercise therefore afforded the opportunity to articulate a set of recommendations to make the partnerships even more effective. The recommendations are presented separately for each of the projects covered in the report.

7.2 SSA CP Partnership

- Most stakeholders felt that IPs of SSA CP are very useful but that the duration of the project was short, especially since considerable time was spent on bringing the stakeholders together at the inception stage. FARA should, therefore, seek further funding from different donors for expansion of the project for better adoption.
- Most farmers in the vegetable platform of the KKM in Niger still prefer selling their produce across the borders, as they perceive the major market as being in Nigeria, and in the process encounter problems with custom officials. Buyers need to be integrated with this platform to avoid the constraints that farmers face.
- FARA may explore making provisions for cross-site visits, especially between ecological zones, for an understanding of what operates at other sites.

7.3 DONATA Partnership

- Some stakeholders felt that a few NARIs were picked as FIs to manage platforms in DONATA without prior knowledge of their capability, which affected the early stages of project execution. FARA needs to examine this issue and probably establish a committee to manage platforms.
- Similarly, it has been difficult to quantify the cost of operation of a platform, which was supposed to have been done by the backstopping institution. FARA/CORAF should explore the possibility of setting up a committee to take up this responsibility.

- In the West and Central Africa sub-region, DONATA's success in Burkina Faso has been documented. There is a need to document the factors that led to this success. It could help other countries to emulate the process and may lead to the scaling out of the project.

7.4 RAILS Partnership

- Presently, the linkage between the DONATA and the RAILS focal persons is weak. There is a need to strengthen this linkage for farmers to get from RAILS in improving their productivity in DONATA project. so that farmers from RAILS can get inputs from experts in DONATA to improve their productivity?
- Currently, RAILS concentrates more on the researchers in the various countries. Emphasis should also be laid on carrying along the producers like in Sierra Leone, where radio and TV are also used to disseminate information.

7.5 SCARDA partnership

- Although the SCARDA project has ended and its many achievements have been recorded, in the CORAF/WECARD sub-region, the impact of a LSP like AGRYHMET was limited unlike in ASEREC, where RUFORUM was very active. FARA, therefore, needs to address the problem and could begin by specifying the roles of a LSP clearly in a project of this nature. This will help avoid the conflict of roles that arose between AGRYHMET and the consultant hired by CORAF.
- Some of the MSc. students were already in school without the funds being released, which affected the smooth running of the project. FARA should establish a mechanism for early release of funds.

7.6 Cross projects recommendations

Sustainability of projects

- Discussions with the stakeholders in the SSA CP and DONATA projects have revealed that sustainability has been a major concern. Now that many stakeholders have experienced the advantages of being members of the platforms, NARIs could consider using member registration to generate funds for sustainability. In addition, royalty from product development on the platforms can be a source of internal fund for platform activities.
- Many stakeholders found that the M&E process for the projects was not clearly outlined. FARA should define each stakeholder's role in M&E using a bottom-up approach—from NARIS to CORAF to FARA.

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Appendix

CONSULTANCY TO SYNTHESIZE AND DOCUMENT LESSONS LEARNT ON DIVERSE FARA'S PARTNERSHIPS AND STRATEGIC ALLIANCES PROGRAMS BETWEEN 2008 -2012 IN SOUTHERN AFRICA

Methodology

The assignment will employ diverse evaluative techniques in line with the scope of the work and the diversity of the tasks to be accomplished as outlined in the ToR. Overall, the assignment will apply the **embedded multiple-case comparative design** along with the **impact pathway analytical approach**. The techniques and methods associated with each task are summarized below:

1. **Review of relevant literature on the different FARA partnerships and strategic alliances initiatives (Africa-Brazil, DONATA, PAEPARD, RAILS, SSA CP, UNIBRAIN) within the region. This includes a critical review of institutional setup and changes, partners engagement, added value to products and the number of farmers involved.**

For purposes of the literature review and document analysis required in the assignment, a comprehensive desk study and web search will be undertaken at the beginning of the assignment and augmented as the assignment progresses and new insights are gained. It is expected that the FARA unit backstopping the assignment will provide additional support in this regard by making available background and project documents as well as pre-assignment briefing.

2. **Data collection, using various data collection techniques to document the needed information to establish the lessons learnt on diverse partnerships and strategic alliances programs between 2008 -2012. Specifically, the following tasks will be undertaken:**

This is the field study phase when both quantitative and qualitative data will be collected and analysed. The main framework for the data collection will be a multiple-case comparative approach in view of the nature of the tasks which call for assessment of contemporary/ on-going phenomena (partnerships) that must continue to function and change as they are being studied, and that comprise diverse elements that are at once institutional, human, physical, etc. Given the limited time allotted to the study and the requirement for a rich, vivid and comprehensive picture, a case study approach is indispensable for portraying the multiple events, contexts and situations involved. Additionally, the assignment will assess specific impacts on systems, institutions, and persons. This means that an impact assessment will be crucial. Traditional impact assessments tend to be ex post measurements of the change that occurred due to the project rather than looking at the entire process that led to the terminal point to obtain what might be termed a research value chain map. It is possible that the basic logic of the research process itself defeats the

aim of realizing a favourable outcome. An impact assessment that ignores that aspect will be a poor guide for policy because it would have failed to pick up the real causes of the outcome that it measured. What FARA describes as the “Impact Pathway Approach” is one way to avoid that pitfall and will therefore be employed for the assignment. The specific objective to which these different designs apply will be highlighted below:

3. Identification and characterization of the different partnership arrangements used in all FARA initiatives (2008 -2012) across the sub-regions in Africa.

This specific objective is a listing exercise to develop the sampling frame for the study and will be addressed by initial consultation with FARA officials as well as key research managers within the National Agricultural Research Services (NARS) in the selected countries. The SADC Secretariat will be very helpful in this regard. The result would be a comprehensive list of the different partnership arrangements broken down by category in line with the sectorial distributions in the countries to be covered. The web search conducted as part of the literature review will also yield vital information in this regard and may reveal the existence of some directory of organizations that fit that definition.

4. Evaluation of the effectiveness of each of the partnerships models in terms of their relative impact on the efficiency of ARD institutions especially the SROs, CSOs, private sector and NARS. Effectiveness in this case is determined by the role FARA partnerships and strategic alliances initiatives have played to influence ARD institutions especially the SROs, CSOs, private sector and NARS to deliver on their mandates to support smallholder farmers to improve their productivity for food and nutrition security and poverty alleviation.

This specific objective will allow for the application of the Impact Pathway Approach within a Multiple-Case Comparative Analysis Framework. The Impact Pathway Approach comes in where the particular FARA-motivated activities (research) of the SROs, CSOs, NARS, etc. are being evaluated in terms of their problem contexts, goals and objectives, the research inputs/activities, innovation processes, outcomes and results. The relevant questions would be: was the problem clearly defined? Are the goals and objectives properly linked to the problem? Have the research inputs been identified correctly and channelled appropriately to achieve the objectives and lead to projected outcomes? In this case, the unit of analysis is the organization. But these organizations are being evaluated as a basis for assessing the effectiveness of a particular partnership model relative to other partnership models. Therefore, the organizations are sub-sets of the larger case made up of partnership models which represent other units of analysis at that level. Below the organizational level, the households become other units of analysis, though not in respect to this specific objective. Hence the multiple-case comparative analysis framework. The sampling techniques adopted for each level of analysis and how these are sequenced will be carefully considered and related to the expectations of FARA as revealed at the initial briefing, the population, conceptual mix, among other considerations. The tools for collecting the data will be equally diverse, with questionnaires (semi-structured and unstructured), focus group meeting guides, and checklists, but how they are mixed will depend on actual conditions revealed at inception. Elaborate field notes will be kept,

though. Secondary data are already being assembled on broad macro aggregates and trade statistics for principal crops. Analyses of the data will be done using analytical techniques suitable for testing hypotheses about organizational effectiveness. Descriptive statistics will be used in all cases for presenting quick and effective profiles of the relevant events, contexts and situations.

5. **Evaluate the effectiveness of each partnership model in terms of their relative contribution and impact on ARD development especially improvement in the livelihood of the smallholders.**

The unit of analysis below the organizational level is the household whose livelihoods will be assessed through direct interviews (structured and unstructured) to ascertain whether or not they have changed as a direct result of a FARA-induced partnership. The identification of the households that constitute the frame for each category of partnerships and strategic alliances and for each geographical area, will be carefully done from data obtained from different sources – the National Research Organizations, other official sources (e.g. Statistical Offices and Agricultural Extension Services), and the partnerships and alliances. The intensive case study approach to be adopted means that efforts will be made to obtain a small number of very representative cases that will be enumerated to allow for reliable inference with respect to improvement in the livelihoods of the smallholders.

6. **Conduct an analysis and document the best practices in partnerships and strategic alliances for the improvement of ARD institutions and organization in Africa.**

On the basis of the analyses in respect to the foregoing objectives, the partnerships and strategic alliances will be compared to determine which ones constitute best practices that can be recommended for adoption.

7. **Produce a documentation of the different studies in a publishable format.**



FORUM FOR AGRICULTURAL RESEARCH IN AFRICA

TERMS OF REFERENCE

FOR

**THE SYNTHESIS, DOCUMENTATION OF LESSONS LEARNT ON DIVERSE PARTNER-
SHIPS AND STRATEGIC ALLIANCES PROGRAMS**

BETWEEN 2008 - 2012

Reference: 5.1.1/2012

A. Background

The Forum for Agricultural Research in Africa (FARA) is the apex organization for agricultural research for development in Africa and the African Union's New Partnerships for African Development (AU/NEPAD) mandated institution to lead implementation of Pillar IV of the Comprehensive Africa Agriculture Development Program (CAADP) focusing on generation, dissemination and adoption of agricultural innovations. Harnessing the development and poverty-reducing potential of CAADP depends crucially on the effectiveness, efficiency and relevance of agricultural research institutions and services in addressing the challenges facing African agriculture.

The mission of FARA is to create broad-based improvements in agricultural productivity, competitiveness and markets by supporting Africa's sub-regional organizations in strengthening the capacity of the NARS for agricultural innovation. FARA delivers on its mandate through four mutually-reinforcing Networking Support Functions (NSFs) concerned with advocacy and policy analysis (NSF1/3); access to knowledge & technologies (NSF2); capacity strengthening (NSF4); and development of partnerships and strategic alliances (NSF5). The NSFs mobilize and support FARA's constituents and partners (Sub-regional organizations and organizations of the National Agricultural Research Systems) to undertake activities that generate continental spillovers and public goods.

FARA's Partnerships and Strategic Alliances Networking Support Function (NSF5) aims to foster the benefits of complementarities from appropriate stakeholder linkages and interactions to translate agricultural research outputs and outcomes to worthwhile developmental impact.

For improved overall efficiency, NSF 5 facilitates partnerships that are expected not only to link agencies and organizations that could provide benefits to African organizations at the strategic level but also to improve operational efficiency at the grass roots. At the grassroots level, FARA facilitates greater interaction among all stakeholders in the innovation sphere to maximize synergies and generate innovations. The innovation sphere includes participants playing roles in the innovation pathway of a commodity drawn from within and outside the value chain of the particular commodity. FARA has promoted and facilitated diverse partnerships and strategic alliances programs between 2008 and 2012 that contribute to the sustainable improvement of broad-based agricultural productivity, competitiveness and markets. There is a need to document and disseminate lessons learnt from the diverse partnerships and strategic alliances approaches.

FARA is seeking three competent and experienced consultants for 10 days each to synthesize, document lessons learnt on diverse partnerships and strategic alliances programs between 2008 -2012 in their respective sub regions. The consultancy period is 10 working days spread over one month for each of the individual consultants. The consultants will work closely with FARA stakeholders (SROs, NARS and other partners) in their sub regions, under the supervision of the FARA's Director of Partnerships and Strategic Alliance.

B. Objectives of the assignment

The objective of this assignment is to synthesize, document lessons learnt on diverse partnerships and strategic alliances programs of FARA between 2008 -2012 that contribute to the sustainable improvement of broad-based agricultural productivity, competitiveness and markets. The three consultants will conduct the study in their respective sub regions with contributions from the respective SROs, delineated as West and central Africa (CORAF/ WE CARD), East (ASARECA) and South (SADC/FANR/CARDESA). The consultants will carry out the tasks described below by applying their knowledge of sound survey methodologies and depth of exposure to the region's ARD interventions, to collect useful data, access secondary data and other information sources that could be interpreted to yield the most accurate inference on diverse partnerships and strategic alliances initiatives of FARA implemented by institutions and organization within their respective sub region. The consultants are expected to consider stakeholders in ARD including the non-traditional partners in the private sector (input dealers, produce merchants, financial institution, processors, Transporters, agro-based industries etc.), policy makers, civil society organizations (Farmers' organization, NGOs, community based organization, economic communities etc.) and private research institutions.

C. Scope of work

Generally, the consultants are expected to:

1. Desk review available literature in their respective sub -regions on the different FARA partnerships and strategic alliances initiatives (Africa-Brazil, DONATA, PAEPARD, RAILS, SSA

CP, UNIBRAIN). This includes a critical review of institutional setup and changes, partners engagement, added value to products and the number of farmers involved

2. Collect relevant data, using various data collection techniques to document the needed information to establish the lessons learnt on diverse partnerships and strategic alliances programs between 2008 -2012. Specifically, the consultant will undertake the following tasks:
 - i. Conduct an identification study and characterize the different partnership arrangements used in all FARA initiatives (2008 -2012) across the sub regions in Africa.
 - ii. Evaluate the effectiveness of each of the partnerships models in terms of their relative impact on the efficiency of ARD institutions especially the SROs, CSOs, private sector and NARS. Effectiveness in this case is determined by the role FARA partnerships and strategic alliances initiatives have played to influence ARD institutions especially the SROs, CSOs, private sector and NARS to deliver on their mandates to support smallholder farmers to improve their productivity for food and nutrition security and poverty alleviation.
 - iii. Evaluate the effectiveness of each partnership model in terms of their relative contribution and impact on ARD development especially improvement in the livelihood of the smallholders.
 - iv. Conduct an analysis and document the best practices in partnerships and strategic alliances for the improvement of ARD institutions and organization in Africa.
 - v. Produce a documentation of the different studies in a publishable format.

D. Outputs or deliverables

The following outputs are expected:

1. A draft synthesis report of lessons learnt on FARA's diverse partnerships and strategic alliances programs between 2008 -2012 within 20 days after commencement of the work that clearly shows:
 - i. the characterization of the different partnership arrangements used in all FARA initiatives (2008 -2012) across the sub regions in Africa.
 - ii. the effectiveness of each of the partnerships models in terms of their relative impact on the efficiency of ARD institutions especially the SROs, CSOs, private sector and NARS.
 - iii. documented best practices (best-bet) in partnerships and strategic alliances for the improvement of ARD institutions and organization in Africa
2. A final report incorporating all recommendations from FARA by 15th August 2012

E. Duration of the assignment

The duration of this assignment will be ten (10) working days spread over one month. The work shall be carried out over the period from 1st July until 30th July 2012.

F. Location of the assignment

The consultant will be based at their respective place of domicile (ASARECA, CORAF/WE CARD, CCARDESA sub regions). However, air-tickets for two field visits will be provided by FARA

G. Performance criteria

The Consultant is expected to undertake the services with the highest standards of professional and ethical competence and integrity. He should be able to deliver the listed assignments in Section C in a most effective and efficient manner, within the period of assignment stated in Section E.

H. Reporting

The Consultant shall report directly to the Director of Partnerships and Strategic Alliance.

I. Facilities to be provided by FARA

FARA will provide the following facilities to the consultant:

- i. All relevant FARA related information and reference documents (Africa-Brazil, DONATA, PAEPARD, RAILS, UNIBRAIN) in electronic form
- ii. Liaise with SROs and other institutions to give support to the consultants
- iii. Provide air-ticket, hotel accommodation and other logistic support to the consultants based on FARA policy
- iv. Return the draft report with comments and recommendations to the respective consultants within three days after receipt.
- v. Partners will not be involved in the process of reviewing the document produced by the consultants prior to submission of the final version.
- vi. FARA will coordinate the three consultants to ensure consistency in evaluating the effectiveness on an agreed format. The consultants are expected to send their methodologies on evaluating effectiveness to FARA, which will be harmonized and an agreed format adopted for consistency in reporting.

J. Qualification and experience

The following qualifications are required:

- A minimum of a masters degree in agriculture/social sciences and related disciplines, with at least 10 years of professional experience in the field of research. A PhD will be an added advantage.
- A minimum of 5 years of professional experience in social and economic analysis in agriculture and rural development in Africa
- A good understanding of institutional developments and emerging paradigms in AAS

- Good Knowledge of partnerships and strategic alliances approaches to support agricultural productivity, competitiveness and markets
- A track record that shows the ability to write analytical reports on agriculture.
- Ability to write excellent report

Applications

Please send (via e-mail) comprehensive curriculum vitae to:

Prof. Monty P. Jones by the **15th of April 2012**

Forum for Agricultural Research in Africa (FARA)

PMB CT 13, Cantonments, Accra, Ghana

Telephone: +233 21 772823/779421

Email: ed@fara-africa.org

For clarification, you may contact the address below directly:

Dr. Adewale Adekunle

Director

Partnerships and Strategic Alliances,

Forum for Agricultural Research in Africa (FARA)

PMB CT 173, Cantonments, Accra, Ghana

Tel: +233 302 772823 / 779421; Fax: +233 302 773676

Email: aadekunle@fara-africa.org; Website: www.fara-africa.org

Persons met/Contacted/Interviewed in Southern Africa

| | |
|------------------------|---|
| Thomson Chilanga | Deputy Director, Bvumbwe Agricultural Research Station, Limbe |
| Charles Milindadi | Researcher/Horticulturist |
| Mr G. Wanda | District Agricultural Development Officer |
| Mr C. Marunga | Agribusiness |
| Mr. F. J. Banda | Crops Officer |
| Mr. P. Harawa | Agrobusiness Officer |
| Mr N. Mkwapata | Assistant District Agricultural Development Officer |
| Mr M. Karimbuka | Evaluation Supervisor |
| Mr A.S. Kambewa | Circle for Integrated Community Development (CICOD) |
| Mr S.J. Njaya | Malawi Rural Finance Company |
| Dr Nick Mokhothu | National University of Lesotho (SCARDA) |
| Professor W. Odenya | National University of Lesotho (SCARDA) |
| Moses Mwale | ZARI, Mount Makulu Central Research Station, Zambia |
| Mrs. Boingotlo Sebolai | Botswana College of Agriculture (BCA), Gaborone, Botswana |

Annex 3

List of respondents (interviewed and or sent back completed questionnaire) for the survey on FARA's Partnership Initiatives

| | Name | Organization | Project |
|----|--------------------------|---------------------------------|--|
| 1 | Dr. Nouri Maman | INRAN, Niger | SSA CP |
| 2 | Mamane Mamadou | INRAN , Niger | SSA CP (Groundnut Value chain) |
| 3 | Mamane Bachir | INRAN, Niger(Ext. Officer | SSA CP (Soil fertility management. Cereal legume system) |
| 4 | Dr. Admou Haougui | INRAN, Niger | SSA CP |
| 5 | Dr. Abbase Tougini | INRAN, Niger | SSA CP |
| 6 | MIKO Illya | Formerly INRAN now FAO, Niger | DONATA |
| 7 | Sanoh Mohamed | SLARI, Sierra Leone | RAILS and DONATA |
| 8 | Cheikh Ndione | ISRA, Senegal | DONATA |
| 9 | Asane Ndiaye | Chairman, Cooperative, Senegal | DONATA |
| 10 | Fatajo Fafanding | Ministry of Agriculture, Gambia | DONATA and RAILS |
| 11 | Victor Sumo | Liberia | DONATA and RAILS |
| 12 | Esther Opoku | CSIR-INSTI | RAILS |
| 13 | Dr.Massamba Cisse | ISRA, Senegal | RAILS |
| 14 | Dr. Djobo Hamidou | AGRHYMET, Niger | SCARDA |
| 15 | Dr. Vicent Mama | CORAF/WECARD | SCARDA |
| 16 | Dr. Sidi Sanyang | CORAF/WECARD | DONATA and SCARDA |
| 17 | Dr. George Muluh | CORAF/WECARD | DONATA |
| 18 | Dr. Sangare | CORAF/WECARD | SABIMA |
| 19 | Dr. Yekemimnan Kone | CORAF/WECARD | RAILS |
| 20 | Prof. Walter S. Alhassan | FARA | SABIMA |
| 21 | Dr. Emmanuel Adu | Ghana | UniBRAIN |
| 22 | Esther Manfo-Ahenkrora | Ghana | UniBRAIN |

Annex 4

List of respondents (interviewed and or sent back completed questionnaire) for the survey on FARA's Partnership Initiatives

| | Name | Organization | Project |
|----|---------------------------|------------------------------|----------|
| 1 | Prof Moses Tenywa | University of Makerere | SSA CP |
| 2 | Prof Wanjiku Chiuri | CIAT | SSA CP |
| 3 | Dr. Charles Bett | KARI (NARS Kenya) | DONATA |
| 4 | Mrs Binsika K. Flora | INERA (DRC) | DONATA |
| 5 | Dr. Abebe Kirub | EIAR (Ethiopia) | RAILS |
| 6 | Mrs Espérance Habindavyi | ISABU (Burundi) | RAILS |
| 7 | Mr. Hakizimana M. Paulin, | RAB (Rwanda) | RAILS |
| 8 | Mr. Ndirigue Jean | RAB (Rwanda) | DONATA |
| 9 | Mrs Jacqueline Nyagahima | ASARECA | RAILS |
| 10 | Dr Lydia Kimenye | ASARECA | DONATA |
| 11 | Mr Pascal Ndayiragije | ISABU (Burundi) | SCARDA |
| 12 | Mr Peter Wamanga | ASARECA | RAILS |
| 13 | Dr. Byarugaba Bazirake | Kyambogo University (Uganda) | UNIBRAIN |

Abbreviations and acronyms

| | |
|----------|---|
| ABBPP | African Biotechnology and Biosafety Policy Platform (FARA) |
| ABC-MRF | |
| ABI | Agribusiness Incubator (ICRISAT) |
| ABP | Africa Banana Product (DANIDA) |
| ACEFIM | <i>Agence communautaire pour le financement de la micro entreprise</i> |
| AEZ | Agro Ecological Zones |
| AfDB | African Development Bank (Tunisia) |
| AGHYMET | Agriculture, Hydrology, Meteorology (Niger) |
| AGRA | Alliance for a Green Revolution in Africa |
| AIICS | Agribusiness Innovation Incubator Consortia (UniBRAIN) |
| AIP | Agricultural Innovation Platform |
| AIS | agricultural innovation system |
| ANAFE | African Network for Agriculture, Agro-forestry and Natural Resources Education (Kenya) |
| ARC | Agricultural Research Council (South Africa) |
| ARD | Agricultural Research and Development |
| ARI | Advanced research institute |
| ARM | |
| ASARECA | Association for Strengthening Agricultural Research in Eastern and Central Africa |
| AU | Africa Union |
| AVRDC | Asian Vegetable Research and Development Center (World Vegetable Center) |
| B&MGF | Bill and Melinda Gates Foundation (USA) |
| BCA | Botswana College of Agriculture |
| CAADP | Comprehensive Africa Agriculture Development Programme (South Africa) |
| CABI | Centre for Agricultural Bioscience International |
| CARD | Coalition for Africa Rice Development |
| CBO | Community Based Organization |
| CCARDESA | Centre for Coordination of Agricultural Research and Development for Southern Africa (Botswana) |
| CCP | Critical Control Point Analysis |
| CGIAR | Consultative Group on International Agricultural Research |

| | |
|---------------|---|
| CIAT | International Centre for Tropical Agriculture |
| CIMMYT | International Maize and Wheat Improvement Center (Mexico) |
| CMAPS | Change management action plan |
| CORAF/WE CARD | Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles/West and Central African Council for Agricultural Research and Development |
| CRAL | Centre de Recherches Agronomiques de Loudima |
| CRI | Crop Research Institute (Ghana) |
| CRST | Cross-site Research Support Team |
| CSI | Cooping Strategy Index |
| CSO | Civil Society Organization |
| CTA | Technical Centre for Agricultural and Rural Cooperation |
| DADO | Districts Agricultural Development officer |
| DANIDA | Danish International Development Agency [use lower case] |
| DAR | Department of Agricultural Research |
| DFID | Department for International Development (UK) |
| DONATA | Dissemination of New Agricultural Technologies in Africa |
| DRC | Democratic Republic of Congo |
| EFARD | European Forum on Agricultural Research for Development (Italy) |
| EPA | Economic Partnership Agreement |
| ESAMI | |
| FAAP | Framework For Africa Agricultural Productivity |
| FAO | Food and Agriculture Organization of the United Nations |
| FARA | Forum for Agricultural Research in Africa |
| FCS | Food Consumption Score |
| FI | Focal Institution |
| FPR | Farmers participatory research |
| FSR | farming System Research |
| IAR4D | Integrated Agricultural Research for Development |
| IARC | International Agricultural Research Centre |
| ICRISAT | International Crops Research Institute for the Semi-Arid Tropics (India) |
| ICT | information and communication technology |
| IFAD | International Fund for Agricultural Development (Italy) |
| IITA | International Institute of Tropical Agriculture |
| ILRI | International Livestock Research Institute (Nairobi, Kenya) |

| | |
|---------|--|
| INERA | Institut national de l'environnement et de recherches agricoles (Burkina Faso) |
| INRAN | Institut National de la Recherche Agronomique du Niger |
| IP | Innovation Platform |
| IPM | Integrated Pest Management |
| IPTA | Innovation Platform for Technology Adoption |
| ISAE | Institute of Agriculture and Animal |
| ISFM | Integrated Soil fertility Management |
| ISABU | Institut des Sciences Agronomiques de Burundi (Burundi) |
| ISAR | Institut des Sciences Agronomiques du Rwanda. Now Rwanda Agricultural Board |
| KARI | Kenya Agricultural Research Institute |
| KKM | Kanp, Katsina, Maradi Pilot learning site of Sun Saharan Africa challenge Program. |
| LECCARD | Lesotho Centre for the Coordination of Agricultural Research and Development |
| LGA | Local Government Area |
| LKPLS | Lake Kivu Pilot Learning Site of the Sub Saharan Africa Challenge Program. |
| LSP | Lead Service provider |
| LTs | Learning Teams (RAILS) |
| MAPA | Brazilian Ministry of Agriculture, Livestock and Food Supply (Brazil) |
| MDG | Millennium Development Goal |
| MECREGO | Mecrego Micro finance company in DR Congo. |
| MRFC | Malawi Rural Finance Company |
| M & E | Monitoring and Evaluation |
| MVP | Millennium Village Project |
| NARI | National Agricultural Research Institute |
| NARIs | National Agricultural Research Institutes |
| NARS | National Agricultural Research System |
| NEPAD | New Partnership for Africa's Development (South Africa) |
| NGO | Non-Governmental Organization |
| NRDC | Natural Resources Development College (Zambia) |
| NRI | Natural Resources Institute |
| NRM | Natural Resource Management |
| NSF | Networking support function |
| NUL | National University of Lesotho |

| | |
|-----------|---|
| NUL-FA | National University of Lesotho – Faculty of Agriculture |
| OECD | Organization for Economic Co-operation and Development (Belgium) |
| OFSP | Orange Flesh Sweet potato |
| PAEPARD | Platform for African-European Partnership on Agricultural Research and Development (FARA) |
| PanAAC | Pan-African Agrobusiness and Agro-Industry Consortium (Kenya and Senegal) |
| PLS | Pilot Learning Site |
| PSTAD | Promotion of Science and Technology for Agricultural Development |
| QAS | Question and Answer Service (CTA supported) Ghana |
| QPM | Quality protein maize |
| R&D | Research and Development |
| RAILS | Regional Agricultural Information and Learning Systems |
| REC | Regional Economic Community |
| RIU` | Research Into Use (UK) |
| RUFORUM | Regional Universities Forum for Capacity Building in Agriculture |
| SABIMA | Strengthening Capacity for Safe Biotechnology Management in sub-Saharan Africa |
| SACR | Send a Cow Program (Rwanda) |
| SADC-FANR | SADC-Food Agriculture and Natural Resource Directorate |
| SAP | Structural Adjustment program |
| SCARDA | Strengthening Capacity for Agricultural Research and Development in Africa |
| SFSA | The Syngenta Foundation for Sustainable Agriculture |
| SPAAR | Special Program for Africa Agricultural Research (World Bank) |
| SPS | sanitary and phyto-sanitary |
| SRO | Sub Regional Organization |
| SSA CP | Sub-Saharan Africa Challenge Programme |
| TIP | Target Input Program (Malawi) |
| ToT | Training of Trainers |
| UniBRAIN | Universities, Business and Research in Agricultural Innovation |
| UNZA | University of Zambia |
| USDA | United States Department of Agriculture |

About FARA

FARA is the Forum for Agricultural Research in Africa, the apex organization bringing together and forming coalitions of major stakeholders in agricultural research and development in Africa.

FARA is the technical arm of the African Union Commission (AUC) on rural economy and agricultural development and the lead agency of the AU's New Partnership for Africa's Development (NEPAD) to implement the fourth pillar of the Comprehensive African Agricultural Development Programme (CAADP), involving agricultural research, technology dissemination and uptake.

FARA's vision: reduced poverty in Africa as a result of sustainable broad-based agricultural growth and improved livelihoods, particularly of smallholder and pastoral enterprises.

FARA's mission: creation of broad-based improvements in agricultural productivity, competitiveness and markets by supporting Africa's sub-regional organizations (SROs) in strengthening capacity for agricultural innovation.

FARA's Value Proposition: to provide a strategic platform to foster continental and global networking that reinforces the capacities of Africa's national agricultural research systems and sub-regional organizations.

FARA will make this contribution by achieving its *Specific Objective* of sustainable improvements to broad-based agricultural productivity, competitiveness and markets.

Key to this is the delivery of five *Results*, which respond to the priorities expressed by FARA's clients. These are:

1. Establishment of appropriate institutional and organizational arrangements for regional agricultural research and development.
2. Broad-based stakeholders provided access to the knowledge and technology necessary for innovation.
3. Development of strategic decision-making options for policy, institutions and markets.
4. Development of human and institutional capacity for innovation.
5. Support provided for platforms for agricultural innovation.

FARA will deliver these results by supporting the SROs through these Networking Support Functions (NSFs):

NSF1/3. Advocacy and policy

NSF2. Access to knowledge and technologies

NSF4. Capacity strengthening

NSF5. Partnerships and strategic alliances

FARA's donors are the African Development Bank (AfDB), the Canadian International Development Agency (CIDA), the Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), the Danish International Development Agency (DANIDA), the Department for International Development (DFID), the European Commission (EC), the International Development Research Centre (IDRC), the Syngenta Foundation, the United States Department of Agriculture (USDA), the World Bank and the Governments of Italy and the Netherlands.



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