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Enhanced learning from multi-stakeholder partnerships: Lessons from the Enabling Rural Innovation in Africa programme

Pascal C. Sanginga, Colletah A. Chitsike, Jemimah Njuki, Susan Kaaria and Rogers Kanzikwera

Abstract

Despite increasing interest and support for multi-stakeholder partnerships, empirical applications of participatory evaluation approaches to enhance learning from partnerships are either uncommon or undocumented. This paper draws lessons on the use of participatory self-reflective approaches that facilitate structured learning on processes and outcomes of partnerships. Such practice is important to building partnerships, because it helps partners understand how they can develop more collaborative and responsive ways of managing partnerships. The paper is based on experience with the Enabling Rural Innovation (ERI) in Africa programme. Results highlight the dynamic process of partnership formation and the key elements that contribute to success. These include: (i) shared vision and complementarity, (ii) consistent support from senior leadership; (iii) evidence of institutional and individual benefits; (iv) investments in human and social capital; (v) joint resources mobilization. However, key challenges require coping with high staff turnover and over-commitment, conflicting personalities and institutional differences, high transaction costs, and sustaining partnerships with the private business sector. The paper suggests that institutionalizing multi-stakeholder partnerships requires participatory reflective practices that help structure and enhance learning, and incrementally help in building the capacity of research and development organisations to partner better and ultimately to innovate.

Keywords: Evaluation; Participatory learning; Partnerships; Reflexivity; Rural innovation; Structured learning; Africa.

1. Introduction

Stakeholder participation and multi-stakeholder partnerships form key cornerstones of and strategic approaches to the new paradigms of integrated agricultural research for development (IAR4D) and agricultural innovation systems (AIS) that aim to improve the relevance, efficiency, equity, ownership, sustainability and impacts of agricultural and natural resources management technologies and innovations (Johnson *et al.*, 2003; Michelsen, 2003; Sayer and Campbell, 2001). The new paradigms call for change in the way agricultural research is being conducted (Hall *et al.*, 2001; Sayer and Campbell, 2001). The innovation system theory sees agricultural research as a complex process produced by a network of actors and stakeholders that co-evolve with the technologies and processes they generate. A key feature of the innovation system theory is that innovations are often complex systems whereby networks of research, entrepreneurial, and other actors interact to produce and use new knowledge (Douthwaite *et al.*, 2004; Hall *et al.*, 2001). Central to this theory is the concept of partnerships (Hall *et al.*, 2004) as farmers and rural communities are increasingly faced with complex problems which cross traditional boundaries and mandates of agricultural R&D organizations. Within these paradigms, there is wide recognition of the need for more pluralistic arrangements for conducting research with a greater role for civil society, including farmers and other non-research organizations, rather than just acting as conduits for technology (Ashby, 2003; Chambers, 2005).

Pascal Sanginga, International Development Research Centre, (IDRC) East and Southern Africa Office, Nairobi, Kenya. Email: psanginga@idrc.or.ke.
Colletah A. Chitsike is at the ICRA-Agricultural Research Council of South Africa, Pretoria.
Jemimah M. Njuki, International Centre for Tropical Agriculture-Harare, Zimbabwe.
Susan K. Kaaria, International Centre for Tropical Agriculture (CIAT)-Uganda.
Rogers Kanzikwera is at the Bulindi Zonal Agricultural Research Institute, Uganda.

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Despite increasing interest and support for multi-stakeholder partnerships, examples of successful partnerships and sustained collaboration in agricultural research and development are either uncommon or undocumented (Gillies, 1998; Spielman and Grebmer, 2004). Most partnerships are operating without sufficient information on existing partnership experiences, lessons and models (Ansari *et al.*, 2001; Halliday *et al.*, 2004). This paper is based on the recognition that a partnership approach is a core function for research organisations working effectively in a network of innovation stakeholders. Therefore, research attention should focus on how partnerships can be managed to achieve collaborative advantage, and to identify the critical factors that contribute to effective partnerships (CGIAR, 2005).

There are several frameworks for evaluating partnerships. Spielman and Grebner (2004) and Eilbert (2003) summarized some of the most common frameworks and methodologies for evaluating partnerships. These include performance measurement approach, process analysis, and comparative analysis of different partnership models and their impacts. Asthana *et al.* (2004), Halliday *et al.* (2004), Gormley (2001) and Costello and Zumla (2001) proposed partnership assessment tools using structured questionnaires and other formal quantitative assessment tools. Others have used an audit of perceptions and other qualitative approaches to identify interests, motivations, potential for mutual benefits, changes in behaviour and relationships of different partners (Earl *et al.*, 2001).

However, most of these frameworks and methodologies use independent, external researchers who analyze the outcomes and challenges of partnerships. There is no or relatively little participation of local stakeholders, except as a source of information. Such studies have major limitations in understanding processes and outcomes which have taken place from the perspective and experience of the people involved. With the increasing emphasis on the strategic importance of stakeholders' participation in research and development (Chambers, 2005; Ashby, 2003; Cook and Kothari, 2001), there is also a growing recognition that monitoring and evaluation should be participatory (Guijt and Gaventa, 1998; Estrella *et al.*, 2000).

This paper considers that evaluating multi-stakeholder partnerships requires more creative and process-based participatory evaluation approaches that recognize the explicit interests, different perspectives and judgments of different stakeholders who play the role of monitors themselves, and treat their subjective judgments as important data in their own right. We argue that, if research is really to influence partnerships and institutional change, researchers need to become more visible, and more reflexive. Reflexivity refers to research where stakeholders recognize and explicitly analyze their own actions and experiences in the processes and outcomes of partnerships (Brock and Harrison, 2006). Cunliffe and Jung (2005), and Cunliffe (2004) suggest that reflexive practice, in particular self- and critical reflexivity, is crucial because it can lead to more essential, responsible, and ethical actions. This can provide a basis for organizational transformation. Brock and Harrison (2006) report that projects in which partners reflect directly and explicitly on their own role in the partnership, are likely to be more successful. A key element of what researchers do is "piecing together," assembling and literally making sense of different bits of information and experience, often creating something new from what they have acquired secondhand (Freeman, 2007). Such practice is important to building partnerships, because it helps partners understand how they can develop more collaborative and responsive ways of managing themselves.

In their paper "Reconceptualizing rigour: the case for reflexivity", Koch and Harrington (1998) appeal to researchers to incorporate a reflexive account into their research product by signposting to readers 'what is going on' while researching. The authors suggest that reflexive research is characterized by ongoing self-critique and self-appraisal. They further argue that if the research product is well signposted, the readers will be able to travel easily through the worlds of the participants and drafters of the report (the researchers) and decide for themselves whether the text is credible or plausible (our terms for rigour).

This paper derives from an action research that aimed at testing and drawing conclusions about a range of participatory methods for evaluating partnerships and promoting learning, as well as drawing lessons from a case of partnerships with the Enabling Rural Innovation (ERI) in Africa programme. It is important to note that the authors of this paper are also key actors in the partnerships, and therefore their analysis is not an independent research into partnership. Our intention in this paper is not to provide an independent evaluation of the success, outcomes and impacts of ERI partnerships. The paper takes a rather critical, reflective look at the "soft" elements required to actually make partnerships work from the point of view of those engaged in them through their organisations. Our main objective was to take a more participative and qualitative approach that helped structure and enhance collective learning and evaluation of partnership processes and outcomes, as well as building the capacity of research and development organisations to partner better and ultimately to innovate. It is a participatory action research to draw lessons from multi-stakeholder partnership formation, and the challenges of developing and sustaining partnerships.

The paper starts with a description of the ERI partnership context. The section that follows presents the methodology and approaches used for evaluating ERI partnerships. Section four outlines the types, process and criteria for forming ERI partnerships. The remainder of the paper highlights the key elements of successful partnerships and strategies for coping with obstacles to successful partnerships. The concluding section summarizes key lessons and their implications for further research on partnerships in agricultural research for development.

2. The partnership context: Enabling Rural Innovation in Africa

Data for this paper come from five years of experience with the Enabling Rural Innovation (ERI) in Africa partnerships. ERI partnerships work toward enhancing the ability of rural communities and local stakeholders to experiment with technical and social innovations that link production to markets and natural resources management, in a resource-to-consumption system (Sanginga *et al.*, 2004; CIAT, 2005). The key steps in applying this approach to rural innovation include:

(a) Engagement of appropriate research and development partners and the reaching of consensus on the approach, where to intervene and respective roles and responsibilities.
(b) Participatory diagnosis with the community, focused on their vision and opportunities for the future, with strong emphasis on gender and stakeholder analysis.
(c) Formation of farmer research group and market research group, and building their capacity to participate actively in selecting, testing and evaluating marketing strategies, technology options, and approaches to sustaining their natural resources.
(d) Participatory market analysis to identify market opportunities for competitive products that will increase farm income and employment.
(e) Prioritization of opportunities and selection of household food consumption and agroenterprise options based on social differences including gender and wealth.
(f) Identification of research and development questions related to the entire resource-to-consumption system.
(g) Planning and implementation of experimentation and enterprise development strategies with farmer research and market research groups.
(h) Feedback of results to the community and R&D research, and identification of further research questions.
(i) Strengthening the access to information for decision-making at all stages of the process, through formal facilitation mechanisms and novel communication media.
(j) Participatory, monitoring and evaluation, and learning to derive lessons and impacts, scaling-up and out of participatory research results, and of community enterprise development processes.

ERI is a partnership among an international research centre (CIAT), national agricultural research systems (NARS), government extension services, non-governmental organizations (NGOs) and, where possible, the private sector working together with farmers' organizations to improve livelihoods in selected pilot learning sites. In each pilot learning site, the selection of partners was guided by a number of criteria including: shared values and principles; opportunities for incorporating ERI into on-going research or development work; potential for mutual learning, potential for success and impacts, and prospects for scaling out and up.

ERI partnerships started in 2002 with five partners in three countries (Uganda, Tanzania and Malawi), building on CIAT's collaborative programmes with national bean research programmes in these three countries. Partnerships with the NARS were developed as a response to the demands by senior managers of three NARS to CIAT for technical support in areas of rural innovation. However, building partnerships with the NGOS was initially driven by CIAT, based on the need to work with research and development partners, and farmers' organisations to develop and refine participatory research approaches. From these initial five partners in 2002, ERI has now expanded its partnerships to reach 23 boundary partners. Assessment of ERI partnerships shows that 43% are at the partnership formation stage; about 35% are at the delivery stage, and 21.7% have reached the partnership institutionalization stage, while 13% were terminated (Table 1). Earl *et al.* (2001) define boundary partners as individuals, groups or organizations with which the programme interacts directly and which the programme hopes to influence. For ERI, these include four NARS, seven NGOs, four government extension services and local government; three private business sectors, and two international agricultural research centres, working together with over 59 farmers' organizations in 12 pilot learning sites. The number of partners is expanding rapidly with increasing demands from existing and new partners in the initial three countries, and with new partners in a number of new countries such as Mozambique, Kenya, DR Congo, Rwanda, and Zimbabwe. Over 60% of the new partnerships can be defined as demand-driven, in the sense that new organisations initiated the partnership formation process.

These partnerships are at different stages. Lowndes and Skelcher (1998) suggest a partnership model based on a four-stage life-cycle (i) pre-partnership collaboration; (ii) partnership creation; (iii) partnership programme delivery; and (iv) partnership termination. Ansari *et al.* (2001) defined three stages of partnerships: partnership formation, partnership implementation and delivery and institutionalization of partnerships. During the formation stage, a lead agency brings together participants who develop a common vision, define outcomes and develop action plans and agreements. At the implementation stage, the focus turns to programme and activities as well as to maintenance and routinization of structures and processes. During the institutionalisation stage, organisations adopt the programme as their own and allocate their own resources to the implementation of activities with little or no external funding.

These stages correspond to Pretty and Ward (2001)'s stages of group development: reactive dependence;

Table 1. Stages of partnerships in ERI and number of "push and pull" partners at each stage in 2006

Stages of Partnerships	Key milestones and activities	Number of "Push" partners	Number of "Pull" partners	Total
Partnerships formation stage	• Field visits or presentation • Institutional assessment (criteria for selecting partners) • Partnership start up meetings with senior managers • Needs assessment workshops • Joint proposal development	2 (8.7%)	8 (34.4%)	10 (43%)
Partnerships delivery and implementation stage	• Training workshops on methodology and concepts • Development of joint action plans, workplans and budget • Negotiation of memorandum of understanding • Find motivating ways to share information, and to communicate successes • Building social capital (teamwork, mutual accountability, credit sharing, trust and communication) • Dealing with communication challenges • Some partners drop out • Staff turnover and over commitment	4 (17.4%)	4 (17.4%)	8 (34.8%)
Partnerships institutionalization stage	• Train a critical mass of staff in partner's organization • Openly discuss potential barriers to partnership, and establish norms of working together. • Joint resources mobilization • Hold review and planning meetings at regular intervals • Find motivating ways to share information, and to communicate successes, keep managers informed • Develop a strategy for joint resource mobilization, co-financing and sustainable funding mechanism • Develop plans for scaling up • Shared leaderships, and emergence of small clusters • New partnerships emerge	3 (13.0%)	2 (8.7%)	5 (21.7%)
		9 (39%)	14 (61%)	23 (100)

realisation-independence and awareness-independence. The reactive-dependence stage corresponds to the partnership formation stage where organisations come together to achieve a mutual objective as a result of the prompting of an external agency, or in reaction to a trend, crisis or opportunity. The second stage corresponds to the delivery or implementation stage where partnerships see a growing independence combined with realisations of new opportunities and emerging capabilities. At this stage partners are willing to invest time and resources, and tend to develop horizontal linkages with other organisations. The last stage corresponds to the institutionalisation stage where partners are sufficiently strong and resilient, and are capable of institutionalizing and scaling out to other areas and initiating new partnerships.

Table 2. Types of partners and number of participants in partnerships reflection workshops

	Number of boundary partners	Number and categories of participants		
		Managers	Staff	Total
National Agricultural Research Institutes (NARIs)	3	5	14	19
NGOs	4	4	22	26
Government Extension Services	3	2	10	12
International Agricultural Research Centres (ARCs)	2	2	8	10
Private sector	1	1	2	3
Farmers' organisations	6	12	69	81
Total	19	26	125	151

3. Methodology for evaluating partnerships

Data for this paper were gathered in a four step process in two regional workshops. The workshops were attended by 70 people representing 13 partners' organizations. These included 14 senior and middle-level managers and 56 field staff and scientists from research and development organizations. They also involved 12 leaders and 69 members from six farmers' groups, bringing the total number of participants to 151 (Table 2). Separate interviews were held with three representatives of the private sector partners. The first step sought to collectively characterize ERI partnerships, using Michelsen's (2003) framework comprised of the following key questions, (i) what is the purpose and motivating factors of partnership (why collaborate)? (ii) who is collaborating (profile of partners institutions)?; (iii) what is the partnership about (function, scope, ownership, management, governance,

formality, themes)?; (iv) how does the partnership develop over time (partnership lifecycle)?; and (v) what do institutions and individuals gain from the partnership (partnership outcomes and benefits)?

The second step involved a self-assessment and audit of perceptions questionnaire with 20 statements. These statements were generated from criteria of successful partnerships chosen by participants to capture participants' assessment of the foundation elements and the sustaining elements of partnerships. Respondents were asked to rate their perceptions to each of the statements using a 7-point Likert scale, with responses ranging from the absence of such elements to best practice that needs to be recommended.

The third step analysed the validity of the statement using qualitative interviews to gain as much interpretative information as possible to validate the results of the perception audit. This step was a group participatory process to enhance interactions amongst participants and to provide depth in the analysis of partnerships experience. We applied the After Action Review (AAR), a participatory tool that facilitates collective learning by talking, thinking; sharing and capturing the lessons learned with partnerships before they are forgotten (CIDA, 2003). Because it is often used in small working groups, AAR has the advantage of creating a climate of confidence as it focuses on constructive feedback, and explicitly recognizes positive contributions, things that are working well and that people are proud to share with others. AAR uses the following six questions: (i) What was supposed to happen? Why? (ii) What actually happened? Why? (iii) What is the difference? Why? (iv) What went well? Why? (v) What could have gone better? Why? and (vi) What lessons can we learn? These questions provided the opportunity to evaluate what works, how and why, but also to induce a process of collective learning and sharing of empirical examples and experiences with partnerships, and to examine the factors critical to success or difficulty in partnerships.

Finally, the fourth step used the "peer assist" technique as an aid to analyze challenges of, and obstacles to, effective partnerships and collectively reflect on strategies for coping with these obstacles. Partners with an important challenge were facilitated to present their experience in small working groups of 4–6 people to stimulate constructive discussion and analysis of different strategies for coping with such obstacles. Four "Peer Assist" sessions were organized in each of the two participatory workshops. Both AAR and Peer Assist proved to be very useful techniques for self-reflection and analysis as they encouraged partners to identify their collective strengths and opportunities, and to take failures or weaknesses and transform them into constructive learning processes.

4. Partners' perceptions of ERI partnerships

The audit of perceptions comprised an individual self assessment questionnaire with 20 statements that participants were asked to respond to again using a seven-point Likert scale. Results in Table 3 show that ERI

Table 3. Partnership self-assessment inventory

Items/Statements	Mean value
1. The partnership vision and goals are clear and agreed to by all members.	**6.5**
2. There is support for this project within my organization.	**6.4**
3. This partnership has become a valuable part of our organization's portfolio.	**6.2**
4. The partnership has created new value — something that individual members could not achieve on their own.	**6.2**
5. Partnership members' roles and responsibilities are clearly defined and agreed to by all members, including the partnership leader's role.	**5.9**
6. Members share a set of values regarding the expected output of the partnership and the processes for carrying out the work.	**5.9**
7. The leadership and management commit time required of us in this partnership effort?	**5.8**
8. We feel we have a good chance of obtaining additional resources.	**5.2**
9. Partners pitch in and help others who are experiencing problems or needing assistance to meet deadlines.	**5.1**
10. My organization have the resources (financial, people and technology) needed to contribute our portion of the partnership.	**4.7**
11. We are always looking for new and better ways to improve our partnerships.	**4.6**
12. The partnership has explicit agreements on how to handle visibility, authorship and intellectual property of individual members and the partnership.	**4.6**
13. Members give timely and specific feedback to each other when appropriate.	**4.2**
14. Members deliver on promises and commitments made.	**4.2**
15. The partnership optimizes the use of diverse skills, knowledge and backgrounds of its members.	**4.0**
16. Members keep other partners appropriately informed about work, contacts, problems, accomplishments, and progress.	**3.7**
17. Members share leadership where appropriate, not overly relying on any one person for all of the leadership functions.	**3.7**
18. Resource allocation within the partnership is transparent and in line with principles agreed upon by the partnership.	**3.7**
19. Partnership meetings are held with the frequency required to ensure full communication, adequate problem solving, and efficient progress towards project goals.	**3.6**
20. Members deal openly and constructively with problems and conflict not allowing these to hinder the partnership's performance.	**2.8**

(1) — We really need to focus on this immediately; (2) — We need to get better at this in the next couple of months; (3) — We need to get better at this but it is not a priority; (4) — We are doing this inconsistently; (5) — We are doing this with regularity; (6) — We are doing this well, to an advanced level; and (7) — We are doing this in an exemplary way and can be used by others as a "best practice".

partnerships have moved to an advanced level and can be considered as exemplary and best practice in developing clear visions and mutually agreed goals, and in securing support from organisation leadership to the extent that ERI has become a valuable part of many organisations' project portfolio and programmes. ERI partnership was also perceived as creating positive synergies in producing new outcomes and opportunities that none of the partners could achieve on their own.

The roles and responsibilities of partners were perceived as well defined and agreed upon by the members, who shared a set of values and processes for achieving their mutual outputs. Management and leadership of partners' organisations were supportive, committing time and additional resources to the partnership. There was a general perception that ERI gave partners an opportunity to mobilize additional resources through project development and competitive grant processes. Partners staff based in one country are also increasingly helping each other to carry out activities and resolve problems. It was perceived that this optimizes the use of diverse skills, knowledge and resources to achieve common objectives and deliver on partnerships promises and commitments. It also gives visibility to different partners as credit is shared, and intellectual property rights and authorship issues have not surfaced.

There are, however, some inconsistencies in the partnership process, where partners need to focus and improve. These include frequency of meetings and feedback, delivery on commitments and meeting deadlines, and sharing of leadership rather than relying on one partner for the entire leadership function. Transparency in resource allocation is an area that is done inconsistently. Although it is not seen as a priority problem, partners feel they need to improve in this area. It was also felt that ERI partners need to enhance open and constructive conflict management and problem solving to bring and resolve problems that may hinder partners' performance in the open.

5. Elements of successful partnerships

Analysis of the results of AAR revealed some critical elements where interaction is needed at different stages to build and sustain effective partnerships. These include: (i) shared vision, interdependence and complementarity, (ii) strong endorsement and consistent support from senior leadership; (iii) institutional and individual benefits; (iv) investments in human and social capital; (v) resource sharing and joint resources mobilization, and (vi) prospects for scaling up and institutionalization.

5.1. Shared vision, interdependence and complementarity

Analysis of ERI partnerships shows that their formation experiences are significantly different from the common shortcomings of the IARCs–NARS partnerships, as summarized by Place and Were (2004). These include: poor joint development of projects from the beginning, lack of shared ownership, a top-down approach with IARCs dominating and taking more credit in partnerships, and a lack of common ground in problem solving and implementation. On the contrary, ERI has closely followed a number of principles and guideposts or indicators of quality partnerships and collaboration in participatory research (Vernooy and McDougall, 2003: 120). For example, the research and development agenda in ERI reflects a coherent common agenda that was set collaboratively to allow space for participation and empowerment of farmers' groups (Box 1). Effective partnerships do not naturally emerge just because poverty alleviation and food security are appealing goals to all agricultural research and development organizations (Barret *et al.*, 2005). It is the ability to achieve something together that no organization could have produced on its own, and the ability of each organization, through collaboration, to better achieve its own objectives that has brought ERI partners together.

Box 1. Principle of quality partnerships in participatory research.

1. The research and development reflects a clear and coherent common agenda.
2. The research (and development) agenda has been set collaboratively and transparently.
3. The research design allows space for the meaningful participation of local stakeholders, including marginalized groups, and takes into account potentially different perspectives and interests.
4. Partnerships among stakeholders have been created and strengthened through dialogue, joint action and mutual benefits (friendships and fun included).
5. The research initiative respects the commitments made with partners, and the follow through strategy is defined.
6. The research includes a clear strategy for action/change, which has been defined in terms of expected outcomes and increased social capital, or more broadly empowerment.
7. There is a good documentation of the participatory process, including the use of tools.
8. The analysis of results and authorship of published materials have been shared between research and other stakeholders.

Source: Adapted from Vernooy and McDougall (2003).

An important element in forming ERI partnerships was to develop a collective vision shared by partners and translate that vision into intended outcomes and practical deliverable outputs and activities. These outcomes and outputs are regularly refined in annual partners meetings to ensure internalization and alignment of different partners with the collective vision. ERI partners all recognize the importance of empowering rural communities to become agents of their own change, rather than delivering finished technologies or handouts. Research and development organizations adopt partnerships as a response to increasing specialization and complexity or in response to the external environment (Barret *et al.*, 2005; Eilbert, 2003; Lowndes and Skelcher, 1998). Many organizations search for partners with knowledge, technologies and skills to complement their own, and to gain comparative advantage to achieve its objectives and deliver impacts.

5.2. Strong endorsement and consistent support from senior leadership

Getting ERI partnerships off the ground required drive and determination by some individual "champions" with the necessary leadership to commit their organizations and resources to the partnership. The ERI initiative was born after an exposure visit to CIAT headquarters by the Director Generals of NARS from Malawi, Uganda and Mozambique. Subsequent workshops were organized in their respective countries to define a common strategy, and to initiate the ERI partnership. These workshops were essential to build institutional commitment and a broad sense of ownership by partners' organizations. Sustaining institutional commitment and support from leadership required maintaining regular and interactive communication with senior leadership, including joint field visits.

5.3. Institutional benefits and prospects for institutionalization

A major factor in sustaining ERI partnership was evidence of benefits for institutions, as well as for individual staff members. At the institutional level, important benefits include evidence of farm-level impacts, increased visibility and recognition, expanding partnership opportunities, and leverage of additional resources. Results revealed that the partnership processes have been helpful in enabling local people to articulate their objectives for projects and activities and to take control of these initiatives. All the pilot communities have developed their community visions of desired future conditions, and their community action plans. A key thrust in ERI is that applying "empowering" types of participatory research approaches can build human and social capital in various ways, including: enhancing the innovative capacity of farmers to experiment with new agricultural practices; and strengthening farmers' general analytical abilities, problem-solving skills, and ability to initiate and sustain innovation with external facilitation.

Another lesson from implementing the ERI model is that African farmers are not helplessly wrapped up in their seemingly abysmal problems; they have visions for a better life that many have not been able to eloquently articulate, and are constrained from progress by absence of action plans, stepwise processes and activities, and access to the services and skills that they need to get there. The community visioning process (Sanginga and Chitsike, 2005) and farmer experimentation or participatory innovation development were seen as powerful change tools that have empowered farmers to develop their community action plans and value re-investing in natural resource management, especially soil fertility improvement, in order to make their enterprises profitable and competitive for the long-term.

A key outcome of the partnerships has been increases in the capacities of farmers groups to negotiate, identify and engage with markets, and generate information through farmer experimentation and participatory innovation development (For details, see Sanginga *et al.*, 2005). The biggest change was in skills in experimentation, negotiation, and looking for markets as well as ability to plan, learn, reorganize, and cope with change.

In more concrete terms, there is some evidence of success with farmers' groups and impacts on farmers' livelihoods that has prompted partners to devote more resources to ERI, and enhance institutional commitment to scale out to other areas (Box 2).

An important aspect of institutional benefits has been credit sharing and recognition of partners' contributions in all public presentations, visits, publications or materials, which result from partnerships (GFAR, 2003). These are positive signs that many of the ERI partners have initiated the process of institutionalization and scaling up ERI, and expanding to new sites or making ERI an important thrust of their organization. At the same time, demands from new partners and new countries are increasing, offering considerable prospects to scale out ERI and influencing research and development approaches in several countries. However, maintaining quality partnerships during the up-scaling process, and reducing tensions between research (scientific rigour) and development (activism) is still a challenge. One of the key strategies involves building bridges to other networks, and forming learning alliances to reach other organizations in new areas.

There is evidence that ERI partners have initiated the process of institutionalization and scaling up ERI, expanding to new sites or making ERI an important thrust of their organization. For example, the Traditional Irrigation and Environmental Management Programme (TIP) in Tanzania, has mainstreamed ERI in its "package". In 2003, TIP and CIAT initiated ERI in three water user groups in Lushoto, and then expanded to 18 new water

Box 2. Farmer level impacts of ERI

The Nyabyumba Farmers' Group of Kabale District, Uganda, was formed in 1998, with 40 members. The Group, supported by Africare (an international NGO), focused on producing improved potatoes from clean seed provided by the National Agricultural Research Organization (NARO). In 2000, the Nyabyumba Group formed a farmer field school to improve their technical skills in potato production and increase yields. In 2003, equipped with the necessary skills for producing high quality potatoes in large quantities, the group decided to increase their commercial sale and requested support from Africare, NARO, PRAPACE, and CIAT. Through this consortium of partners, the Nyabyumba Group received training in identifying and analysing market opportunities and developing a viable business plan for the potato enterprise. From the market study, the group identified Nandos, a fast-food restaurant based in Kampala, and local wholesale markets, also in Kampala. The Group set up a series of committees to manage, plan, and execute their production and marketing processes. To provide a constant supply, the farmers planned to make as much as 50 tonnes of potatoes available each month, from which they then selected 25–30 tonnes of the best quality tubers to send to the Kampala markets. The Group has been receiving a steady income and now has savings of nearly 1 million Ugandan shillings (US$600). These funds are being used to build a store and buy irrigation equipment to expand the business. The Group's success is based on (1) long-term support from a consortium of research and development partners, (2) increased technical skills in potato production and marketing, and (3) collective marketing. The farmers group has expanded to a membership of 120 members, 80 of whom are women. They have supplied 190 tonnes of potatoes to Nandos, bringing their income to US$51,136 (Ushs. 90 Million in 2.5 years).

A similar story was reported by farmers groups in Malawi, where ERI partnerships started in the 2003. ERI partnerships include the Ministry of Agriculture (Department of Agriculture Research Services and Lilongwe Agriculture Development Department), Plan International, a development NGO, and Kpani meat processors a private business firm. Farmers were organized into a club with a total membership of 32 households. The major enterprises are pig, beans, and soya bean production.

user groups in the Arumeru District based on experiences with ERI. Subsequently, TIP won a competitive grant to implement the Agricultural Marketing Systems Development Programme (AMSDP) in a pilot district, and was subsequently contracted to serve as lead agency to advise, train and monitor several other NGOs in 21 districts. TIP is now reaching over 620 producer marketing groups, and is now using the ERI approach in more than 80% of their water user groups. *"This gives TIP a unique opportunity to replicate the ERI methodology throughout the country, as AMSDP will gradually expand to cover all the regions. Our success results from the use of the ERI methodology. We therefore look forward to receiving further support and continued collaboration from CIAT in this regard." (Kawa*, Executive Director of TIP, *personal communication).*

Similarly, Plan Malawi, yet another NGO, commissioned an external evaluation of ERI partnerships. The evaluation findings confirmed benefits to both communities, staff and Plan, and recommended to scale out to more communities, and to institutionalize ERI as an effective approach to improving rural livelihoods. Based on success in pilot sites, the department of extension services in Malawi has expressed interest in scaling up ERI as an innovative extension approach that links farmers to markets and research. In Uganda, the National Agricultural Research Organization (NARO) has embraced various components of ERI as a methodology for conducting adaptive research in its agricultural research and development centres (ARDC). The recruitment of staff at the Bulindi ARDC where ERI is being piloted sought to build effective teams based on farmers' research and agro-enterprise needs.

Indeed, the potential value of ERI is being increasingly appreciated with development partners. The Canadian International Development Research Institute (IDRC), in collaboration with the African Soil Fertility Network, is investing in the scaling up of this approach in Malawi and Uganda, as well as its introduction of soil fertility improvement and management technologies in Burkina Faso, Ghana, Kenya and Zimbabwe. The Rwanda Rural Sector Support Programme, funded by the World Bank, is supporting its adaptation in Rwanda to strengthen the capacity of NGOs to work with farmer associations.

In Malawi, I-LIFE a consortium of seven development organisations is using the ERI approach to implement activities with over 100 farmer groups in seven districts in Malawi. ERI is also influencing the thinking and development of a number of successful projects within and outside CIAT. These include two projects under the Sub-Saharan Africa Challenge Programme in the Lake Kivu and Zimbabwe-Malawi-Mozambique corridor pilot learning sites; two funded projects on Linking Farmers to Markets in Uganda and Mozambique; and within the Consortium for Improving Agricultural-based Livelihoods in Central Africa (CIALCA). We are currently collecting data in all countries utilising this approach to track use, adaptation and institutionalization.

5.4. Human and social capital benefits

At the individual level, most participants saw capacity building as one of the more stimulating and rewarding parts of the ERI partnerships. Frequent examples of benefits to individual staff members of partners' organizations include increased skills, knowledge, confidence, self-esteem, exposure and career opportunities. Over the years, ERI partnerships have organized a number of training workshops and field mentoring on several aspects of research for development and rural innovation systems, reaching over 800 individuals in four years (Figure 1). Skills and knowledge in ERI, including participatory market opportunity identification and agro-enterprise development (PMR), participatory diagnosis and community planning (PD), participatory monitoring and evaluation (PM&E) and farmer participatory research (FPR), gender analysis, etc., were seen as important in placing staff at a comparative advantage within their organizations and beyond. A number of individuals have been promoted within their organizations or given more responsibilities and public recognition within their organizations. Some people have been able to move to better jobs in other organizations, while others are increasingly recognized as "expert facilitators" offering consultancy services to other organizations. The majority of field staff have had opportunities to travel outside their countries, participating in professional meetings, making presentations and interacting with a range of professionals. This has increased confidence, exposure, self-esteem and social status, and was often cited as an important benefit for individual growth. Finally, prospects for career development through postgraduate training (PhD and Masters), publications and short term training are also important benefits that individuals derive from ERI partnerships. Many participants perceived ERI as providing them with transferrable skills and knowledge, which, in turn, gives them confidence should they need to work elsewhere.

The presence of energetic, motivated, and highly committed community development facilitators, scientists and development staff with good skills in participatory approaches has been critical in achieving success. This however has involved significant investments in building human capital through regular training and field mentoring. In addition to mutual learning, these workshops have the advantage of broadening partners' worldviews through exposure to new approaches, skills and tools, and also to new areas, countries and people. The analysis also revealed that ERI partnerships have resulted in high levels of social capital, personal relationships, friendships and social networks that facilitate communication, exchange of information, cooperation, reciprocity, and trust that enable people and organizations to work together for mutual benefits. In turn, social capital provides benefits for both individuals and organizations (Gillies, 1998: 115; Pretty, 2003; Woolcock and Narayan, 2000; Rudd, 2000).

5.5. Resources sharing and joint resources mobilization

The availability of financial resources within partners' organizations had a major influence on the success of partnerships. Although ERI partnership funds were initially secured from donor agencies to support research for development activities, increasingly over time the majority of partners have contributed more resources than the project budget, both in financial and material terms. Co-financing and joint resources mobilization, helping some partners to raise funds through proposal development, has been a successful strategy in reducing financial burdens, and has increased partners' stakeS and commitment (Figure 2). Joint budgeting and planning increased transparency in resources allocation. An important aspect of ERI partnerships is the concept of "community research and enterprise funds" that combines internal lending, savings, and grants that farmers' organizations can access and manage to support their own initiatives. This helps in building trust and confidence, and will ultimately increase the probability of success and sustainability beyond project life.

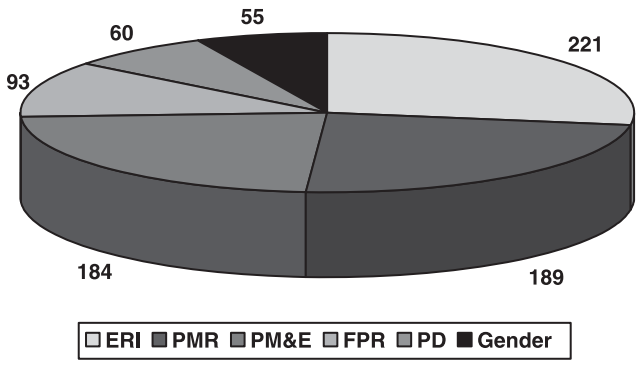

Figure 1. Number of people trained in different aspects of ERI.

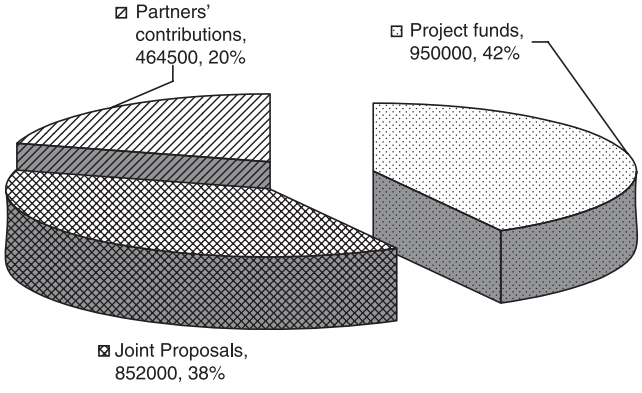

Figure 2. Trends in resources mobilisation with ERI partnerships.

6. Coping with challenges of multi-stakeholder partnerships

Four Peer Assist sessions were conducted to discuss challenges with ERI partnerships. These sessions revealed some critical challenges that have been encountered in the ERI partnership journey and which slow down its institutionalization. These include: (i) high staff turnover, (ii) conflicting personalities, institutional and cultural differences, (iii) lack of a systematic scaling-up strategy, (iv) high transaction costs; and (v) challenges of public–private partnerships. The peer assist sessions also suggested strategies or actions to deal with such challenges.

6.1. High staff turnover

One of the critical challenges in ERI partnerships has been a high rate of turnover of field staff, particularly competent social scientists. Retaining social scientists and staff with agroenterprise and marketing skills in NARS, government services, and local NGOs has always been challenging. All the partners, including CIAT, have lost at least one key staff member involved in ERI activities, with some losing up to four within a year. Over the five year period, about 23 out of 189 trained staff in ERI approaches have either left their organizations or changed responsibilities. While it was clear that this high rate of staff turnover has considerable negative effects on the implementation of the project, it was also argued that this may be an indicator of the success of the approach and may give prospects for scaling out to other organisations. However, the extent to which ERI principles and concepts are penetrating in the new organizations is not documented. A related problem is over-commitment of field staff who are often assigned several responsibilities and a wider coverage area. It was also unclear to what extent trained staff have influenced others in their organisations and built their capacity in ERI approaches.

ERI's strategy to deal with staff turnover and over-commitment has been to train a core team involving an agronomist and extension personnel in any partner organization in order to create a critical mass of people with the necessary skills in relevant ERI areas. Such teams serve as a pool of resource persons to train staff members, and facilitate collaboration and networking amongst partners. A long-term strategy is needed to institutionalize ERI-type approaches in university curricula and to develop materials for training, field manuals and guides aimed at creating in-country capacity for training which guarantees scaling up and sustainability (GFAR, 2003).

6.2. Dealing with personality clashes, institutional and cultural differences

Although in many cases the success of partnerships has been sustained by individual relationships and high levels of social capital (trust, networking, cooperation and exchange), there have also been several cases where differences of individual personalities, behaviours, attitudes, and internal conflicts within organizations have had negative effects on ERI partnerships. Differences among partners' organizations and their institutional cultures were initially reinforced by perceptions of the divide and imbalance between research and development, between government services and NGOs; and between international and national staff. The fact that ERI has a number of senior scientists from the region has been instrumental in maintaining relationships, minimizing cultural differences, and building social capital.

6.3. Coping with high expectations

In some cases, the quest for additional resources was the major motivation for putting effort into partnerships. With shrinking resources for agricultural research, the need to engage with new stakeholders and build new partnerships has become critical for obtaining funding both in response to donor requirements and as a productive way of achieving more efficient use of scarce resources. This lends credence to Leach and Pelkey (2000)'s analysis of partnership literature that found that the need to raise adequate funding was the most frequently recurring theme in 62% of the studies.

In other cases, ERI partnership was initially seen as a donor-project relationship, or relations of subordination rather than true partnerships. In such cases, access to financial and material resources was the key motivation for partnering, and the instigating partner was seen to be dominant. Organizations that entered into partnership because of financial resources put too much dependence on other partners, and tended to create unrealistic expectations (Gormley, 2001). In two cases, high individual expectations led to partnership termination at the formation stage and, in one case, at the implementation stage. In another case, change of leadership led to partnership termination at a time when the partnership was moving to the institutionalization stage. This occurred despite the existence of formal agreements and highlights the need for innovative strategies to institutionalize partnerships beyond individuals so that partnerships can be sustained when individuals eventually leave, or personal relationships are affected.

6.4. Reducing transaction costs

The issue of transaction cost was a recurrent theme on the challenges of sustaining multi-stakeholder partnerships. It is generally considered that partnerships inherently result in high transaction costs, and are extremely time and resource intensive (Huxham, 1996). Working with multiple partners was perceived as expensive owing to the fact that partnerships require more time, meetings and considerable effort in order to work satisfactorily. This perception was

particularly relevant for ERI partnerships working in a variety of countries and areas, with organizations having different institutional arrangements and cultures. Additional costs include high air and ground travel and communication costs, institutional overheads, as well as transaction and opportunity costs of meetings and workshops, particularly senior and middle managers that reduce available resources for operations and project implementation.

Unfortunately, many partners do not have records or data on the real costs (operation, transaction and opportunity costs) incurred with ERI partnerships. Although it was clear that most partners incur these transaction and opportunity costs, this has not affected partners' willingness and ability to collaborate. On the contrary, the majority of partners report that the tangible and non-tangible benefits may offset the initial high costs, which gradually decrease as partners build trust and continue to work together. However, there is no empirical evidence on the real costs of different types and stages of partnerships compared to their benefits, which are often non-tangible and therefore difficult to measure. Documenting the real costs and benefits of partnerships is still an important gap that needs rigorous research to assess whether the tangible and non-tangible benefits of partnerships outweigh their costs. This is also a critical question for participatory research projects (Johnson *et al.*, 2003).

6.5. Challenges of public–private partnerships

While considerable efforts have been geared towards forging effective partnerships with the private business sector in Uganda and Malawi, attempts to establish partnerships with the private business sector have been hampered by poor production conditions for small-scale farmers who are unable to meet the quality and quantity requirements of the private sector. The biggest challenge is maintaining the interest of the private business sector in marginal small-scale farming, which does not always provide high and quick returns to investments, and improving the competitiveness of small scale farming in marginal environments. Spielman and Grebner (2004)'s analysis of public–private partnerships in agricultural research suggests that some of the challenges relate to differing incentives, cultures and interests. The private sector can engage in research that will produce short-term results and products that appeal to paying consumers, while R&D organizations are mainly concerned with research that addresses the needs of poor small-scale farmers with poor market access. Most private sector companies will prefer a contracting mode of partnership rather than developing a true partnership. For the private sector, multi-stakeholder partnerships also involve enormous transaction and opportunity costs for attending meetings, field visits and workshops. Learning how to build successful relations between small farmers, R&D organisations and the private sector is still a key challenge in ERI partnerships. Partnerships with the private sector need to go beyond contracting or buyer–seller relationships, to include co-financing, provision of extension services and field visits.

7. Conclusion and implications for research

Partnership has become a recurrent theme in agricultural research and development policy, practice and rhetoric. This paper highlights the role and mode of learning as a means to institutional change and capacity building. The paper alludes to the challenge of institutionalizing participatory self-reflective, structured learning within research organisations that would help incrementally build their capacity to partner. Costello and Zumla (2001) caution that current partnership practices in research for development may emphasize the outputs and products (technology impacts, adoption, income) and ignore process outcomes such as ownership, sustainability and development of national and local research capacity. This requires more innovative evaluation approaches. Reflective learning practices draw significantly from both Utilization Focused Evaluation (Paton, 1997) and Empowerment Evaluation (Fetterman, 2001; Fetterman and Wandersman, 2005). Empowerment evaluation is an evaluation approach that aims to increase the probability of programme success by providing stakeholders with tools for assessing the planning, implementation, and self evaluation of their programmes, and mainstreaming evaluation as part of the planning and management of the programme organisation (Fetterman and Wandersman, 2005). The utilization-focused evaluation is used not only to improve project and programme effectiveness and performance, but also and perhaps most importantly to build a learning organisation.

The analysis in this paper is based on partners' self-assessment, reflection and participatory evaluation of their experiences with an ERI partnership. Such analysis is useful for documenting lessons and challenges for building and sustaining effective partnerships and is possible due to reflective practices of project partners. The two participatory techniques, After-Action-Review and Peer Assist, used in this study focus on constructive feedback and provide partners with the opportunity to evaluate what works, how and why, and also to induce a process of collective learning and sharing empirical examples, experiences and challenges. The results of this analysis are consistent with and complement recent findings on partnerships (Leach and Pelkey, 2001) where recurring themes are the necessity of adequate funding, effective management and leadership, interpersonal trust and committed participants. The paper shows that building and sustaining multi-stakeholder partnerships is a dynamic process, and reinforces Barret *et al.* (2005)'s observation that scholars and practitioners need to guard against wishful thinking that partnerships and synergies emerge

naturally just because organizations have a common goal with common drivers. To be effective, innovation partnerships need considerable investments in time and resources at the formation stage for building a shared vision and a common agenda to ensure institutional commitments.

However, ERI partnerships are still grappling with problems that are embedded in the partnership delivery and institutionalization stages. Many of these challenges require creative strategies for coping with over-commitment and high turnover of trained personnel, dealing with different and sometimes conflicting personalities, institutional and organizational cultures, accounting for differing perceptions and unspoken expectations, and managing the potentially high transaction and opportunity costs necessary to make multi-stakeholder partnerships work. Developing and sustaining effective partnerships with the private sector is still an important challenge in marginal, resource-poor small-scale farming conditions. Lack of systematic and robust scaling-up and exit strategies are also important challenges that many participatory research projects and agricultural innovation systems projects are grappling with, including ERI. There are still, however, a number of unanswered questions where more rigorous interdisciplinary research is needed to provide important insights into critical elements, costs, outcomes and impacts of multi-stakeholder partnerships. We concur with Gormley (2001) that there is still much to learn from engaging on the partnership journey.

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References

Ansari, E.W., Phillips, C.J., Hammick, M., 2001. Collaboration and partnerships: Developing the evidence base. *Health and Social Care in the Community*, 9(4): 215–227.

Ashby, J.A., 2003. Uniting science and participation in the process of innovation-research for development. In Pound, B., Snapp, S., McDougall, C. and Braun, A. (eds), *Managing Natural Resources for Sustainable Livelihoods. Uniting science and participation*. London: Earthscan Publications and the International Development Research Centre.

Asthana, S., Richardson, S. and Halliday, J., 2002. Partnership working in public policy provision: A framework for evaluation, *Social Policy and Administration*, 36(7): 780–795.

Barret, C.B., Lee, D. and McPeack, J., 2005. Institutional arrangements for rural poverty reduction and resource conservation. *World Development*, 33(2): 193–197.

Binenbaum, E., Pardey, P.G., and Wright, B.D., 2001. Public–private research relationships: The consultative group on international agricultural research. *American Journal of Agricultural Economics*, 83(3): 748–753.

Brock, K. and Harrison, E., 2006. Linking research policy and livelihoods: A synthesis. University of Sussex, UK. Available at www.nrsp.org.uk/database/documents/2853.pdf.

Chambers, R., 2005. *Ideas for Development*. London: Institute of Development Studies.

CIAT. 2006. Enabling Rural Innovation in Africa. Empowering rural communities to innovate and exploit market opportunities for improved rural livelihoods. Available at http://www.ciat.cgiar.org/africa/pdf/eri_brochure.pdf. (Last accessed on 13 September 2007).

CGIAR (Consultative Group on International Agricultural Research), 2005. *CGIAR System Research Priorities for 2005–2015*. Draft Report Science Council Secretariat, Food and Agriculture Organization of the United Nations, Geneva.

CIDA (Canadian International Development Agency), 2003. *Knowledge Sharing. Methods, Meetings and Tools*. Ottawa: Canadian International Development Agency.

Cook, B. and Kothari, U., 2001. *Participation: The New Tyranny?* London: Zed Books.

Costello, A. and Zumla, A., 2001. Moving to research partnerships in developing countries. *British Medical Journal*, 321: 827–829.

Cunliffe Ann L. and Jun Jong, S., 2005. The need for reflexivity in public administration. *Adminsitration and Society*, 37(2): 225–242.

Cunliffe A.L., 2004. On becoming a critically reflexive practitioner, *Journal of Management Education*, 28(4): 407–426.

Douthwaite, B., Delve, R.J., Ekboir, J. and Twomlow, S., 2003. Contending with complexity: The role of evaluation in implementing sustainable natural resources management. *International Journal of Agricultural Sustainability*, 1(1): 51–66.

Earl, S., Carden, F. and Smutylo, T., 2001. *Outcome Mapping: Building Learning and Reflection into Development Programmes*. Ottawa: International Development Research Centre.

Eilbert Kay W., 2003. *A Community Health Partnership Model: Using Organizational Theory to Strengthen Collaborative Public Health Practice*. PhD thesis, School of Public Health and health services. George Washington University.

Estrella, M., Blauert, J., Campilan, D., Gaventa, J., Gonsalves, J., Guijt, I., Johnson, D., and Ricafort, R., 2000. Learning from Change: Issues and Experiences in Participatory Monitoring and Evaluation, London, UK: Intermediate Technologies Publications.

Fetterman, D., 2001. *Foundations of Empowerment Evaluation*. Sage Publications, London.

Fetterman, D.M. and Wandersman, A., 2004. *Empowerment Evaluation Principles and Practice*. Guilford Press, New York.

Fetterman, D.M., Kaftarian, A.J., and Wansersman, A. (eds) 1996. *Empowerment Evaluation: Knowledge and Tools for Self-Assessment and Accountability*. Newbury Park, CA: Sage Publications.

Freeman, R., 2007. Epistemological bricolage: How practitioners make sense of learning. *Administration Society*, 39(4): 476–496.

GFAR (Global Forum on Agricultural Research) 2003. Linking research and rural innovation to sustainable development. Proceedings of the GFAR 2003 Conference, Rome, Italy.

Gillies, P., 1998. Effectiveness of alliances and partnerships for health promotion. *Health Promotion International*, 13(2): 99–120.

Gormley, W., 2001. *Selecting partners: Practical considerations for forming partnerships*. *Tips and Tools Series*: Collaborative alliances. The organizational Change Programme for the CGIAR Centres. Washington DC: TRG Inc.

Guijt, I. and Gaventa, J., 1998. Participatory monitoring and evaluation: Learning from change. *IDS Policy Briefing No. 12*. Brighton: Institute of Development Studies.

Hall, A.J., Yoganard, B., Sulaiman, R.V., Raina, R.S., Prasad, C.S., Naik, G. and Clark, N.G., 2004. *Innovations in Innovation: Reflections on partnerships, institutions and learning*. Pantacheru, Andhra Pradesh, India.

Hall, A.J., Sivamoha, M.V.K., Clark, N.G., Tylor, S., and Bockett, G., 2001. Why research partnerships really matter: Innovation theory, institutional arrangements and implications for developing new technology for the poor. *World Development*, 29(5): 783–797.

Halliday, J., Asthana, S., and Richardson, S., 2004. Evaluating partnerships. The role of formal assessment tools. *Evaluation*, 10(3): 285–303.

Huxham, C., 1996. *Creating Collaborative Advantage*. London: Sage Publications.

Johnson, N.L., Lilja, N.K. and Ashby, J.A., 2003. Measuring the impact of user participation in agricultural and natural resource management research. *Agricultural Systems*, 78: 287–306.

Koch, T. and Harrington, A., 1998. Reconceptualizing rigour: The case for reflexivity. *Journal of Advanced Nursing*, 28(4), 882–890.

Leach, W.D. and Pelkely, N.W., 2001. Making watershed partnerships work: A review of empirical literature. *Journal of Water Resources Planning and Managament*, 127(6): 378–385.

Lowndes, V. and Skelcher, C., 1998. The dynamics of multi-organizational partnerships: An analysis of changing modes of governance. *Public Administration*, 76(2): 313–333.

Michelsen, H., 2003. Learning from partnerships. Experiences from the Cornell International Institute for Food, Agriculture and Development (CIIFAD)'. The Hague: International Service for National Agricultural Research.

Michelsen, H., 2003. Stakeholder involvement in research, extension and training: Option or necessity? *Quarterly Journal of International Agriculture*, 42(4): 459–472.

Patton, M., 1997. *Utilization-Focused Evaluation*. *The New Century Text*. 3rd Edition. Sage Publications, London.

Place, F. and Were, E., 2004. Proceedings of the 5th Workshop of the Integrated Natural Resource Management (INRM) Stakeholder Group, Nairobi: World Agroforestry Centre.

Pretty, J. and Ward, H., 2001. Social capital and the environment. *World Development*, 29(2): 209–227.

Pretty, J., 2003. Social capital and the collective management of resources. *Science*, 32: 1912–1914.

Rudd, M.A., 2000. Live long and prosper: Collective action, social capital and social vision. *Ecological Economics*, 34(234): 131–144.

Sanginga, P. and Chitsike, C., 2005. The power of visioning. A handbook for facilitating the development of community action plan. Enabling Rural Innovation Guide #1. International Centre for Topical Agriculture: Kampala, Uganda.

Sanginga, P., Kaaria, S., Chitsike, C., Best, R., Delve, R., and Kirkby, R. 2004. Enabling rural innovation in Africa: An approach for integrating farmer participatory research and participatory market research to build the agricultural assets of rural poor. *U. Journal of Agricultural Sciences*, 9(1): 942–957.

Sayer, J. and Campbell, B.M., 2001. Research to integrate productivity enhancement, environmental protection, and human development. *Conservation Ecology*, 15(2) [online] URL: http://www.consecol.org/vol5/iss2/art1

Selesky, J.W. and Parkes, B., 2005. Cross-sector partnerships to address social issues: Challenges to theory and practice. *Journal of Management*, 31(6): 849–877.

Spielman, D.J. and Grebmer, K.V., 2004. Public–private partnerships in agricultural research: An analysis of challenges facing industry and the consultative Groups on International Agricultural Research. Environment and Production Technology Division. Washington, DC: International Food Policy Research Institute.

Vernooy, R. and McDougall, C., 2003. Principles of good practice in participatory research: Reflecting on lessons from the field. In Pound, B., Snapp, S., McDougall, C. and Braun, A. (Eds) *Managing Natural Resources for Sustainable Livelihoods*. *Uniting Science and Participation* London: Earthscan Publications and the International Development Research Centre.

Woolcock, M. and Narayan, D., 2000. Social capital: Implications for development theory, research and policy. *The World Bank Observer*, 15(2): 225–249.