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**Issue Dedication:**

This issue of the JRCDD is dedicated to Cheryl Williams who passed away suddenly in 2010. She was in the first semester of her PhD program in Nursing at the University of Saskatchewan at the time of her death. Her co-authored paper in this issue is based on her master's thesis research. Pammla Petrucka was Cheryl's advisor. It was Pammla's wish to publish this peer-reviewed article in honour of Cheryl's work and her family.

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# **Community Based Participatory Monitoring and Evaluation: Impacts on Farmer Organization Functioning, Social Capital and Accountability**

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## **Abstract**

Farmer organizations have taken root in the development agenda and practice in Sub-Saharan Africa. This is because they are recognized as a best-bet approach for achieving inclusive sustainable development. Group performance has, however, been varied - hence different mechanisms for improving group functioning have been developed, such as community driven Participatory Monitoring and Evaluation (PM&E). The effectiveness of community driven Participatory Monitoring and Evaluation in improving group functioning has not been rigorously evaluated. A study was therefore conducted to determine the impact of community driven Participatory Monitoring and Evaluation on group functioning using three Kenyan groups. Using a mixed methods approach, the study finds that farmer groups that integrated community driven Participatory Monitoring and Evaluation had higher indices for group social capital and performance. These groups exhibited greater group cohesion and members had higher satisfaction with group performance.

Accountability, a key factor determining group functioning, was found to not differ significantly between groups with and without community driven Participatory Monitoring and Evaluation. Conclusions are that integrating community Participatory Monitoring and Evaluation in groups is essential for improving internal group functioning. However, this should be implemented in combination with other strategies that specifically aim to improve accountability. Without such an approach there is the danger of eroding the benefits of community driven Participatory Monitoring and Evaluation. Strategies to improve accountability must incorporate capacity building of group members' basic numeracy and literacy skills. This will enable the mostly illiterate membership to better understand and enforce accountability and, to better participate.

**Keywords:** Kenya, community monitoring and evaluation, innovation, social capital, mixed methods

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## **1.0 Introduction**

There is wide recognition of the role of farmer organizations in achieving development in Sub-Saharan Africa (FAO, 2007). These include creation of opportunities, which allow resource poor smallholder farmers to access essential goods and services such as lucrative input and output markets, financial and extension services, and other scarce resources and services such as water and land for irrigation purposes (Peacock et al., 2004; Abaru et al., 2006; FAO, 2007). In addition, they are closer to the smallholder farmer than many other private and public development agencies and as such farmers have a greater sense of ownership of the development agendas that are promoted through farmer organizations. Farmer organizations also assist resource poor farmers to enhance their bargaining power; to reduce the transaction costs associated with marketing and sourcing agricultural inputs; to access knowledge and information as well as to increase their social capital (Hellin et al., 2007; Wennink et al., 2007). Additionally, farmer organizations can collectively lobby for desired changes and as such they have the potential to positively influence agricultural policy outcomes (Wennink et al., 2007; Mapila & Haankuku, 2009).

The performance of these organizations has been varied though. Beaudoux et al. (1994) argue that for farmer organizations to succeed farmers must be able to manage them autonomously, with minimal external interference, farmers and members must participate actively at every stage from decision-making onward, and the cooperative activities of the farmer organizations must be beneficial or profitable to members. Chamala and Shingi (1997) have identified group internal factors and service agency factors that influence the effectiveness of groups. They suggest group composition, structure and size, group cohesion, leadership styles, group standards and norms, development phase of the group, and the group culture have a strong bearing on the effectiveness of the group. Some of the external agency factors include technical capabilities of organization staff supporting the group, their people skills and approaches used.

There are several approaches and mechanisms for improving internal group functioning processes including capacity building, guidelines for improving functioning of groups, and internal monitoring and evaluation mechanisms. The effectiveness of these mechanisms has not, however, been evaluated with rigour to

determine their effectiveness in improving group functioning processes. Many benefits have especially been associated with Participatory Monitoring and Evaluation (PM&E). One such benefit is that it may serve as an instrument to foster and improve project performance as well as increase the level of satisfaction with project performance among stakeholders, such that communities may better organize themselves and engage with service providers through improved articulation of their needs and plans to achieve project goals. Another benefit is to provide decision-support for process-oriented management and planning to enhance downward accountability to communities but also among group members in the community (Guijt, 1999; Njuki, 2004). However, not much is known currently about how to validate such claims. Reviews conducted around the world, have shown that in most cases, much effort has been placed on documenting the findings and results of participatory evaluation, whereas few examples illustrate the process of conducting community based PM&E and how they empower communities and enhance their social capital (Estrella & Gaventa, 1998; Miller & Campbell, 2006). Therefore the limited availability of detailed research publications and documentation on the process of conducting and designing community driven PM&E systems and their role in improving social capital, project performance and accountability within groups is the main factor motivating this research. The study set out to test the following three research questions:

1. To what extent does community driven participatory monitoring and evaluation (CD-PM&E) strengthen group social capital?
2. How does CD-PM&E affect perception of the group performance by members?
3. What is the role of CD-PM&E in enhancing accountability within groups regarding the elements of management of resources (financial and material), decision making and leadership style?

The International Centre for Tropical Agriculture (CIAT) has been working on a community based and community driven participatory monitoring and evaluation approach that aims at improving group functioning process, social capital and accountability with farmer organizations. This paper aims at evaluating the approach in terms of improving group functioning, social capital and accountability drawing on research done in Kenya.

### ***1.1 Participatory Monitoring and Evaluation***

While there are many documents that provide a definition of PM&E, the most encompassing one is that provided by Estrella and Gaventa (1998) who describe PM&E as a process by programs and stakeholders to track progress and provide them (both stakeholders and program managers) with information on whether project objectives have been met and how resources have been used to inform program implementation and decision making.

PM&E is grounded in five general principles (Estrella & Gaventa, 1998) which are as follows:

- *Participation*: Entails creating structures and processes that include those most directly affected by the program and often those most frequently powerless and/or voiceless in program design and implementation.

- *Negotiation*: Commitment to working through different views with the potential for conflict and disagreement about what the evaluation should focus on, how it should be conducted and used, and what actions should result.
- *Learning*: Among all participants which when shared, leads to corrective action and program improvement.
- *Flexibility*: Because of the changing circumstances, people and skills available for the process.
- *Methodologically eclectic*: PM&E draws on a wide variety of methods for generating and using information.

In recent years, participatory monitoring and evaluation in the development arena has gained increased prominence over the more conventional approaches to monitoring and evaluation (Campilan, 1997; Estrella et. al, 2000; Coupal, 2001). However, Estrella et al. (2000) and Mayo (2001) observed that until recently, there has been little written evidence regarding how PM&E works in practice, or its successes and challenges. Despite the fact that many people now acknowledge that PM&E is an important component of any developmental project, few can explain how it should be designed and implemented at the community level (Estrella et al., 2000; Mayo, 2001; Miller & Campbell, 2006). Where PM&E has been used in the past, it was often at the program or project level and usually with the aim of providing the project donor an account of the activities executed, in readiness for more funding (Estrella et.al, 2000; Mayo, 2001; Kusek & Rist, 2004).

The growing interest in PM&E was a direct reflection of the international development community's disenchantment with conventional approaches to Monitoring and Evaluation (M&E), particularly in the last two decades. A myriad of authors (Rubin, 1995; Campilan, 1997; De Beer & Swanepoel, 1998; Estrella et al., 2000; Mozammel & Schechter, 2005;) have criticised the conventional M&E because of its top-down approach to the monitoring and evaluation of community development projects. They argue that the conventional approaches attempt to produce information that is objective, value free and quantifiable; hence, the outsiders are usually contracted to carry out the evaluation for the sake of maintaining 'objectivity'. Stakeholders (community members) directly involved in, or affected by, the very development activities meant to benefit them have little or no input in the evaluation—either in determining the questions asked or types of information obtained, or in defining measures of success (Rubin, 1995, p. 20). Estrella & Gaventa (1998) have strongly argued that success of any development project must be explained from the perspective of the local stakeholders and not the external evaluators. The local stakeholders are the best judges of themselves, hence their involvement in deciding how success must be measured is a must.

However, not all participatory monitoring and evaluation approaches are empowering. Miller and Campbell (2006) conducted a review of empowerment evaluation by examining 47 case examples published from 1994 through June 2005. The study found that there are wide variations among practitioners in the adherence to participatory/empowerment evaluation principles and weak emphasis on the attainment of empowered outcomes for program or project beneficiaries.

## ***1.2 Community Driven Participatory Monitoring and Evaluation (CD-PM&E)***

The community-driven PM&E approach builds on the concepts and ideas developed by the Institute of Development Studies at the University of Sussex (Guijt & Gaventa, 1998; Estrella et al., 2000) and by Probst (2002). Probst (2002) focuses on PM&E as an instrument to support systematic reflection, learning, the generation of knowledge, and process-oriented management at the community level. This type of PM&E approach is unique because of the emphasis on developing a system that is managed and supported by local communities for their own purposes. In community driven PM&E, community members themselves identify their own objectives and initiate activities to achieve these objectives. They develop their indicators for measuring progress towards achievement of the objectives; communities are in charge of the data collection and analysis, and use the PM&E results to adjust their activities. The indicators used are basically local indicators and are based on the experiences, perceptions and knowledge of the local people. The purpose of the community driven PM&E is to empower the local community to initiate control and take corrective action and, to basically empower them to improve their social well-being.

CD-PM&E helps capture difference developmental perspectives, viewpoints, aims and objectives amongst groups within a community. These different developmental goals may be due to their experiences, their social and cultural situations such as their wealth, and gender among other things. Since CD-PM&E permits accountability, i.e., it ensures resources are utilized according to plan, it also provides corrective feedback and can affect priorities and resource allocation decisions when people see how resources are used. It also has the potential to make the allocation of resources more responsive to the needs of the poor and to lead to more sustainable outcomes.

While monitoring and evaluation is intrinsic in community activities, CIAT's approach is to build on the existing forms of monitoring and evaluation that exist within farmer organizations and communities, and to enrich them by making the generation and use of information more systematic, documented and used by the community or organization members.

## **2.0 Case Study Projects**

The CD-PM&E model was implemented with farmer groups working across three different projects under the Kenya Agricultural Research Institute (KARI) in coastal Kenya.

### ***2.1 Soil and Water Management to Enhance Food Security in Coastal Kenya (SWMP)***

The SWMP was a five year project (2002-2007) designed in response to the low crop production levels of smallholder farmers in coastal Kenya. These low production levels were especially attributed to sandy soils that were low in inherent fertility, organic matter, and water holding capacity. To increase production and productivity, these soils required heavy external inputs which were beyond the reach of most smallholder farmers. The objective of the project was therefore to increase smallholder food production through improved and affordable soil and water management technologies, and integration of livestock into the cropping system. The project was funded by the Rockefeller Foundation and had a range of outputs

including: smallholder farmer characterization; documentation of farmer perceptions of soil and water management technologies; identification of constraints to adoption; identification of strategies for transferring soil and water management technologies to farmers; determination of soil chemical and physical properties; assessment of the effects of different soil and water management technologies on soil physiochemical properties, among others. The project had four main themes; (i) economic and gender analyzes, (ii) use of organic manures for various crop production systems, (iii) soil and water management for sustainable and efficient resource use and (iv) analysing trade-offs between crop and livestock production. By achieving these outputs, the project expectations were: increased food production and therefore food self-sufficiency, surplus production, and marketing of high value crops. Food self-sufficiency and increased farm income was in turn expected to improve family health, literacy, and farmer empowerment.

The project followed a Farming Systems Approach and was mainly implemented through Farmer Field Schools (FFS) and farmer research groups. The Farmer Field School is a form of adult education, which evolved from the concept that farmers learn optimally from field observation and experimentation. It was developed to help farmers tailor their Integrated Pest Management (IPM) practices to diverse and dynamic ecological conditions (Pontius et al., 2002). The Farmer Field School has since been adapted to other areas of research beyond IPM. The elaboration of the monitoring and evaluation process for the project was brief and indicated that monitoring and evaluation would be achieved through: (i) quarterly technical and financial reports, (ii) annual reports, (iii) quarterly planning meetings and, (iv) extension leaflets and bulletins.

## ***2.2 Agricultural Technology and Information Response Initiative (ATIRI)***

ATIRI was designed in response to the realization that a lot of the technologies that had been developed by the Kenyan Agricultural Research Institute (KARI) were not being adopted and utilized by farmers. There was recognition that a variety of factors could be attributed to this including, lack of participatory development of the technologies, low access to information on the technologies, and low capacity (financial and technical) of farmers to utilize these technologies. The objectives of the initiative were; (i) work with partners to enhance farmers' information and technology demands, (ii) enhance effectiveness of intermediaries to meet the knowledge needs of their clients and, (iii) test new approaches for rapid scaling out of agricultural technologies. The initiative used community based organizations who would submit proposals for funding to the Kenyan Agricultural Research Institute. These would be evaluated by a committee and, based on their suitability, be recommended for funding. The community based organization would then implement the project with technical support from KARI scientists and other partner organizations. By the time of this study, 24 community based organizations had been funded to carry out various projects including dairy improvement, vegetable production, bee keeping, poultry production, cashew nut processing, and purchase and installation of irrigation systems, among others. Monitoring and evaluation was mainly on technical indicators such as production output of crops and livestock, incomes received from sales, and the extent to which technologies had moved beyond the primary community based organizations to the wider community.

### **2.3 Cashew Management Improvement Project (CASHEW)**

Cashew nuts are the second most important cash crop after coconuts in Coastal Kenya. Production of the crop is low, however, mainly due to poor management practices and incidences of pests and diseases. The objectives of this project, which was partially funded by the United States Agency for International Development (USAID), were to; (i) develop cashew management technologies and test them with farmers, (ii) develop disease management and control options especially for powdery mildew control methods, (iii) develop cashew propagation techniques and (iv) scale out the cashew management technologies for wide use by farmers. The project utilized Farmer Field Schools and adapted the curriculum to suit cashew nut production. At the time of the study, the project had over 200 Farmer Field Schools spread over several districts.

### **3.0 Implementation of the CD-PM&E Across the Projects**

The CD-PM&E was implemented in three phases. In the first phase, CD-PM&E was introduced to the Farmer Field Schools and Farmer Research Groups under the SWMP. This followed all the key steps of the CD-PM&E process from capacity building of farmers, and then facilitation of the farmers to define the objectives that they wanted to achieve, design of activities for achieving the objectives and indicators for monitoring them, developing the data collection tools, and using the tools to collect data on the indicators. Figure 1 provides a summary of the interviewed groups and the percentages with PM&E, partial PM&E and without PM&E systems in place.

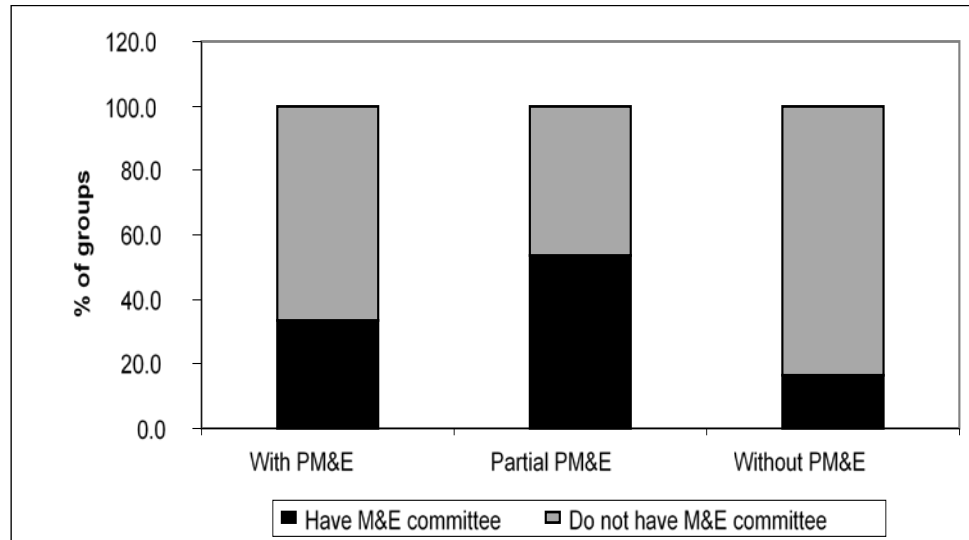
Participatory rural appraisal (PRA) tools such as group discussions, PM&E graphics, role-plays, and stories were used to engage the farmers who subsequently suggested local terms for M&E in different languages such as: *kulaula*, *kuthuathua*, *kuthuwiriza* for Giriama language; *kuraura* for Digo; *kusuvia* for Kamba; *Kunughia* for Taita, and *kufuatiliza/ kufuatilia/ ufuatilizi/ uchunguzi* for Kiswahili. The groups were able to agree on indicators (both quantitative and qualitative) in terms of their outputs, outcomes, and impacts. These indicators would be used to regularly and systematically monitor their progress in term of achieving their objectives. They discussed both internal and external factors that could influence failure or success of the project. Each Farmer Field School group developed its own set of key activities to be monitored that were necessary to help achieve their stated objectives. Monitoring and evaluation committees usually comprising three to five members were formed for each Farmer Field School group and roles of collecting the required data were assigned. Appropriate data collection tools as well as reporting formats were discussed and adopted. At the end of the season, all the groups had a data analysis and reflection meeting facilitated by researchers from the International Centre for Tropical Agriculture and the Kenyan Agricultural Research Institute in order to use the data from the M&E to track progress of their activities and make changes for the next cycle of activities. The objectives and indicators went beyond the technology oriented indicators to more process oriented indicators for group functioning, participation, and learning.

In the second phase, researchers from the Kenyan Agricultural Research Institute used the experiences from the SWMP to integrate PM&E into the community based organizations under ATIRI. The ATIRI project followed almost the same process as that of the SWMP project in establishing PM&E systems with the community based organizations. The only difference is that here, this process was fully controlled and



led by project staff from the Kenyan Agricultural Research Institute without the direct intervention of the International Centre for Tropical Agriculture as was the case with SWMP project.

Figure 1: Presence of Monitoring and Evaluation Committees across Groups.



Source: Author calculations.

In the third phase, staff from the Kenyan Agricultural Research Institute trained extension workers on CD-PM&E and integrated it within the Farmer Field School curriculum that was used by Farmer Field School Facilitators. As the Farmer Field School curriculum was developed around cashew management, some components of PM&E were incorporated by extension staff, such as establishing a common understanding of what kind of data was required and deciding what they needed to monitor, as well as integrating other M&E data collection tools into the standard Farmer Field School data collection. The groups were then encouraged and facilitated to develop monitoring indicators specific for each group with regard to performance of the cashew nuts and other group processes such as savings, loan repayments, and participation. Most groups then formed management committees to oversee management of the cashew orchards and other aspects of the Farmer Field Schools. In some groups these teams acted as an M&E committee and kept records and facilitated group meetings.

#### 4.0 Study Methodology

The study employed purposive cluster sampling to select respondents from each of the three case studies described above. The three case studies formed three clusters which were randomly selected. They were purposively selected as these were the groups that implemented CD-PM&E under the Kenyan Agricultural Research Institute. From the case studies, a total of 49 groups (31 with CD-PM&E and 18 without) were interviewed. Sampling of these groups within each cluster case study was based on the number of groups implementing CD-PM&E.

The SWMP project was implemented in two districts, with 27 Farmer Field Schools participating. Out of the 27 groups; only 9 groups had implemented the CD-PM&E.

Therefore all 9 groups implementing CD-PM&E were selected for the study. Out of the 18 groups that did not implement CD-PM&E, 9 groups were selected randomly for comparison with the implementing groups. An additional group was also interviewed to account for information loss bringing the total comparison groups to 10. ATIRI was implemented with 31 community based organizations, 15 of which integrated the CD-PM&E. Of the 15 groups implementing CD-PM&E, 10 groups were sampled for the study. These were compared with 8 groups selected out of the 16 groups that did not implement CD-PM&E. For the CASHEW groups that had integrated elements of PM&E into the Farmer Field School curriculum, 13 groups were selected for the study. These were considered to have partial CD-PM&E as they implemented only certain elements of CD-PM&E; mainly the development of indicators, data collection and analysis.

Group interviews with leaders and members of the groups were conducted using a checklist. In addition, individual interviews with some group members were conducted using semi-structured questionnaires. Data collected pertained to different factors that included group characteristics, including age of the group; total membership in the group; leadership levels of social capital; and types and frequency of information sharing, among other variables.

#### ***4.1 Measuring Social Capital, Group Performance, and Accountability***

The study centred on assessing the impact of CD-PM&E on social capital, group performance, and accountability. These three variables are multi-dimensional in nature and have been defined differently in the literature. The key features that this study focused on for each variable are listed in Table 1. The common features that are used to define social capital in the literature were used to compute the social capital index. A host of authors (Putnam, 1993; Ostrom, 1994; Krishna, 2002; Sanginga et al., 2007) have articulated the key features of social capital. These key common features include factors such as the existence of group rules and norms; extent of trust and co-operation; as well as extent of social networks and social organization. Using these common features, social capital can therefore be defined as the existence of a certain set of informal/formal rules or norms that are shared among group members which enhance trust, cooperation and adherence to the group rules/constitution and networks that improves the efficiency of a group.

Group performance was defined in terms of the ability of the group to undertake the right activities to achieve the groups' set objectives and goals to the satisfaction of all group members. This study hypothesized that the groups with PM&E are likely to have high levels of group performance that is manifested through increased satisfaction by group members with the performance of the group. To assess the level of accountability within the groups, we looked at the extent of the group members' participation in decision making, knowledge of the group resources (financial and material), and quality of leadership in the group in regard to transparency. The rationale behind this was that if members of a particular group are well empowered through CD-PM&E, they will be able to demand that everyone, including their leaders, be accountable and transparent for their actions within the group. Literature indicates that PM&E helps to promote transparency and accountability among stakeholders because of its emphasis on information sharing inherent in almost all PM&E approaches (Estrella & Gaventa, 1998).

Table 1. *Summary of Social Capital, Group Performance and Accountability Variables*

<b>Social capital</b>	<b>Group performance</b>	<b>Group accountability</b>
<ul style="list-style-type: none"> <li>▪ Level of attendance in group meetings</li> <li>▪ Level of attendance in group activities</li> <li>▪ Level of enforcement of the constitution</li> <li>▪ Extent of trust in the group</li> <li>▪ Capacity to work well together in the group</li> <li>▪ Request of additional services from KARI</li> <li>▪ Interaction with other organizations besides KARI</li> <li>▪ Developing proposals</li> </ul>	<ul style="list-style-type: none"> <li>▪ Level of satisfaction with the way the group has implemented its projects</li> <li>▪ Level of satisfaction with the rate of progress the group is making in achieving its goals</li> <li>▪ Level of satisfaction with how the group is achieving its objective</li> <li>▪ Level of satisfaction with the activities of the group during the past year</li> <li>▪ Level of satisfaction with the allocation of group resources</li> <li>▪ Level of satisfaction with how decisions are made in the group</li> <li>▪ Level of satisfaction with support received from project staff</li> </ul>	<ul style="list-style-type: none"> <li>▪ Knowledge of group funds and expenditure by all members</li> <li>▪ Knowledge of group resources (produce harvested)</li> <li>▪ Level of involvement in decision making</li> <li>▪ Openness of leaders</li> <li>▪ Election of members into leadership positions</li> </ul>

Source: Author Summarization.

Using the variables in Table 1, indices were developed for measuring the three elements of social capital, group performance, and accountability. In order to compute the indexes, the total scores of each variable of social capital, group performance and accountability were aggregated. After getting the weighted score, an index of low, medium and high was developed for each of the three parameters: social capital, group performance and accountability within groups as depicted in Table 2, where 0 = low, 1 = medium and 2 = high.

#### **4.2 Data Analysis**

A mixed methods approach was used to meet the objectives of the study. Quantitative data from the individual and group interviews was coded, processed, and analyzed with the Statistical Package for Social Scientists (SPSS) and data was analyzed using independent samples *t*-test. Qualitative data from the focus group discussions and key informant interviews was grouped into related themes, patterns, and categories in order to answer the different research questions under study. This data has also been presented in the form of written textual quotes. Waysman and Savaya (1997) observed that the use of a mixed approach where qualitative and quantitative methods are combined provides not only the unique advantages of each method, but also certain additional advantages that stem out from their conjoint

application. Additionally, Cook and Reichardt (1979) noted that a combination of these methods may have the potential to produce results that are superior to that which can be produced by any single-method approach.

Table 2. *Index for Social Capital, Group Performance and Accountability*

Type parameter	Score range	Index	Description of the index
Social capital	0-4	0	Low
	5-9	1	Medium
	10 and above	2	High
Group performance	0-4	0	Low
	5-9	1	Medium
	10 and above	2	High
Accountability	0-3	0	Low
	4-7	1	Medium
	8-11	2	High

Source: Author Computations.

## 5.0 Results and Discussions

### 5.1 Characterization of the Groups

The groups interviewed can be broadly classified into 3 types: farmer field schools, farmer research groups and community based organizations. Most of the groups (61.2 %) were farmer field school groups, while 32.7 % were community based groups and 13 % were farmer research groups. The farmer field schools are those groups that followed the Farmer Field School methodology approach in implementing activities and learning. The Farmer Field Schools methodology is a participatory approach that uses non-formal adult education methods based on participatory training and experiential learning. It is an adaptation of the group approach to extension and learning as it encourages members to learn from one another and develop individual and collective action. The community based organization refers to all the groups formed for multiple purposes and not necessarily for undertaking agricultural oriented activities. The farmer research groups, on the other hand, are groups that were formed with the objective of undertaking farmer research and experimentation.

Group size ranged between 10 and 50 members with a mean membership of 23 members per group; and a mean number of 17 women in the groups (Table 3). Comparisons across the groups show that there was a significant difference between the memberships of the groups that integrated and that did not integrate CD-PM&E. Groups that partially integrated CD-PM&E were found to have higher membership as compared to groups that did not integrate CD-PM&E with the mean number of members being 29 and 20, for groups with and without CD-PM&E, respectively. The groups that partially integrated CD-PM&E were found, however, to have lower membership of women in committees as compared to groups that did not integrate

CD-PM&E. This was the case despite the fact that groups with partially integrated CD-PM&E had greater membership as well as more women members.

Table 3. *Group Characteristics (Means)*

	<b>Full CD-PM&amp;E</b>	<b>Partial CD-PM&amp;E</b>	<b>Without CD-PM&amp;E</b>	<b>All groups</b>	<b>t-value</b>
Total membership	21	29	20	23	5.65***
Number of women	17	20	15	17	1.08
Number of committee members	6	4	5	5	0.33
Number of females in committees	3	1	3	2	1.83
Number of years of group existence	8.6	3.9	8.6	7.3	9.03***

\* Significant at 10 % level, \*\* Significant at 5 % level, \*\*\* Significant at 1 % level

*Sample size: Number of individual members interviewed: 73; number of groups interviewed: 94 (See Appendix 1 for complete breakdown of sampling frame)*

Source: Author Calculations.

The groups that fully integrated PM&E and those without PM&E had been in existence significantly longer than those that had only partially integrated CD-PM&E. Out of the 49 groups interviewed, 12 were women only groups. All the groups that were interviewed indicated that they were registered, with registration status being obtained in the year in which the group was formed. Groups within each case study, e.g., the SWMP groups that had PM&E and those without PM&E (control) group, were compared to analyze for differences in general characteristics. An independent samples *t*-test was used to compare the differences in the total membership, mean number of women members, and age of the groups between the groups that integrated CD-PM&E and those that did not integrate CD-PM&E within each case study category. The results show that there were no statistically significant differences in terms of total membership, average number of women members and age of the age of the groups between groups with CD-PM&E and groups without CD-PM&E for each of the case studies.

## **5.2 Status of Monitoring and Evaluation across the Groups**

The status of monitoring and evaluation of project activities for the different groups was assessed. All the groups interviewed indicated that they had some form of system for monitoring and evaluating project activities. However differences in the monitoring and evaluation systems existed. Some of the groups indicated that they had a PM&E committee responsible for monitoring and keeping records of project activities. Other groups did not have established PM&E committees as part of their M&E system. According to the group interviews, 33.3 % of the groups with fully integrated CD-M&E and 53.8 % of the groups that had partially integrated some elements of PM&E reported having a PM&E committee, while only 16.7 % of the groups without CD-PM&E systems had a committee (See Figure 1).

Groups that did not have PM&E committees had other systems in place with the majority (61.1 %) stating that they monitored their activities collectively as a group. While in some groups, certain members volunteered to monitor the group activities, particularly the field crop performance, by mere observations without taking records. This was done by individuals within the group; the secretary and chairperson of the group and/or any other literate member of the group; or by any other small group within the group. Amongst the interviewed groups without PM&E systems 16.7 % used the secretary and chairperson; 11.1 % used any other literate members within the group while 11.1 % used any other small group within the group to monitor their group's activities.

The M&E systems followed by groups that did not integrate CD-PM&E lacked structure and formalized systems for data collection. Monitoring was done by observation with little or no recording with members often relying on their ability to recall the information. The following example, given by the chairlady of Shaza Women Group that does not integrate CD-PM&E; demonstrates the informality of the M&E systems in these groups:

Some of our group members volunteer to monitor on behalf of the whole group and they keep whatever they have observed in their heads and they come to report to me as chairlady of this group and I also keep the information in my head and at an opportune time I share with all the group members.

Groups that did not have written M&E systems or written records stated that this was the case mainly due to illiteracy and the inability of members to read and/or write. Records of group meeting participation were, in many cases recorded, however, these records are not analyzed or used to evaluate changes in membership and/or attendance patterns.

### ***5.3 Role of PM&E in Strengthening Social Capital, Group Performance and Accountability***

The social capital, group performance and accountability indexes were compared across groups that fully integrated PM&E, partially integrated PM&E and those without PM&E using a one way ANOVA for comparison of means. The results are shown in Table 4.

#### ***5.3.1 Social Capital***

There were significant differences in social capital between groups with and without CD-PM&E (Table 4). Groups with PM&E had a higher mean index of 1.67 compared to groups without PM&E which had mean index of 1.11 ( $p \leq 004$ ). Furthermore, there were also significant differences between groups that had partially integrated PM&E and those without PM&E. Reporting in terms of percentages, the results show that 66.7 % of groups with PM&E had high levels of social capital while 33.3 % had medium levels of social capital. For the groups without PM&E only 22.2 % had a high level of social capital, 66.7 % and 11.1 % had medium and low levels of social capital, respectively. For the groups that integrated some elements of PM&E, 53.8 %, and 46.2 % had high and medium levels of social capital, respectively. From these results it can be concluded that PM&E plays a significant role in strengthening group social capital as evidenced by the

groups that designed full PM&E systems and those that partially integrated PM&E had higher levels of social capital compared to the groups without PM&E.

Table 4. *Group Differences in Social Capital, Group Performance and Accountability*

			With PM&E	Without PM&E	Partial PM&E	$\rho$
All groups	Social Capital	Mean index	1.67	1.11	1.538	5.29***
		Std. error	0.48	0.58	0.519	
	Group Performance	Mean index	1.94	1.22	1.230	16.17***
		Std. error	0.24	0.55	0.439	
	Accountability	Mean index	1.06	1.00	1.00	0.90
		Std. error	0.24	0.59	0.408	
SWMP groups	Social Capital	Mean index	1.75	1.10	-	2.16**
		Std. error	0.46	0.73	-	
	Group Performance	Mean index	2.00	1.10	-	4.6***
		Std. error	0.00	0.57	-	
	Accountability	Mean index	1.00	1.10	-	-0.38
		Std. error	0.00	0.74	-	
ATIRI groups	Social Capital	Mean index	1.60	1.13	-	2.21**
		Std. error	0.16	0.13	-	
	Group Performance	Mean index	1.90	1.37	-	2.66**
		Std. error	0.10	0.018	-	
	Accountability	Mean index	1.10	0.87	-	1.42
		Std. error	0.10	0.12	-	

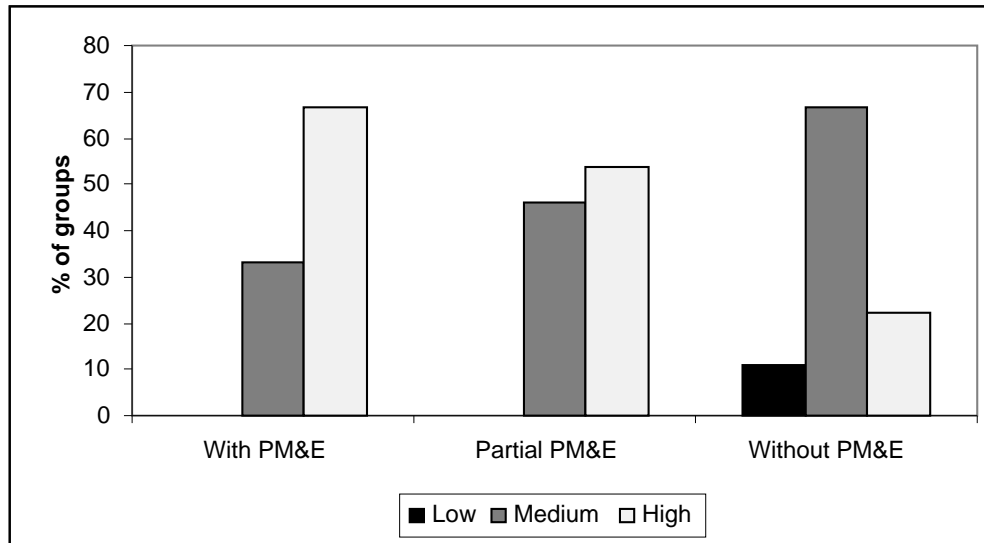
\* Significant at 10 % level, \*\* Significant at 5 % level, \*\*\* Significant at 1 % level  
*n* = 73 individual members and 94 groups (see Appendix 1 for complete breakdown of sampling frame)  
 Source: Author Calculations

Comparing across groups within the same project, there were significant differences in social capital between groups that fully integrated PM&E and groups without PM&E within the SWMP clusters as well as within the ATIRI cluster of groups ( $\rho < 0.05$ ). Within the SWMP clusters, results indicate that 64.3 % of the FFS groups with PM&E had a social index of “high”, while 57.1 % of those without PM&E had a “high” social capital index. None of the groups within those with PM&E had a “low” social capital while this percentage was 14.3 % for the groups without PM&E (See Figure 2).

A number of factors can be attributed to the high social capital index in groups with PM&E. Groups with PM&E systems reported that they kept attendance registers, constitutions and by-laws that were enforced, implying that these groups had some rules and procedures that bound the members together and promoted cooperation among them. Most of the groups with PM&E were more able to seek additional services from project staff as they could clearly articulate their issues to project staff.

Their linkages with both project staff and other organizations were, therefore, more extensive than groups without CD-PM&E.

Figure 2: Level of Social Capital.



Source: Author calculations

Groups with PM&E stated that they were holding reflection meetings more frequently than groups without PM&E. The aim of these reflection meetings are to discuss the progress of their projects as well as group member's performance. Many groups have found that the capacity of group members to work collectively had greatly improved since instituting PM&E systems. These factors are likely to have caused higher levels of social capital within these groups compared to groups without PM&E.

An example is given of Dambale group from Kwale district who, during a focus group discussion, informed that the capacity of their group to work well together had improved tremendously since designing PM&E systems. The major reasons cited by the group for the improved capacity to work well together were: (i) new members had joined the group; (ii) group members were able to meet frequently and discuss group matters; (iii) members were able to assist each other during difficult times; and (iv) members were punctual during group meetings and activities. Punctuality was considered a symbol of cooperation and group solidarity as reflected in the quotation below from members of Dambale group.

Our group has changed a lot since we started working with this project... previously members would always come late to meetings and sometimes we would just be forced to call off the meeting because we could not form a quorum" another participant chipped in "... the issue here is that members are afraid of penalty fees which our group introduced after designing PM&E systems, if one comes late for more than three consecutive meetings she/he is supposed to pay a fine.

On the other hand, most of the groups that did not have PM&E systems indicated that capacity of group members to work well together had not changed significantly



due to frequent misunderstandings amongst group members, low attendance at group activities, members dropping out from groups, and members not seeing real benefits from the group.

### **5.3.2 Group Performance**

Groups with PM&E systems had a significantly higher group performance index than the groups that did not design PM&E systems, 1.94 compared to 1.22 ( $\rho \leq 0.00$ ). On the other hand, there were not any statistically significant differences between groups that partially integrated elements of PM&E systems and the groups that did not, although the groups that partially integrated some elements of PM&E had a slightly higher group performance index: 1.23 compared to 1.22 ( $\rho \leq 0.469$ ). This means that partial PM&E systems do not make any significant impact with respect to how the group performed.

Similarly, Figure 3 shows that 94.4 % of groups with PM&E had a group performance index of “high”, while only 4.6% had a “medium” group performance index. In contrast, only 27.9 % of the groups without PM&E systems reported “high” levels of group performance, while the majority (66.7 %) had “medium” and 5.4 % had “low” levels of satisfaction. Within the groups that partially integrated PM&E, only 23.1 % had a “high” index of group performance while the rest (76.9 %) had a “medium” index for group performance.

CD-PM&E improves project implementation through feedback and reflection on the project implementation process; it ensures achievement of objectives as these objectives are well known and articulated and activities are designed and implemented to achieve these objectives; there is more regular and open tracking of objectives and group members have higher levels of satisfaction from this process. With CD-PM&E, group decision making is improved as there are shared roles and responsibilities, and reflection meetings allow for the group to have a say in the way group activities are implemented and group resources are utilised. These groups have more contacts with project staff and other organizations. For example, almost 80 % of the groups with CD-PM&E adjusted their activities based on results of the CD-PM&E compared to about 20 % of the groups without PM&E and with partial PM&E.

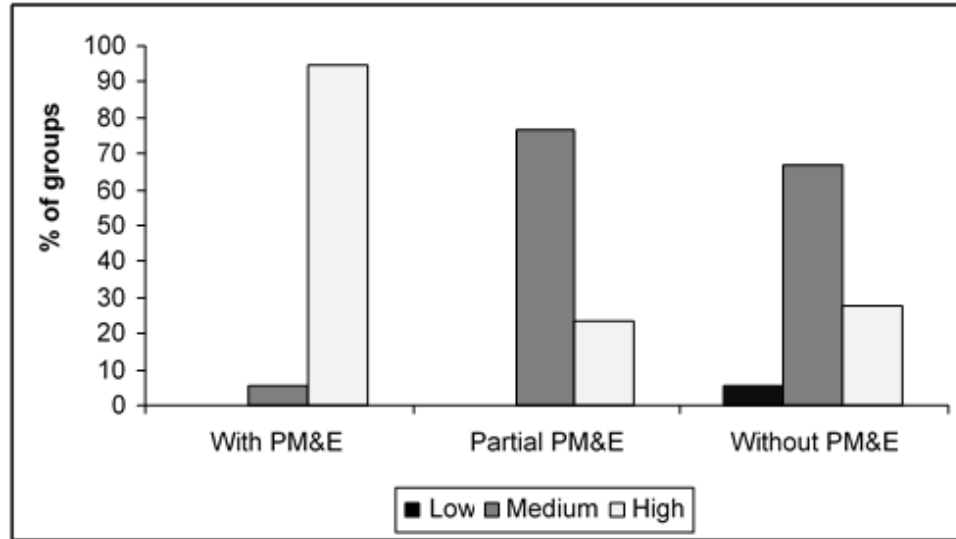
### **5.3.3 Accountability**

There were no statistically significant differences between groups with and without PM&E systems in terms of the level of accountability within their groups, although the mean accountability index was slightly higher for groups with PM&E (1.125) than those without PM&E (1.056) ( $\rho \leq 0.716$ ). These results are not a surprise because it was quite clear during the focus group discussions that there was not much difference between groups with PM&E and those without PM&E regarding knowledge of group funds. Information about group funds was considered to be the domain of the committee members and was largely shared among the chairperson, treasurer and secretary. Otherwise the group with PM&E performed better in other forms of accountability such as involvement of group members in decision-making, knowledge of other group resources, such as the amount of harvest from the group plot, and the election of members into leadership positions.

Similarly a study conducted in Honduras revealed that although PM&E enhanced transparency and group internal-accountability, there were still some difficulties such as dealing with sensitive group information but also group sustainability with

groups becoming non-existent after some time (Probst, 2002). This could be one of the reasons that may have contributed to low accountability even in groups that designed PM&E systems especially with respect to financial resources, because information on the amount of group funds was considered a sensitive issue in most of the groups.

Figure 3: Level of Satisfaction with Group Performance.



Source: Author Calculations.

## 6.0 Conclusions and Policy Recommendations

This study has demonstrated that farmer groups that integrated community driven PM&E had higher indices with regards to group social capital and group performance. These groups exhibited far greater group cohesion and members had higher perceptions of the group performance as a result of the greater social capital and group performance, respectively. The extent of integrating community driven PM&E largely determined the intensity of group cohesion and social capital within groups. Hence groups that fully integrated community driven PM&E were more likely to have greater cohesion than groups that only partially integrated community driven PM&E.

The study further finds that accountability, a key factor determining internal group functioning and sustainability, did not differ significantly between groups with and without community driven PM&E. Individuals within the group that were not part of the executive management committee<sup>1</sup> did not have knowledge and information about group funds despite the integration of community driven PM&E. Despite the lack of a statistical significance in accountability between groups with and without community driven PM&E, the study found that groups that had integrated PM&E performed better in other forms of accountability such as involvement of group members in decision-making, knowledge of other group resources such as the amount of harvest from the group plot and the election of members into leadership positions.

<sup>1</sup> The executive management committee consists of the chairperson, treasurer and secretary of the group.

These findings show that integrating community driven Participatory Monitoring and Evaluation (PM&E) in farmer groups is essential for improving internal group functioning. However implementation of community driven PM&E should be done with other strategies that specifically aim to improve financial accountability. Without such an approach, the benefits and efforts to improve group functioning through the integration of community driven PM&E may be eroded by the lack of financial accountability within the group. Furthermore, promoters of farmer organizations and other key stakeholders such as agricultural advisory service providers must ensure that strategies to improve accountability incorporate capacity building of group members' basic literacy and numeracy skills. This is because the majority of the membership of farmer organizations in Sub-Saharan Africa is illiterate. Hence, improved basic numeracy and literacy skills would enable members to better understand and enforce the concept of accountability, and would also enhance their participation in the group. Capacity building for the effective integration of community driven PM&E should also be part of a comprehensive approach to improving farmer organizations. Such efforts should include capacity building of not only the membership of farmer organizations, but also grassroots agricultural extension and advisory service providers who provide technical support to farmer groups.

### Appendix 1. Breakdown of Sample Size (*n*)

Table A1. *Number of Individual Interviews per District Groups with PM&E*

Groups with PM&E	District	Individuals interviewed per group with PM&E	Groups without PM&E	District	interviews per group without PM&E	Total no. of individuals interviewed
Matatizo	Kilifi	10	K. Buruta	Kwale	10	20
Mwananyati	Kwale	10	Hanzoro	Kwale	10	20
Upendo	Kilifi	9	Peleleza	Kwale	10	19
Galana	Kilifi	8	Tuungane	Kwale	6	14
		<b>37</b>			<b>36</b>	<b>73</b>

Source: Author calculations

Table A2. *Number of Groups Interviewed per District Project Name*

		Total number of groups in the project	Number of groups interviewed	Kilifi	Kwale	Malindi	Mombasa
SWMP	Groups with PM&E	9	8	6	2	0	0
	Groups without PM&E	18	10	4	6	0	0
<b>Sub total</b>		<b>27</b>	<b>18</b>	<b>10</b>	<b>8</b>	<b>0</b>	<b>0</b>

Table A2 continued:

ATIRI	Groups with PM&E	15	10	3	4	2	1
	Groups without PM&E	16	8	3	1	1	3
<b>Sub total</b>		<b>31</b>	<b>18</b>	<b>6</b>	<b>5</b>	<b>3</b>	<b>4</b>
Cashew Nuts	Groups integrated some elements of PM&E	<b>36</b>	<b>13</b>	<b>11</b>	<b>0</b>	<b>2</b>	<b>0</b>
<b>Grand total</b>		<b>94</b>	<b>49</b>	<b>27</b>	<b>13</b>	<b>5</b>	<b>4</b>

Source: Author calculations

## References

- Abaru, M. B., Nyakuni, A., & Shone, G. (2006). Strengthening farmer's organizations: RELMA's experience in Eastern and Southern Africa. ICRAF Working Paper No. 23. World Agro-forestry Centre: Kenya.
- Beaudoux, E., Bourque, A., Collion, M., Delion, J., Gentil, D., Kabuga, C., et al. (1994). Farmer empowerment in Africa through farmer organizations: Best practices. AFTES Working Paper No. 14. Agricultural Policy and Production. Technical Department, Africa Region. World Bank: Washington, D.C.
- Campilan, D. (1997). Making participatory monitoring and evaluation (PM&E) work: Thirteen vignettes from the field, in self-assessment: *Participatory dimensions of project monitoring and evaluation*, UPWARD: Philippines.
- Chamala, S., & Shingi, P. M. (1997). Establishing and strengthening farmer organizations. In B. E. Swanson & C. Garforth (Eds.), *Improving Agricultural Extension: A reference manual* (pp. 193-201). Food and Agriculture Organization of the United Nations: Rome, Italy.
- Cook, T. D & Reichardt, C. S. (1979). Qualitative and quantitative methods in evaluation research. Beverly Hills: Sage.
- Coupal, F. (2001) *Results based participatory monitoring and evaluation*. Retrieved May 7, 2012, from <http://www.mosaic-net-intl.ca/documents/article-PME.pdf>
- De Beer, F. & Swanepoel, H. (1998). *Community development and beyond*. South Africa: National Book Printers.
- Estrella, M., Blauret, J., Campilan, D., Gaventa, D., & Ricafort, R. (2000). (Eds). *Learning from change: Issues and experiences in participatory monitoring and evaluation*. London, UK: Intermediate Technology Publications.
- Estrella, M., & Gaventa, J. (1998). *Who counts reality? Participatory monitoring and evaluation: A literature review*. IDS Working Paper No. 70. Institute of Development Studies: University of Sussex, Brighton, UK. Retrieved May 30, 2014, from <http://www.ids.ac.uk/files/Wp70.pdf>

- FAO (Food and Agricultural Organization). (2007). Sustainable agriculture and rural development (SARD) and farmer organizations. SARD Policy brief No. 12. Rome, Italy: FAO.
- Guijt, I. (1999). Participatory monitoring and evaluation for natural resources management and research. *Socio-economic Methodologies for Natural Resources Research*. Chatham, UK: Natural Resource Institute.
- Guijt, I. & J. Gaventa. (1998). Participatory Monitoring and Evaluation: Learning from change. Institute of Development Studies Policy Brief 12. Brighton, UK: University of Sussex.
- Hellin, J., Lundy, M., & Meijer, M. (2007). Farmer organizations, collective action and market access in Meso-America. Collective Action Property Rights Working paper No 67. Retrieved October 7, 2012, from [www.capri.cgiar.org/pdf/capriwp67.pdf](http://www.capri.cgiar.org/pdf/capriwp67.pdf).
- Kusek, J.Z and Rist, R.C. (2004). *Ten steps to a result based monitoring and evaluation system. A handbook for development*. Washington DC: World Bank.
- Krishna, A. (2002). *Active social capital: Tracing the roots of development and democracy*. New York, NY: Columbia University Press.
- Mapila, M., & Haankuku, C. (2009). To march or not to march? Understanding the potential role of lobbying in positively influencing agricultural policy outcomes for Smallholder Farmers in developing countries. *African Growth Agenda*, January-March, 22-24.
- Mayo, M. (2001). Learning from change: Issues and experiences in participatory monitoring and evaluation. *Community Development Journal*, 36 (3), 256-257.
- Miller, R. L, & Campbell, R. (2006). Taking stock of empowerment evaluation: An empirical review: *American Journal of Evaluation*, 27 (3), 296-319.
- Mozammel, M., & Schechter, G. (2005). *Strategic communication for community-driven development. A practical guide for project managers and communication practitioners*. Washington, DC: World Bank.
- Njuki, J. (2004). Participatory monitoring and evaluation for institutional learning and change. No.17 Highlights, CIAT in Africa. Retrieved October 7, 2012, from <http://www.ciat.cgiar.org/africa/pdf/highlight17.pdf>
- Ostrom, E. (1994). Constituting social capital and collective action. *Journal of Theoretical Politics*, 6(4), 527-562.
- Peacock, C., Jowett, A., Dorward, A., Poulton, C., & Urey, I. (2004). *Reaching the poor- a call to action: Investment in smallholder agriculture in Sub-Saharan Africa*. Harvest Help and Centre for Development and Poverty Reduction, London, UK: Imperial College.
- Pontius, J., Dilts, R., & Bartlett, A. (Eds.) (2002). From farmer field school to community IPM: Ten years of IPM training in Asia. Food and Agricultural Organization Regional Office for Asia & Pacific: Bangkok, Thailand.

- Probst, K. (2002). Participatory monitoring and evaluation: *A promising Concept in Participatory Research? Lessons from two studies in Honduras* (Kommunikation und Beratung, Bd. 49) Margraf Verlag, Weikersheim. Xii. Retrieved May 30, 2014, from [http://shop.margraf-publishers.net/uploads/tx\\_ttproducts/datasheet/1386.pdf](http://shop.margraf-publishers.net/uploads/tx_ttproducts/datasheet/1386.pdf)
- Putnam, R. D. (1993). The prosperous community. *The American Prospect*, 4(13), 35- 42.
- Rubin, F. (1995). *A basic guide to evaluation for development workers*. Oxford, UK: Oxfam.
- Sanginga, P. C., Kamugisha, R. W., & Martin, A. M. (2007). The dynamics of social capital and conflict management in multiple resource regimes: A case of the southwestern highlands of Uganda. *Ecology and Society*, 12(1), art. 6.
- Waysman, M., & Savaya, R. (1997). Mixed methods evaluation: A case study. *American Journal of Evaluation*, 18(3), 227-237.
- Wennink, B., Nederlof, S., & Heemskert, W. (2007). *Access of the poor to Agricultural services: The Role of farmers, organizations in social inclusion*. Book No. 376. Amsterdam, Netherlands: KIT Publishers.