

Integrated Nutrient Management for Building the Assets of Poor, Rural Women

A CIAT-SWNM Project

Institutionalizing the Use of Participatory Approaches and Gender Analysis in Research on Natural Resource Management to Improve Rural Livelihoods

Sponsored by the Systemwide Program on Participatory Research & Gender Analysis (PRGA)

First Semester Report (March-September 2002)

Background

A recent review of experiences in developing technologies for rural women showed a general consensus that the CGIAR has not been successful in impacting the lives of poor rural women, and that it is important to explore different strategies to develop a large-scale programmatic effort focused on this issue. Women producers need drudgery-reducing technological advances for intensification of food production and cash cropping which increase the returns to their labor, and which must be built on technologies for maintaining and improving soil quality and soil health. The review showed that the area of integrated nutrient management (INM) research could be among the most important to poor women producers (Kaaria and Ashby, 2000). Soil improvement through integrated nutrient management is an important part of asset building for the poor, and especially for poor women producers who rely on the intensification of subsistence and cash cropping on the land they cultivate.

This project argues that for INM to benefit poor rural women, technology development needs to start from a beneficiary-based diagnosis of constraints and opportunities for intensification and improvement of nutrient management, instead of starting from the soil and soil constraints to design technologies, which is the classical approach taken by soils scientists and agronomists. With this diagnosis, research needs to take a resource-to consumption approach: this will improve women's production, post-harvest processing and marketing in tandem with the creation of incentives for improved management, and investments in soil fertility.

The resource-to-consumption system approach to the design and development of INM technologies requires these technologies to be tested with user participation and to trace links backwards and forwards from the soil resource to production, marketing, post-harvest processing and consumption. In INM we predict this will point to important links for tightening the nutrient cycle in relation to women's management of small livestock, and multipurpose legumes as sources of biomass for incorporation into the soil, forage, fuel, and soil and water conservation. A resource-to-consumption approach should identify new marketing or post-harvest processing opportunities which increase farm women's own income, employment and the return to women's time, and create a demand for farm products which require INM, and generate extra farm income for investment in soil improvement. Alternatively, it should identify INM technologies which directly increase returns to women's labor (in contrast to many existing INM technologies which are highly labor-demanding).

The specific objectives of the project include:

- The development of procedures on how to design, test, evaluate and disseminate innovative INM technologies in a "resource to consumption" context, by tracing the links backwards and forwards from the management of soil resources to production, marketing, post-harvest processing and consumption, to provide incentives for investing in resource management.

- The development of criteria for assessment of the available INM technologies using economic assessments, market opportunity analysis, and participatory methods including gender and stakeholder analysis, to ensure that resource poor farmers, especially women, will benefit.
- The implementation of participatory monitoring and evaluation processes to derive lessons and enhance self-learning from experience, accountability to the community and to develop local leadership in these capacities.

We are focussing initially on three selected sites in eastern and southern Africa (Kabale, Tororo in Uganda and Dedza in Malawi) and where gender issues and soil fertility decline are critical, and here where CIAT and TSBF/SWNM have research and development activities.

Table 1. Description of initial sites

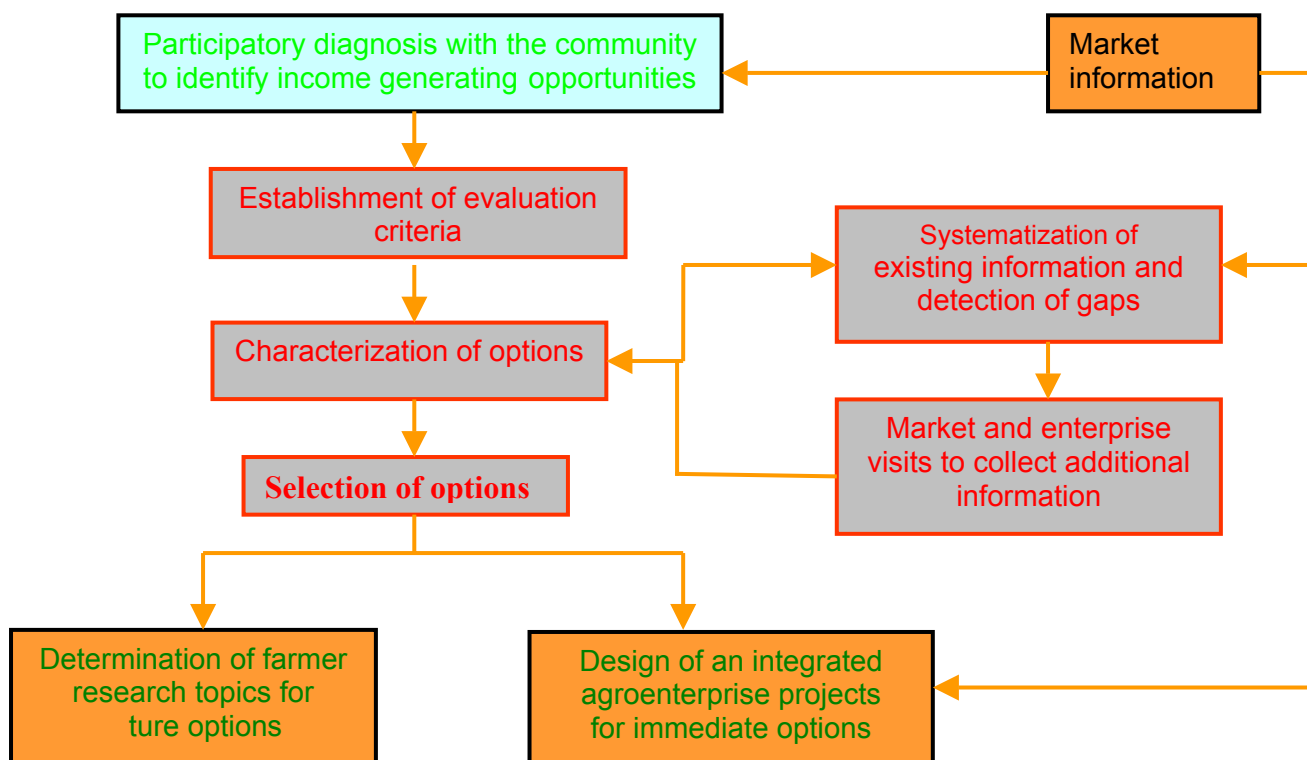
	Mugandu/Buramba, Kabale Uganda	Tororo, Uganda	Lithipe EPA, Dedza Malawi
Absolute poverty level of population	Moderate	Moderate	High
Major causes of poverty	LanKad scarcity, soil infertility, environmental degradation, low agricultural prices	Low agricultural prices, poor market organisation in the communities, Soil infertility, low productivity,	Soil infertility, low productivity, drought
Market orientation	Moderate	Moderate	Low
Access to roads	Good	Good	Good
Main crops	Potato, beans, sorghum, cabbage	Maize, Beans, sorghum, groundnut	Maize, beans
Rainfall pattern	Bimodal	Bimodal	Unimodal
Soil capital	Moderate	Moderate	Low
NGO partner	Africare	Africa 2000 Network	Traditional Irrigation Programme

Highlights

1. Linking Farmer participatory Research to Market Opportunity Identification ; The Resource to Consumption approach

In this first semester we began testing the Resource to Consumption (R-to-C) approach with two communities (Muguli B and Kalambo) in Kabale District, South-western Uganda. The approach involved linking farmer participatory research with market opportunities identification following the procedure below:

Figure 1: Procedure for farmer participatory market opportunity identification and evaluation in Kabale



Source: R. Best 2002. Agroecology Highlights, CIAT Africa

The participatory diagnostic was based on the community visioning approach. The approach focuses on change rather than problems, identifying opportunities and what needs to be done to address constraints, and planning for implementation of activities. Farmers identified what crops, livestock and other products they are producing both for household food consumption and income generation. Gender differences in visions, constraints and opportunities are taken into consideration when developing community action plans and vision. Livelihood options for most people are limited to food crops production: sorghum, potatoes, beans, field peas, sweet potatoes, maize, cabbage and a few livestock. Off-farm employment options are limited, but there is an increase in the number of men migrating elsewhere-- thus exacerbating labour shortage. The diagnostic process is also expanded to discuss gender issues related to access and control of resources, labour profiles and decision-making as well as complex intrahousehold dynamics were obvious during the visioning process.

Through the diagnostic process communities discussed and prioritized the types of crops they would like to grow and animals they would like to keep based on their income generating potential. A number of agricultural enterprises (potatoes, coffee, pyrethrum) and livestock (pigery and poultry) were selected for income generation potential. The communities then elected their "income committee" to conduct a

systematic evaluation of the different options proposed, using a number of criteria such as market demand, profitability, requirements for the crop or enterprises, potential numbers of farmers that might be involved in an enterprise, the role of women, and any negative effects that the enterprise might have on the roles of men and women. With support from the community development and market facilitator, the income committees organised visits to local markets in Kabale and nearby town, and to the pyrethrum processing factory in Kabale town to gather more information to be able to evaluate each of the options that were prioritised.

The advantages and disadvantages, constraints and opportunities are analysed for each option including cost-benefit analyses. In addition to the economic returns, farmers used other criteria to decide on which enterprise to engage in. Pyrethrum and poultry, although giving relatively low economic returns, were selected by farmers, especially women, because of their relatively low investments and labour requirements, but also their ability to provide regular income continuously. Cost benefits analysis calculated by farmers with the assistance of the market facilitator showed positive returns to pyrethrum of US \$141 per acre for the first year, and increased to about US \$487 in the second year as the crop is expected to stay in the field for 3 to 4 years. The costs included conservative measures of opportunity costs for land, labour and inputs for pyrethrum production. However, pyrethrum is usually grown on plots situated on top of hills, which are often not used for cultivation. With 2000 plants of pyrethrum, enough to cover 0.25 acres, the farmer is expected to harvest between 10 to 15 Kgs of dry flowers every month. Picking of flowers is done weekly continuously for 9 months after establishment of the crop. Initial seedlings and splits are supplied by Agromanagement, the pyrethrum factory, at no cost to farmers.

After the selection of pyrethrum and farmers' decision to engage in the production of pyrethrum, the next stage involved detection of knowledge gaps, and the identification of potential research questions that farmers need to do experimentation on. Farmers in the two communities have established their research committees to conduct research on their behalf, and feedback the results to the entire communities. Criteria used in selecting the members of the research committee were selected using criteria such as one should be a farmer who has interest in growing pyrethrum, keen learner, inquisitive, able to feedback to the community; should be able to read and write (this was however not important). In addition, there should be gender balance in the committee. The FRG are composed of 10 farmers (4 women, 5 men and 1 youth) in Muguli B, and 7 farmers (3 men and 4 women) in Kalambo.

Two research activities have been selected: on improving the profitability of Pyrethrum for market orientation, and on improving the productivity of beans for household food security.

2. Integrated Nutrient Management for Increasing the Profitability of Pyrethrum in the Highlands of Kabale, Uganda

Pyrethrum (*Chrysanthemum cinerariaefolium*) is a perennial crop whose flowers are used for pyrethrin extractions to make natural insecticide for household insect pests. The demand has continued to grow in the world market as a more environmentally friendly insecticide for household uses. Pyrethrum is a 'new' cash crop in Kabale district with good potential to provide regular income to resource-poor farmers, especially women. In most cases the area occupied by pyrethrum averages 0.25 to 1 acre, and the crop is often grown without additional inputs. However, to grow in optimal conditions, pyrethrum requires fertile and well drained soils with reasonably good structure and texture to ensure proper infiltration and controls erosion. Soils in Kabale are low in soil fertility and highly exposed to soil erosion. The use of integrated nutrient management technologies to improve crop and soil productivity provides an avenue for the resource poor farmers to improve upon pyrethrum yields.

The following areas were identified by farmers and scientists for experimentation:

- management options better suited to different soil conditions (poor soils, acid soils, different location on the hill)
- the potential for INM options in improving soil in pyrethrum production systems
- what are the requirements of the crop, where on the slope to grow the crop
- propagation of pyrethrum
- pests and diseases
- appropriate use of organic/inorganic materials for soil fertility improvement
- management options aiming at optimal use of the legume in combination with strategic applications of mineral fertilisers to maximise nutrient cycling and soil organic matter replenishment
- analysis of different organic/inorganic nutrient interactions in pyrethrum farming systems
- appropriate niches for legume for soil fertility improvement and erosion control

Roles and responsibilities between farmers and scientists were discussed, indicators and parameters for monitoring and observations were identified, and experimental designs (treatments, comparisons, observations) were discussed and agreed upon. These farmer led experiments are conducted on group plot for collective learning, and on farmers individual plots according to their specific objectives.

The first season of experiments were established on group plot for collective learning. However, because of the dry spell that followed planting of the experiments, no results were obtained the first season. Farmers have decided to conduct a second round of experimentation on a range of integrated nutrient management options for improving the profitability of Pyrethrum. These include use of farm yard manure, legumes, soil erosion control measures, *marc* (pyrethrum residues), agricultural liming, wood ash and organic and inorganic fertilizers. These different options will be evaluated by farmers during this season.

3. Integrated Nutrient Management for Improving Food Security: Farmers Experimentation and Evaluation of Beans Varieties in Malawi and Uganda

During the participatory diagnostic process in Kabale and Malawi, beans were identified and prioritized as an important crop mostly for household food security and consumption. Beans are known to be women's crops. However, a number of constraints are affecting the productivity of the bean crop (soil fertility, diseases, pests, and the lack of improved varieties with desirable characteristics to farmers).

Farmers' experimentation in Dedza, Malawi was conducted to test and evaluate 8 new varieties of and 2 local varieties of beans on their individual plots. However, although the experiments were affected by the drought in southern Africa, the farmers involved have decided to repeat the experiment next season, using more systematic ways of monitoring, evaluation and feeding back to the community. INM options for improving the productivity of the soil will be included in the next season experiments. Similarly, in Kabale (Uganda), individual farmers were involved in the selection of about 60 different lines of bean varieties in the last season. Farmers have plans to continue experimentation and evaluation of a reduced number of these varieties, including options for improving soil fertility to evaluate their effects on pests, diseases, and yields in the coming season.

4. Gender, Social Capital and Soil Fertility Management Practices in the Highlands of Uganda:

One of the important activities for the project in the first year was to conduct a more systematic gender analysis in the project sites, using triangulation and different approaches to enhance our understanding of livelihood strategies of rural women in relation to soil and natural resources management. This should assist in identifying opportunities for building the assets of rural women through participatory research and market opportunity identification. Gender analysis studies are focusing on:

- Understanding the complex dynamics in intra-household resource allocation and decision-making, and the renegotiations that take place as a result of technical change, will be key to ensuring that benefits accrue to the target groups.
- Developing strategies/mechanisms to ensure that women benefit/retain control of profitable technological innovation. This should include the identification of factors that ensure women retain control or benefit from successful income-generating projects, and the formulation of strategies/technologies that can give women more bargaining power.
- Identifying and developing strategies for enhancing the human and social capitals for women to demand for technology, including identifying new market opportunities for women.

In addition to the diagnostic and baseline studies conducted in the different sites, we are using case study approach to analyse the relations between gender, social capital and natural resources management in Kabale. The decision to conduct case studies in the two project villages as well as two other villages in Kabale, relates to the diverse nature of social capital, in particular the need to explore informal social capital and complement survey approaches. The case studies are designed to increase understanding of how social capital is activated in the pursuit of livelihoods, particularly how access to (or exclusion from) to social capital can assist or impeded access to other forms of capital and hence influence livelihood choices and outcomes. Stakeholder analysis been undertaken at villages level to identify the range of actors and institutions, but it is necessary through more detailed household level investigations to understand how interest groups and power relations play out in practice as opposed to value statements. The significance of how gender is determining access to social capital is poorly understood, although such understanding is an important foundation for the development of innovations and options to assist the disadvantaged to improve their livelihoods, and to determine which forms of social capital could be appropriately strengthened to the benefit of which social groups? Through this analysis, the existing patterns of social capital will be identified and opportunities for building and extending its role in NR management explored. Where social capital is lacking, or where existing forms play negative roles for sections of the community, strategies to strengthen social capital will be considered.

The research should help to indicate which strategies for improving NR management and productivity have more relevance for which groups, and what additional policy changes and capacity building are needed for their implementation. Specifically the viability of options which are necessarily implemented at supra-individual level versus options which can be implemented on single plot scale by an individual decision maker.

Checklists for Gender, Social Capital and Livelihood assets Case Studies

Social Capital

What is the significance of clan membership (of H and W) – does it bring any benefits?

What kin relationships do they have in the village and outside - blood relatives and by marriage?

Relationship to their immediate neighbours? (Use kinship/network diagrams to show where these give access to labour, cash, food, land, livestock and livestock products, tools, seeds, collected products, employment opportunities, childcare. etc.)

Membership of organisations by household members in and outside the village (self-help groups, labour sharing groups, groups for natural resource management, crop production and livestock rearing, cultural groups, church groups, political groups etc.)

Date of joining, through what contacts and sources of information? What are the conditions of membership, fees etc.

Details of organisation and activities, management of labour and production. Perceived benefits or disadvantages of group membership.

Leadership roles held by H and W (clan, LCs, committees) in village and beyond.
Participation in community activities and collective work?

Relationships with neighbours. Extent of trust, exchange and mutual support?
Contributions to welfare funds - ngosi groups

Changes in family relationships over the last 10 15 years, relations between the generations.

Frequency of visits to and visits from relatives and friends outside the village. Visits to markets outside the village. Meetings outside village.

EACH VISIT

Any changes in household composition.

Main social activities, kin/clan events since last visit?

Group activities by family member since last visit. New groups joined? Community work.

Leadership roles –any changes or new roles?

Relations with family and neighbours – any help or assistance given or received? Welfare activities undertaken.

Visits to and from friends/relatives and absent household members. Visits to markets and Kabale town, outside meetings- by whom.

Any problems in relations within the household or between the household and the community?

Natural Assets

What is the household's access to land? How many plots, in what different villages and locations?

Record all plots owned, rented in or out, used/shared by household members on plot record sheet A, one sheet to be filled for each plot. For plots cultivated by members of the household complete form B for each crop.

Has any member of the household ever sold or exchanged a plot of land in the village? Has any member of the household given up land because of contested ownership? Is there a home garden? Who manages it? What crops and uses?

Changes in farming patterns, yields and productivity over the last 10 years. Effect on food

security and income. Proportions of different crops sold or retained for family consumption. Extent of household self-sufficiency in food production? Involvement in group storage for food security?

Involvement in experimentation new crops, species etc. as an individual or through group

Livestock (cattle, goats, pigs, chickens, rabbits etc)– owned by whom, numbers, how acquired? Looked after by whom (water, herding, fodder sources). Role of livestock in their livelihood? Home consumption and sales of livestock and livestock products, gifts given and to whom. Use of income from livestock.

Income from trees, timber, charcoal etc. used by whom?

Access to common pool resources by different household members – products and uses from forest/ trees, wetland, grazing. What are conditions of access. Membership of society?

EACH VISIT (Fill plot forms).

Any land acquired or land sold/rented/shared out since last visit? (if acquired, fill plot form)

Any livestock bought, sold, slaughtered, born, died?

Sales of livestock products? Use of income and by whom. Trees cut, sales. Use of income and by whom.

Following crop harvest - amounts sold of each crop, where sold, by whom, to whom, location and price:

Cost of marketing/transport

Amount stored for home consumption. Amounts given as gifts and to whom? Use of income from crop sales, by whom, for what?

(cross refer to gender and decision making)

Gender and Decision making processes

Gender roles – what are household members (men, women and children's) tasks and time allocation in **cropping, livestock management**, food preparation, water and firewood collection, **social and leisure activities**. *(Draw seasonal and daily calendars showing patterns of men and women's work and income. Don't forget children's work)*

What ownership or access do women of the household have over agricultural land, trees, livestock. Who has rights to sell land, crops, livestock? Who is consulted? *(link this discussion to the management responsibility defined for each plot)*

Gender and decision making

Who makes decisions in the household and who is consulted on the following: crop choices, crop management decisions, crop sales
Household food supplies and storage.
Gifts and assistance to others. consumption and sales of livestock and livestock products.
Who decides on choice of occupation?
Who decides about children's education?
Who decides on membership of groups and participation in community activities?

What are the responsibilities of husband, wife or other household adults, for managing **income**?
- income from crops and livestock
- income from non farm occupations.

What are the aspirations of different household members for the future? What livelihood changes would they like to occur.

EACH VISIT

For each transaction involving crops, livestock, trees discuss who made the decision, who controls income from sales, who decides on use of the income.
Explore gender dimensions of decisions made under physical, social, human and natural capital

Policies and Institutions

What is their understanding of the role of **clan leaders and LCs** in influencing **access to and sustainable management of natural resources**?

Are they aware of policies and local bylaws influencing and regulating use of farm land, grazing, forests and trees, swamps, livestock? (e.g soil conservation, burning, grazing etc). Do they know when and how these were developed? What are the advantages and constraints of implementing these?

In what areas could NR policies be developed to better support their livelihoods?

Could other local institutions be more effective in supporting livelihoods? Which ones and in what ways?

Strategies

For each household member –

What have been the main changes in livelihoods over the last ten years? What are their priorities to improve livelihoods and getting out of poverty?

What are their strategies for achieving these improvements? Why are these paths preferred?

(note ways to increase financial benefits, benefits from natural capital - both short and longer term; skills and occupational choice, physical capital, social relationships and social security.)

What changes in organisations or policies would be necessary to support these strategies.

Physical assets

(Observation/discussion)

1) Description of house and other buildings & stores, housing for animals. Materials, roofing, number of rooms. Furniture and decoration

Is house owned or rented? If rented, **from whom? Cost?**

Other property owned – type, location, **used by whom. Conditions of use?**

2) Energy sources - cooking, heating, lighting (e.g. electricity, charcoal, kerosene, firewood etc. & costs

3) Water sources for drinking and washing. Type and location. Sanitation – toilet/latrine.

4) Ownership and access to tools and equipment – agricultural tools, craft/enterprise tools and equipment. **Owned by whom? Used by whom?**

5) Ownership and access to transport – bicycle, car, pick up etc. **Owned by whom? Used by whom? Conditions of use?**

6) Access to **communications** – radio, telephone, TV, internet etc **Owned by whom, used by whom? Conditions of use?**

EACH VISIT:

Any new property/physical assets (1-6) acquired or used? Any assets sold or given away (from/ to whom, conditions, payment etc).

Financial assets

1) Sources of income of individual household members. (income from **salary, wage labour, rents, remittances, pensions, crops, livestock, trees, craft, home enterprises and services** etc.)

Which income sources are most important – by overall amounts and **at different times of the year?** (rank or quantify) Importance for different family members? Changes in income sources, for different family members over the last 10 years?

2) Any household member belong to a **savings group?** Membership fees, contributions. Details of the group, frequency of pay outs. Any Bank account? Link with other local financial institutions?

3) Sources of loans *received* in past year– (**relative, non relative, in/outside village, credit group etc.**). What was the loan used for? Interest rates or other arrangement and period? Has any household member still to repay a loan? **To whom? Where do they go for assistance in a financial crisis?**

4) **Who do they give financial assistance to? (parents/relatives/ friends etc).** What amounts and conditions? Is any member of the household owed money from a loan given in past year? **Owed by whom? Given for what?**

EACH VISIT:

1) Since last visit – amount of income received by each family member from each activity (in cash and kind) **Income from crops trees, livestock (see natural capital)** Money sent by HH members

2) Payments received through savings groups. New financial groups joined?

3) New loans obtained (**from whom**, for what, period of loan. Interest or other arrangement.) Other financial assistance received (**from whom**, for what). Loans paid back to others.

4) New loans given to others – to whom, for what, period of loan. Interest & arrangements.) Loans repaid by others. Other financial assistance given (to whom). USE OF THIS INCOME?

Human Assets

1) Educational level of all household members. Literacy – local language, English Children currently in school and location. **How funded and by whom?** (including sponsors)

2) Training received and skills of household members. **Where were skills acquired and from whom?**

3) Occupations of household members. (Main occupation and all secondary occupations) What conditions or contract of work? Location of work. **How were these opportunities identified – through what contacts (in/out of village)?** What was the source of **starting capital** for home enterprises? **From whom?**

4) Labour employed by **household members, in agriculture**, enterprise, other – permanent, temporary, seasonal. **What relationship to household? Conditions of employment /payment?**

5) Health status of family members. Have children been immunised? Anyone with chronic illness or disability? Access to health care – source, location (including local medicine/herbs). **Who pays?**

6) Who do household members consult for information on health issues, on agriculture and natural resources, on technologies, on markets, on community issues and local politics?

EACH VISIT

Change in school attendance, new training, new occupations, **Labour employed, health conditions and health care & costs, new information accessed.**

3.4. Role of Social Capital in the Adoption of Integrated Nutrient Management Technologies in Tororo District , Uganda (

Since 1998, the Integrated Soil Productivity Initiative Through Research and Education (INSPIRE) project (a consortium of NGOs, Gos, NARS and IARCs in eastern Uganda) has made substantial efforts in introducing, developing, on-farm testing and disseminating a range of improved soil fertility management technologies to farmers. While important progress has been made on evaluating the biophysical performance of these INM options, little attention is paid on understanding farmers' preferences and criteria for the selection of these technologies and actual use and management of the technologies by farmers, their perceived benefits and constraints, especially women farmers. In particular, the importance of gender and social capital have been underestimated. Recent studies indicate that social capital is crucial for adoption of soil fertility management technologies as it provides social networks, relationships and linkages that enable poor people to cooperate, coordinate, share information, resources, and act collectively.

This master thesis (Makerere University) research sought to examine farmers' adoption behaviour and investigate the role of social capital in the adoption and use of integrated nutrient management technologies by farmers in Tororo, eastern Uganda. It was hypothesized that high levels of social capital increase the probability that farmers will adopt integrated nutrient management technologies. The study was conducted in eight villages which have been the focal points for dissemination of soil fertility management technologies. A total of 160 farmers (60% women) were interviewed on their awareness and use status of a range of soil fertility management options, with special focus on legume cover crops and improved fallows. The interviews were complemented by other participatory techniques. Preliminary results indicate that there are high levels of social capital in farmers' research groups compared to the community as a whole. Farmers' research groups were found to be performing better on such indicators of social capital as cooperation, extent of trust, information sharing and participation in collective activities. On the other hand, indicators of weak ties such as selfishness, individualism and conflict are higher in the general community than farmer's groups. The results showed mixed adoption of legume cover crops and improved fallow by farmers. It was found that participation in farmer research group enhanced women's access to technologies. Women tended to prefer simple technologies such as mulching and had different preference compared to men. Group membership also enhanced farmer to farmer dissemination of technologies and information to non participating farmers, within and outside the community. The results suggest that Farmer group is an effective mechanism to disseminate knowledge intensive technologies and building social capital within the community. Further data analysis in progress.

3.5. Beyond Head-Counting: Developing a Gender Analysis Strategy for Agricultural Research and Development in the South-western Highlands of Uganda

Over the last few years, the national agricultural research organisation (NARO) in Uganda has been undergoing some positive changes, marked by the establishment of the agricultural research and development centres (ARDCs) in various agroecological zones. The future vision of NARO has therefore evolved to embrace " a farmer responsive research system that generates and disseminates problem-solving, profitable and environmentally sound technologies on a sustainable basis". The mission of the ARDCs is to better address the problems of particular zones by bringing research closer to its end-users to make research responsive to the needs of its end-users, and to empower farmers and rural communities to demand research. Greater participation of farmers in technology development

and dissemination is an explicit and vital feature of NARO's approach to defining and implementing its outreach initiative.

Given the roles that women play in agricultural production in Uganda, and considering the growing trend of feminisation of poverty, it is increasingly imperative that a high priority and visibility be given to strengthening and consolidating appropriate use of gender analysis in the ARDCs. The need to institutionalise or mainstream gender, that is to integrate gender concerns into every aspect of the research process, has been voiced by the ongoing review of the national agricultural research systems in Uganda. However, although awareness over gender issues has significantly progressed, gender issues remain to be fully incorporated into agricultural research. The assumption that research and technologies are "gender-neutral" is a key factor in explaining the continuing failure of much agricultural research and development (R&D) to integrate gender analysis in their activities. The tendency has been to only count the number of women compared to men, or to desegregate data by sex of farmers, and even such information is not reflected in the design and implementation of research activities.

Gender analysis is certainly more than the numbers and roles of women and men! Gender analysis should therefore move beyond head-counting or sex segregation of populations and data, towards a more systematic social analysis of the roles, responsibilities, constraints and opportunities as well as relationships between men and women, and between different categories of women, in relation to agricultural production. Our main objective is to promote gender sensitive participatory research methods, tools and practices, skills, values and behaviours that recognise and seek to institutionalise or mainstream gender analysis in ARDC activities. More specifically, the project will assist in

1. Strengthening the capacity of ARDC teams and their partners for integrating and using gender analysis tools, methodologies and skills in agricultural research and development activities, through learning workshops, backstopping and mentoring processes;
2. Conducting a systematic and rigorous gender analysis and stakeholder differentiation, as part of the diagnostic and characterisation of the farming systems that the ARDC intends to carry out in its zone, and
3. developing a "gender analysis strategy" for the ARDC, including clear guidelines, methodologies and tools on how to better integrate gender analysis in ARDC research, resulting in "gendered" logframes, workplans and research activities.

Some of the research questions will include:

- What are the different opportunities, constraints and problems faced by different categories of men and women farmers in the highlands of southwestern Uganda?
- How do we differentiate the client group at the research initiation stage for farmer's experimentation and adaptive research? How do we select participating farmers?
- How do we integrate gender analysis into agricultural research and development activities? What are the key moments in the participatory research process where gender analysis should be considered?
- How can the tools scientists and development partners are already using be genderized? What additional tools can be used? What effects will gender differentiation have: (if it is done, if it is not done)
- How to design a strategy for mainstreaming and institutionalizing gender analysis in agricultural research and development activities?

3.6. Capacity Building Events and Workshops

1. Training workshop on Facilitation Skills for Working with Farmers and Rural Communities (Arusha 26 August -3 September 2002)

Our work in Africa aims at developing and testing methodologies, approaches and processes to empower rural communities, especially women, to improve their own livelihoods. The focus is on strengthening the organisational capacity or social capital of local communities to better manage their resources, identify and develop agro-enterprises, innovate and conduct experimentation and access new technologies through farmers experimentation. However, to be effective, these communities need competent facilitators, well trained in effective facilitation and communication skills. Yet, research assistants and field level-staff who are responsible of the day to day implementation of activities often lack the necessary and effective facilitation and communication skills to more effectively work with the rural communities.

We organised and conducted a training workshop for CIAT Research Assistants, partners and extension agents working rural communities. The learning objectives of this training workshop were to impact the participants with skills and knowledge of effective facilitation and communication skills for working with rural communities. An important aspect of the workshop focused on skills, attitudes and behaviours for gender analysis, and strategies for proactive involvement of women in participatory research and extension. The workshop was attended by a total of 15 participants (4 women and 11 men) from Uganda, Kenya, Rwanda, Tanzania and Malawi.

Attended the following workshops:

2. Dealing with data from participatory studies: Bridging the gap between qualitative and quantitative methods, Workshop organized by the Statistical Services centre and the International Rural Development Department of the University of Reading, UK (2 – 13 September 2002).

3. Strategic experience of participatory methods and processes for the improvement of natural resources management. Workshop organized by the DFID-Natural Resources System Program (UK 7-8 September 2002) (Paper presented: Strengthening Social Capital for improving policies and decision-making in NRM)

List of Collaborators and Institutions

Susan Kaaria, CIAT- Cali Colombia
 Robert Delve, Tropical Soil Biology and Fertility Institute, Systemwide Program on Soil and Water Nutrient Management , Kampala Uganda
 Rupert Best, CIAT, Agroenterprise Development , Kampala, Uganda
 Colletah Chitsike, CIAT Africa, Malawi
 Robert Muzira, Research Assistant
 Adrienne Martin, Natural resources Institute, UK
 Africare, Kabale, Uganda
 African Highlands Initiative, Uganda
 Concern Universal Dedza, Malawi
 Africa 2000 Network, Tororo, Uganda
 National Agricultural Research organisation (NARO) Kabale Agricultural Research and Development Centre, Kabale Uganda
 Chitedze Research Institute Malawi

Makerere University, Kampala Uganda
Kabale District Local Government