GCP/RAF/338/NOR

Gender, Biodiversity and Local Knowledge to Strengthen Agricultural and Rural Development

LinKS Phase II Evaluation Mission Report

Eva Rathgeber
Joint Chair of Women's Studies
University of Ottawa/ Carleton University
Canada

and

Richard Lamboll
Natural Resources Institute
University of Greenwich
United Kingdom

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Abbreviations

ADRI	Animal Diseases Research Institute (Tanzania)
ARPAC	Arquivo do Património Cultural (Mozambique)
CTDT	Community Technology Development Trust (Zimbabwe)
COSTECH	Commission for Science and Technology (Tanzania)
DIAS	Danish Institute Agricultural Research
DNER	Directorate on National Rural Extension (Mozambique)
FNIP	FAO Focal Point Network on Indigenous People
FNPP	FAO Netherlands Partnership Program on Biodiversity
FFS	Farmer Field School
GEF	Global Environmental Facility
ICRAF	International Centre for Research on Agro Forestry
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICTs	Information Communications Technologies
IDRC	International Development Research Centre
IPGRI	International Plant Genetics Resources Institute
IPR	Intellectual Property Rights
IUCN	The World Conservation Union
LK	Local Knowledge
LSP	FAO-DFID Livelihoods Support Program
NEMC	National Environment Management Council (Tanzania)
Noragric	Norwegian University of Life Sciences
PARPA	Action Plan for the Reduction of Absolute Poverty (Mozambique)
PRSP	Poverty Reduction Strategy Plan
SADC-CCD	SADC Centre of Communication for Development
SDRE	Sustainable Development Research, Extension and Training Division, FAO
SDWW	Sustainable Development, Gender and Development Service, FAO
SEAGA	Social Economic and Gender Analysis Program, FAO
SUA	Sokoine Agricultural University
SWADE	Swaziland Water and Agricultural Development Enterprise.
TARP	Tanzania Agricultural Research Project
TAT	Technical Advisory Team
TF	Trust Fund (Tanzania)
TFNC	Tanzania Food and Nutrition Centre
WPF	World Food Program

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Executive Summary

The FAO-SDWW project "Gender, Biodiversity and Local Knowledge to Strengthen Agricultural and Rural Development" (GCP/RAF/338/NOR), known as "LinKS," was a regional project implemented in Tanzania, Zimbabwe, Mozambique and Swaziland from 1998 until January 2006. Phase II of the project (2002-2006), which is the focus of this evaluation, did not include Zimbabwe. Total funding was US$3.7 million, of which $2.2 million was spent in Phase II. The core funding for both phases came from the Government of Norway. Because of start-up delays, Phase II ran for 36 months in Tanzania but only 22 months in Mozambique and Swaziland.

The project was a regional initiative aimed at raising awareness about how rural men and women use and manage biological diversity. It explored the linkages among local knowledge systems, gender roles and relationships, food provision, and the conservation and management of agro-biodiversity. Both the objectives and the design of Phase II were focused on active utilization and uptake of the research findings and training experiences of Phase I of the LinKS project. The emphasis was on i. capacity building; ii. research; and iii. strengthening of institutionalization processes, networking and application of experiences.

The capacity-building component of the project was very successful. In each of the three target countries, training was undertaken in a systematic manner, using materials that had been developed for the LinKS project. Training for researchers was especially important as the project aimed to "provide researchers and development agents with opportunities to learn about LinKS concepts, including the value of local knowledge in a rural setting, and build skills in the use of gender-sensitive and participatory methods for practical application in their work

The research component was also successful insofar as research projects were completed in each of the three countries. The sustainability of results emanating from the LinKS project will depend on a number of factors including supportive policy frameworks that provide appropriate incentives; long-term funding sources; awareness and understanding of the benefits of new approaches and activities; local ownership, brought about by genuine participation and influence of all key stakeholders in decision-making and prioritization of activities; and the ability of organizations, including private businesses, to use effectively the resources provided.

The communications component seems to have been the least successful of the three key areas, probably because project proponents in the target countries thought that there was little to communicate until the research had been completed (which did not happen until the end of the project period).

The project was successful in producing research documents in every country. Some, especially those from Mozambique, are already finished products while others would lend themselves to careful editing to make them useful to a wider audience.

Gender was the most problematic of the three key concepts. A possible reason for the difficulty experienced by participants in absorbing the gender component may have been that it called for a different analytical approach than either local knowledge or agro-biodiversity, both of which can be discussed in the context of the scientific terminology that was more familiar to most of the participants. Gender may have been perceived as a more sensitive and hence challenging subject for some participants. A greater understanding of these issues at the intermediary organizational level would be very useful.

A major achievement of the LinKS project is the creation of the Trust Fund in Tanzania. The Trust Fund will provide a forum for the systematic consideration of LinKS issues; it will continue to provide LinKS-type training; and it establishes an impartial body outside government that will have the capacity to facilitate the provision of relevant advice on intellectual property rights.

The project was less successful in achieving its objective to establish a framework for a national local knowledge policy in at least two countries by the end of Phase II. However, both Tanzania and Swaziland have integrated LK into some aspects of their government policy.

Within the project framework, all three countries participated actively in the concept development and policy discussions related to the LinKS project. It is also clear that in both Tanzania and Swaziland, active discussions were held with country partners. Based on the documentation available for Mozambique it appears that this also happened. However, the sub-regional discussions do not appear to have been held except in the context of annual meetings of national coordinators.

Conclusions

A few broad conclusions apply equally to the three countries. No baseline study was done at the beginning of Phase I or at the beginning of Phase II, so it is difficult to gauge the extent to which LinKS influenced the current level of attention to gender, agro-biodiversity and local knowledge in the three countries. Moreover, although monitoring of project activities was systematic and sustained during Phase II, this was not true of project outcomes. Ideally, indicators should have been set up at the beginning of the project to measure the understanding and use of the key LinKS concepts by local institutions.

It is useful to look specifically at the three immediate objectives of Phase II to judge the extent to which the project was able to successfully achieve its original goals:

Immediate Objective 1*: **Enhance the ability of researchers and development workers from key partner organizations to apply an understanding of gender, LK, biodiversity and food security in their work by providing them with diverse learning opportunities as well as skills enhancement in gender-sensitive and participatory approaches.***

Conclusion: The project succeeded in enhancing the ability of researchers and development workers from key partner organizations to apply an understanding of gender, LK, biodiversity and food security in their work. However there are some caveats. First, the application of the concepts was uneven, as evidenced in the final research reports. Second, there was no systematic follow-up of participants in training courses so it is impossible to know if they later applied these approaches in their daily work. Third, in Tanzania and Mozambique there has been continued partner demand for LinKS training, but there is little evidence that this is the case in Swaziland.

With respect to the expectation that LinKS concepts will have been integrated into the university curricula at various institutions, this also had mixed results. A lasting legacy of the LinKS project is the training manual that was produced and widely disseminated.

Many publications have been produced over the two phases of the project. Nonetheless, the quality and scope varies. Workshop reports are simple descriptions of activities that have been undertaken while some of the other reports provide more widely applicable findings about the LinKS issues.

Immediate Objective 2*: Increase the visibility of men and women's knowledge about the use and management of agro-biodiversity among key development workers and decision-makers by supporting documentation of good practices, research and communication***.**

Conclusion: The project was successful in producing research documents in every country. Some, especially those from Mozambique, are already finished products while others would lend themselves to careful editing to make them useful to a wider audience. The intention of the project was to support at least eight research studies in Phase II and this was successfully achieved. The project intended to publish both an anthology and a manual about techniques and case studies. The training manual was produced.

Immediate Objective 3*: Enable partner organizations and policymakers to network, develop guidelines and strategies and take action to promote the greater recognition of rural peoples' knowledge, needs and perspectives by providing financial and technical support for partners' initiatives at all levels.*

Conclusion: This objective was only partially achieved. There was significant success in Tanzania, but less in the other two countries. A major achievement of the LinKS project is the creation of the Trust Fund in Tanzania. In Swaziland, one of the outcomes of the project has been the promotion of the recognition within the Ministry of Agriculture and Cooperatives of the connection between HIV-AIDS, good nutrition and traditional crops. In Mozambique LinKS-type activities now are starting to be recognized by the government. Moreover, local groups or international NGOs, are promoting further practice and research in LK. LinKS played a role in initially bringing together these different groups.

Highly successful seed fairs in Tanzania and Swaziland provided opportunity for sharing of local germplasm and knowledge among farmers and other stakeholders. There is considerable interest in continuing these initiatives in the future. In Mozambique there was earlier experience with seed fairs through prior FAO initiatives in collaboration with ICRISAT.

The project did not achieve its objective to establish a framework for a national local knowledge policy in at least two countries by the end of Phase II. However, both Tanzania and Swaziland have integrated LK into some aspects of their government policy and efforts are underway in Mozambique to further mobilize LK.

Within the project framework, all three countries participated actively in the concept development and policy discussions related to the LinKS project. In both Tanzania and Swaziland, active discussions were held with country partners and based on the documentation available for Mozambique it appears that this also happened. However, the sub-regional discussions do not appear to have been held except in the context of annual meetings of national coordinators.

Recommendations

The recommendations are divided into two sections. Section I focuses specifically on sustainability/ follow-up of the outcomes of the LinKS project. Section II is focussed on the potential for a new program entity in FAO-SDWW that relates to work done in LinKS and elsewhere. It should be noted that there are areas of overlap between the two sections.

I. Sustainability/ follow-up of the outcomes of the LinKS project

Scaling up and scaling out LinKS-type concepts and outcomes.

- For greater impact and visibility and to allow the core concepts to take root, it will be necessary to "scale up" and "scale out" the LinKS initiative. This implies strategic partnerships with other organizations. In order to introduce/take forward the project results with these actors and others, we recommend that the SDWW and/ or project partners first makes personal contacts with relevant individuals in these organizations and then hosts a project results/ project planning workshop for a selection of donors and partners.

With respect to taking forward the LinKS core concepts, we recommend the following:

Taking forward with Farmers:

- The Farmer Field School (FFS) approach builds on farmers' existing knowledge and enhances their decision-making capacity through learning by doing. It could provide a suitable means of scaling out LinKS concepts, especially since FAO already is a lead agency in promoting this approach.
- Farmers' networks are potentially important partners for scaling out.
- Participatory video has potential for empowering rural people and scaling out LinKS concepts. The core objective would be to assist farmers to share their own messages and experiences with other farmers. Property rights would be an important issue to take fully into account with this approach.
- In a new initiative, young people could be asked to interview older members of the community to collect information about issues such as seed preservation, traditional crops, traditional construction methods, traditional recipes, etc. These could be written up as stories or interviews and collated on CD ROMs that would be made available at the telecentres. In fact, there are now telecentres all over Africa and one of their main problems is a dearth of local content so it is likely that the CD ROMs could have dissemination beyond the COSTECH telecentres that have already been set up in Tanzania.
- Also, in the area of ICTs, small projects could be started in communities where LinKS has worked, involving the same farmers, to establish LK databases and to discuss issues around ownership (i.e. intellectual property rights).

Taking forward with Researchers, Educators and other Service Providers:

- In Tanzania, the director of the Institute of Development Studies at SUA has said his institute would be interested to host a workshop to launch the LinKS module.
- Efforts should be made to introduce LinKS concepts into organizations that train agricultural service providers such as extension workers.
- A competitive research fund could be established or a partnership developed with an existing initiative to provide funds for further research and application of LinKS concepts.

Taking forward with Policymakers

- Preparation and wide dissemination in eastern and southern Africa of one-page policy briefs based on the research findings.

II. Towards a New Program Entity (PE)

Why? Rationale for a new PE

A new programme entity (PE) for FAO-SDWW should build on and expand the positive outcomes of the LinKS project while at the same time, provide new areas of programming.

The strengths of the LinKS project included aspects of the training process (e.g. training materials, increased awareness and interest in LinKS issues by trainees and the SUA curriculum); the participatory ethos and approaches being promoted; the direct influence on project participants in terms of thinking about LinKS issues in their work; the research-based policy implications; the establishment of the LinKS Trust Fund; and the emphasis on gender, LK, and agro-biodiversity and by implication, environmental sustainability. The weaknesses included over-estimation of prior knowledge/ understanding of LinKS concepts (particularly gender issues) resulting in over-ambitious targets; multiple aims of the research activities resulting in the frustration of some partners when the participatory approach raised unfulfilled expectations, and the frustration of others when research outputs showed limited analytical rigour; and the uneven mainstreaming of gender, LK and agro-biodiversity into government departments. A new PE should build on these strengths while addressing the weaknesses.

What? Some options for a new PE

In addition to covering the core concepts (gender, agro-biodiversity and local knowledge), a new PE could focus on some of the following:

- further explore the synergies with nutrition, especially in the context of traditional foods and HIV-AIDS;
- focus on market links and income generating opportunities;
- examine institutions, constraints and incentives for relevant actors (policymakers, academics, extension officers, etc.) to use the LinKS concepts in their daily work
- continue to work on the impact of HIV-AIDS;
- build on the food security focus of LinKS, looking beyond subsistence production;
- continue work on intellectual property rights and LK emphasising a gender perspective
- explore governance, decentralization and LinkS issues
- examine the relationship between increasing productivity and pro-poor growth in relation to gender, LK and agro-biodiversity

Who? Potential partners.

For greater impact and visibility, the new PE should engage in strategic partnerships with other organizations, including other FAO programs and outside agencies such as IDRC, IFAD, Ford Foundation, the World Bank and the PRGA program of the CGIAR system. Specifically, the Ford Foundation, the International Development Research Centre, or the CGIAR Centres would be potential partners for working with researchers to improve their analytical capacity. Another approach could involve a partnership with a strong faculty of agriculture in North America, Europe or South Africa, whereby technical assistance would be provided in research analysis in general and gender analysis in particular.

How? Modalities.

Below we present a few examples of activities that could be undertaken by a new PE:

Social impact analysis training. Much of the research undertaken by the teams in LinKS was weak in social impact analysis. Ideally, research projects focussing on the intersection between

agro-biodiversity, local knowledge and gender should have had the participation of social scientists but for various reasons this did not always happen.

Utilizing gender analysis. Results from the LinKS project suggest that over the next medium-term, the SDWW should focus more closely on the utilization of gender-related information on NRM. Most of the partners who were with LinKS as researchers, workshop participants or policymakers were not gender experts, but in all three countries, and especially in Tanzania, some level of gender mainstreaming is underway in government. Since to some extent, gender equality already is a government policy, a new program entity could focus on how this can be institutionalized and reinforce the capacity of specialists in agriculture and natural resource management to integrate gender into their planning and policy development. It would be important to work not only with the Ministry of Agriculture but also to identify some "champions" in other important ministries (e.g. Finance).

Computer-based training modules. One way of helping researchers to understand how to integrate gender into their work is to develop computer-based learning modules that present scenarios at each stage of research, i.e. data collection, analysis and write-up. By working through the modules, researchers would learn that each choice has consequences and if gender is omitted from their analysis then the outcome of their work will be less effective. Policymakers could also be presented with computer-based learning modules that illustrate the potential hazards of overlooking the important role played by women in natural resource management.

Recording, sharing and legitimizing of information. FAO-SDWW already has invested in the development of the Dimitra project and now has a gender and ICT presence in the Africa region. One aspect of the new PE could build on the increasing importance of information communications technologies (ICTs) in the region. Dimitra's focus on the exchange of information, has common cause with the LinKS focus on local knowledge and by using ICTs to record and disseminate local knowledge, the latter may gain a new legitimacy among younger people who have tended to see LK as offering little for their daily lives.

Lessons learned

The LinKS project has amply demonstrated the importance of the relationship among gender/agro-biodiversity/ and local knowledge. It has become very apparent that while each of these concepts is familiar to policymakers, academics and NGOs in the target countries, there is considerable confusion about the relationship among them. It is also clear, based on the review of what other donors, development agencies are doing, that FAO-SDWW is ahead of others in having seen the importance of the gender component.

Capacity-Building

- The project made a substantive contribution in capacity-building. Overall, approximately 900 people were trained in the LinKS concepts but the type of training varied and in Mozambique and Swaziland it was collapsed into a shorter period.
- Both the LinKS training manual and the university curriculum prepared for Sokoine Agricultural University were important achievements but it took longer to complete these products than initially anticipated and in the case of the training manual it was necessary to bring in external technical support.
- Gender was the most difficult concept for workshop participants to assimilate.
- The content of capacity-building workshops for researchers assumed that all researchers were at the same level but this was not the case.

Research

- Many of the research reports that came out of the LinKS project do not adequately tie together the three core concepts.
- This suggests that in a future activity, research teams should include a gender expert at all stages, i.e. in question formulation, data collection, data analysis and research write-up.
- Given the fact that most of the LinKS researchers were natural or environmental scientists, it is perhaps not surprising that they had difficulty with the application of some social sciences research methods.
- The research activities were carried out with multiple aims and different expectations, which led to frustrations for project partners. A clear consensus is needed over the research process, expected outcomes and associated resources, including personnel.
- The communications component was the least developed of the three foci of the LinKS project.
- The Trust Fund in Tanzania is another of the major achievements of the LinKS project.

Project Management

- Project monitoring seems to have been a weakness during Phase I and Phase II. In a future project, M&E should be part of the initiative from the planning stage and there should be continuous learning and feedback from project activities.
- The original project log frame was over-complicated, with 10 stated outputs.
- Aside from the annual meetings of the national coordinators and the presence of trainers from other countries at the training of trainer workshops, the LinKS project functioned as three separate projects on the same topic.

1. Introduction

The FAO-SDWW project "Gender, Biodiversity and Local Knowledge to Strengthen Agricultural and Rural Development" (GCP/RAF/338/NOR) was a regional project implemented in Tanzania, Zimbabwe, Mozambique and Swaziland from 1998 until January 2006. The purpose of this evaluation was to identify useful information, lessons learned, conclusions and recommendations for FAO and others through i. an in-depth analysis of project activities and its impacts in project countries; and ii. the formulation of detailed recommendations to build on the project's experiences and outcomes. The Evaluation Team traveled to Tanzania, Swaziland and Rome from November 20 to December 4, 2005, visiting the LinKS project in two of the three countries and engaging in detailed discussions with national coordinators, researchers, trainers, and others associated with the project. It is important to stress that the Team was not able to visit Mozambique and consequently our analysis of the situation in that country is based entirely on written documentation, which was not always as detailed as we would have liked. The Terms of Reference for the Evaluation Mission are attached in Annex 3.

2. Background and Context

2.1. Background to the project

The LinKS project was a regional initiative in Southern Africa aimed at raising awareness about how rural men and women use and manage biological diversity. The project was called LinKS**,** because it explored the ***linkages*** among local knowledge systems, gender roles and relationships, food provision, and the conservation and management of agro-biodiversity. The project sought to help development practitioners recognize that farmers have knowledge, practices and skills that are often highly sustainable and respectful of the natural ecosystems they depend on for their food and livelihoods, and that the knowledge held by women and men often differs.

The proposal for Phase I of LinKS was approved in late 1996, a stakeholder analysis exercise was carried out in Zimbabwe and Tanzania in 1997, and project implementation began in Zimbabwe and Tanzania in October 1998. It began in Mozambique in August 1999 and in 2000, stakeholder analysis was carried out in Swaziland. In April 2002, at the request of the Norwegian government, which provided support for LinKS, project activities in Zimbabwe were halted because of the political situation. This meant that Zimbabwe was not part of Phase II of LinKS.

Preparatory activities for Phase II started in January 2002, although formal activities did not begin until FAO/Rome had received the project funds in May 2002. By August 2002 a national team had been identified for Tanzania, but it was May 2003 before national teams were identified in Mozambique and Swaziland. Field activities for Swaziland and Mozambique ended in June 2005 and for Tanzania in August 2005. Consequently, LinKS Phase II ran for 36 months in Tanzania but only 22 months in each of the two other countries. Total funding for the project was US$3.7 million, with $1.5 million being spent in Phase I and $2.2 million being spent in Phase II. The core funding for LinKS in both phases, came from the Government of Norway.

2.2. Project Countries

2.2.1 Tanzania

Tanzania has a population of almost 37 million (2004) and a diverse agro-ecology. Agriculture is the foundation of the economy, accounting for 44 percent of GDP in 2002 and half of exports (World Bank

2004). More than 80 percent of the active mainland population is engaged in agriculture, which together with the use of natural resources, forms the mainstay of most people's livelihoods. Tanzania's growth in GDP per capita has been increasing since the 1990s, yet according to the Poverty Reduction Strategy Paper (PRSP) of 2002/ 2003 there is little evidence that poverty has declined. The proportion of people living below the national poverty line was 36 percent in 2001, and about 87 percent of the poor live in rural areas, mostly in households where farming is the main activity. Improvements in life expectancy and under-five mortality are being eroded due to factors such as the AIDS pandemic, financial constraints, and the government's limited organizational and technical capacity. At the aggregate or national level the food security status of Tanzania has been described as satisfactory. However, in some districts and some households, food insecurity persists, varying from year to year, especially in relation to rainfall. In 2000/2001, 19 percent of the population was considered food poor.

The diverse environment of Tanzania has contributed towards a wide variety of farming systems. Smallholders, with an average holding of less than 2 hectares per household, are the main producers. About 19 percent of farming households are headed by women and 60 percent of the agricultural workforce is comprised of women.

The government's Agricultural Sector Development Strategy (ASDS) aims to provide a single sector-wide policy, institutional and expenditure framework for agriculture. The ASDS arose in response to the government's PRSP and aims to create an enabling environment, conducive to the improvement of agricultural productivity and to improve farm incomes and reduce rural poverty. The ASDS identified five strategic issues that need to be addressed: i. strengthening the institutional framework; ii. creating a favourable environment for commercial activities; iii. public and private roles in improving support services; iv. strengthening marketing efficiency for inputs and outputs; and v. mainstreaming planning for agricultural development in other sectors

The Agricultural Sector Development Programme (ASDP) is the means for implementing the ASDS, providing the government with a sector-wide framework for overseeing necessary institutional reforms and investment priorities. The ASDP has three sub-programs and specific components at national and district levels:

A: Agricultural investment and implementation at district and field level
B: Agricultural sector support at the national level
C: Cross-cutting and cross-sectoral issues at national level

2.2.2 Swaziland

Swaziland, with a population of 1.1 million is undergoing rapid urbanization. In 2004, agriculture comprised 12.9 percent of the formal economy, as opposed to 21.7 percent in 1984. At the same time, industry's share of the economy grew from 27.4 percent to 46.5 percent. However, the industrial sector is based largely on agro-industry, including sugar, citrus and wood pulp. Subsistence agriculture still employs about 60 percent of the population.

Swazi agriculture cannot compete with South African agriculture, not least because of the heavy subsidies enjoyed by the latter. In recent years, South Africa has provided some financial assistance to drought- and HIV-AIDS-struck countries in the region, mostly in form of cash donations to the World Food Program (WPF) and FAO. However, the WFP still buys maize for distribution in Swaziland in South Africa because prices are more competitive. Donor interest in and financing to Swaziland is declining and currently the only substantive donor presence is the European Union.

Evaluation Team interviews with Swazi experts underscored the misperception that the country is considered to be lower middle income because the overall GDP per capita is relatively high. However, there are huge disparities in income with the majority of the country's assets being held by a relatively small number of people. Sixty-nine percent of the population lives on less than US$1 per day and, one quarter of the population relies on food aid for survival (Government of Swaziland 2004). Swaziland has been especially hard hit by the HIV-AIDS pandemic. Overall the HIV/AIDS adult prevalence rate is estimated at 42 percent (2004). Life expectancy at birth is only 43 years, down from 60 just a few years ago.

Current priority areas for the government of Swaziland are poverty alleviation, employment creation, food security, orphans and vulnerable groups and HIV/AIDS. For the past several years, the country has suffered from severe drought and more than 40 percent of rural households have been forced to buy most of the maize that they consume. FAO has helped the Ministry of Agriculture and Co-operatives to develop a Comprehensive Agricultural Sector Policy (CASP), which will guide future efforts to achieve food security. Special emphasis is being put on irrigated agriculture. Traditional crops like sorghum, which formerly was a staple food have long been neglected in favour of maize, which has been and continues to be heavily promoted by the government. Beans and other legumes have similarly been neglected. Unfortunately the informal seed sector is "hidden" in CASP. One of the LinKS researchers, an official in the Ministry of Agriculture and Cooperatives, was consulted as a stakeholder during the formulation of CASP and tried to convince the policywriters to include a section on the preservation of indigenous plants and genetic resources. However, the consultants who wrote the policy were not persuaded to include this perspective.

Current policy in the Ministry of Agriculture & Cooperatives, puts emphasis on: i. diversification of crop production, shifting away from mono-cropping of maize and sugarcane; ii. provision of greater economic access to agricultural inputs by specific vulnerable groups of farmers and communities; iii re-orientation of the extension service towards a more businesslike approach; and iv. improvement of the marketing of agricultural commodities particularly maize, fruits and vegetables. (Swaziland Ministry of Agriculture & Cooperatives, 2005).

2.2.3 Mozambique

Mozambique, with a population of just above 19 million, is richly endowed with natural resources. About 65 percent of the population lives in rural areas (down from 79 percent in 1989/91). In recent years, rapid growth in the industrial sector has reduced agriculture's contribution to the GDP from more than 27 percent in 1998 to 20 percent in 2004. However, about 80 percent of the active population is still engaged in agriculture.

The proportion of people living in absolute poverty was 54 percent in 2003 (down from 69 percent in 1997). Poverty is highest in the southern provinces where rates have actually increased (FAO/ WFP 2005). HIV/AIDS incidence is estimated at 13 percent, with higher figures along the trade corridors and in the cities. Food security and nutrition are a major concern in Mozambique (FAO/ WFP 2005).

It is estimated that about 45 percent of Mozambique's land area is suitable for agriculture, but only 11 percent is being cultivated (FAO/WFP 2005). Smallholder households, with average holdings of less than 1.2 hectares, are the main producers.

Smallholder cash crops include citrus, cashew, tobacco and cotton, together with oilseeds, tea, citrus and horticultural crops, particularly tomatoes. Maize and cassava are the major staples; other food crops of significance include sorghum, beans, groundnuts, millet and rice.. Livestock

numbers are low, as herds have yet to recover from the losses incurred during the civil war and, in southern provinces, from the floods of 2000.

Mozambique's interim PRSP, the Action Plan for the Reduction of Absolute Poverty (PARPA) for 2001 –2005, aims to achieve growth through expansion of the agricultural sector "on an inclusive basis, resting fundamentally on 'family sector' production, but also drawing on the 'commercial sector'".

As part of the PARPA strategy, government also aims to improve the access of small farmers to quality seeds through the establishment and strengthening of the national seeds committee; promoting the participation of the private sector in the production and marketing of seeds; and promoting the local production of seeds; improve the seed certification service (PARPA 2001).

As is the case elsewhere, debate on food security, agriculture-led growth and poverty reduction in Mozambique, centers on whether to focus interventions on better-off large and small farms in the most favoured areas, or whether to spread public investments over a broader coverage of smallholders.

Table 1 below provides an overview of comparative data for Tanzania, Swaziland, Mozambique and sub-Saharan Africa for 2003.

Table 1: Tanzania, Swaziland and Mozambique Comparative Data, 2003

	Tanzania	**Swaziland**	**Mozambique**	**SSA**
Population total (millions)	35.9	1.1	18.8	704.6
Population growth (annual %)	2.0	1.6	1.9	2.3
Surface area (sq km)	945,090	17,360	801,590	24,265,124
Population density (persons/ sq km)	38	63	23	29
Fertility rate total (births per woman)	5.0	4.2	5.0	5.2
GNI per capita Atlas method (current US$)	310	1,320	210	510
GDP growth (annual %)	7.1	2.4	7.1	4.3
Agriculture value added (% of GDP)	45.0	12.2	26.1	16.5
Industry value added (% of GDP)	16.4	51.5	31.2	31.0
Services, etc. value added (% of GDP)	38.6	36.2	42.8	52.5
Aid per capita (current US$)	46.5	24.5	55.0	34.3
GDP (current US$ million)	10,296	1,903	4,320	445,405
Trade in goods (% of GDP)	33.2	104.9	52.0	52.7
Life expectancy at birth total (years)	42.7	42.5	40.7	45.6
Mortality rate infant (per 1 000 live births)	104.0	105.0	101.0	101.0
Mortality rate under-5 (per 1 000)	165.0	153.0	147.0	171.2
Prevalence of HIV total (% of population aged 15-49)	8.8	38.8	12.2	6.7
Primary school completion rate female (% of relevant age group)	57.5		45.1	
Primary completion rate total (% of relevant age group)	57.7		52.4	
Fixed line & mobile phone subscribers (per1000 people)	29.5	128.5		61.9
Internet users (per 1 000 people)	7.1	25.9		19.6
Personal computers (per 1 000 people)	5.7	28.7		

NB: Some figures may vary from those in the text due to differing sources and years. Source: World Bank. **World Development Indicators.** 2004

2.3. Approaches to Gender, Biodiversity and Local Knowledge

A review of activities being carried out by the international donor and research community on gender, biodiversity and local knowledge reveals that the LinKS project appears to be unique in having identified and focused on synergies among these themes (see Annex 1). While overall, the gender component does not seem to have been completely understood by many of the LinKS project participants, the fact that it was there at all is an important step forward in defining the determining factors in the conservation of agro-biodiversity. Although most international donor and research agencies have programs that concentrate on gender equity and many have made a commitment to mainstream gender throughout their programming, it seems that few, if any, have managed to integrate gender with agro-biodiversity and local knowledge. This is surprising given that it has been generally recognized for more than three decades that men and women have different roles in agricultural production and that this relates to the type of agricultural work that they do and the extent to which they have access to resources including technology, credit and advice from, or even interaction with extension services.

Since the 1970s, researchers have compiled data on the sexual division of labour in agriculture in various regions of the world. With the recognition that women and men carry out dissimilar tasks, has come the understanding that they often have very different types of interactions with the natural environment. At the same time, research supported by many international organizations, including the World Bank, has shown close links between gender equity and economic growth and productivity. It would seem therefore that there are obvious benefits to examining the nature of women and men's knowledge about and use of the natural environment.

(Agro) biodiversity is perceived and valued differently by a wide range of stakeholders. The integration of biodiversity concerns into rural development processes and interventions is central to the debate on sustainable development. While there is growing consensus that these issues are important and interrelated, the relationship between population, people's livelihoods, the land and natural resources is complex and open to many interpretations. These different interpretations and competing interests have important implications for sustainable use of (agro) biodiversity and rural development and are central to the concerns of the LinKS project.

Local knowledge (LK) is also a complex area, that Scoones and Thompson have categorized into three contrasting views. The first sees rural people's knowledge as *"'primitive', unscientific', 'wrong' etc. Formal research must 'educate', 'direct' and 'transform' rural people's production and livelihood strategies in order to 'develop' (i.e. modernize) them"*. According to the second view, rural peoples' knowledge: "*is a valuable and under-utilized resource and needs to be intensively studied and incorporated into formal research and extension packages to make agricultural strategies more sustainable*." The third view argues that: "*neither rural people's knowledge nor western science can be regarded as unitary bodies or stocks of knowledge. Instead they represent contrasting multiple epistemologies produced within particular agroecological, sociocultural and political economic settings. The interaction of RPK [rural people's knowledge] with current research and extension practice must address fundamental issues of power and need in development*" (Scoones and Thompson 1994). The LinKS project takes an approach that is located between the second and third of the above perspectives.

3. Assessment of project objectives and design

3.1. Justification

The original project proposal document of May 1996 set out the project rationale and justification.

3.1.1. Local knowledge systems. The proposal notes that there is increasing global recognition of the value of local knowledge systems in agriculture and rural development but "*African knowledge of indigenous plants is declining very rapidly and needs to be preserved … practices developed over thousands of years need to be valued and understood, before they disappear.*" The proposal acknowledges a lack of systematic information on the scale of loss of agro-biodiversity and the cause of the loss of these resources is attributed to "*lack of recognition of the contribution of men and women farmers, herders and fisherfolk to food security and the value of their local knowledge in utilising and conserving these resources as a medium-term strategy for ensuring food security and sustainable livelihoods*." This has led to structural, economic and institutional changes that have increased the erosion of agro-biodiversity and depreciation of the local knowledge through which it is supported.

3.1.2. Gender and local knowledge systems. Men and women often possess different skills and understanding, which together create a knowledge system specific to local conditions, needs and priorities. Their social roles and relationships are also part of this knowledge system and its use, preservation and adaptation. Rural women's technical knowledge and skills have been even more marginalised and ignored than those of men. Undervaluing their substantial contribution to natural resources management has resulted in ineffective policies for sustainable agricultural development and management of natural resources, including agro-biodiversity.

3.1.3. Linking formal and local (informal) knowledge systems. Most scientific and development practitioners have not clearly recognized the potential for enriching both local and scientific knowledge systems by finding ways to connect them. The increasing unreliability of rainfall in many parts of southern Africa, has particularly called into question official policies encouraging the cultivation of crops dependant on reliable rainfall, and has highlighted the need to explore other approaches to food security. Policy development and implementation is often constrained by lack of understanding and attention to gender and local knowledge considerations.

3.1.4. Global support: international conventions and reports. The above situation is recognized by various international conventions and reports. Both Agenda 21 and the Convention on Biological Diversity recognized the importance of local (indigenous) knowledge for sustainable development. For example, Chapter 26 of Agenda 21 urges UN bodies, other international development and finance organizations, and governments to "*incorporate (indigenous peoples') values, views, and knowledge... in resource management and other policies and programmes that may affect them.*" Importantly, Chapter 26 also acknowledges, as a basis for action, generations of holistic traditional scientific knowledge about land, natural resources, and environment held by many 'indigenous peoples'. Article 8.j of the Convention on Biological Diversity calls for the respect, preservation, and maintenance of indigenous and local knowledge, innovations, and practices in biological diversity conservation and sustainable use, as well as the wider applications of such knowledge and practices "*with the approval and involvement of the holders*," while Article 17.2 calls for the exchange of indigenous and traditional knowledge with other systems.

The declaration of the Report of the Gender Working Group of the United Nations Commission on Science and Technology for Development (UNCSTD-GWG, 1995), and the Report of the Fourth World Conference on Women in Beijing reiterated these themes. The UNCSTD Report states: *"…modern science and technology has inadequately addressed the potential of local knowledge systems, especially women's knowledge, in the design and implementation of development programmes. There is a need to develop new methods of interaction between the two systems for*

their mutual benefit…" and the Beijing Report recommends that: "*…governments should encourage the effective protection and use of the knowledge, innovations and practices of women of indigenous and local communities, including practices relating to traditional medicines, biodiversity and indigenous technologies, and endeavour to ensure that these are respected, maintained, promoted and preserved in an ecologically sustainable manner…*"

3.1.5. Intellectual property rights (IPR). Issues around IPR were being discussed during the process of revision of the International Undertaking on Plant Genetic Resources under the heading of Farmers' Rights. The LinKS project provided an important means of raising awareness and debate around these issues within target countries.

3.1.6. Awareness of local knowledge (LK) systems in target countries. Country reviews revealed that most individuals and organizations were not sensitive to LK systems and to the importance of recognizing and valuing gender roles in food security and conservation of agro-biodiversity. A number of key constraints were identified. The wide range of sectors involved and the hierarchical divisions between grassroots activists and decision makers hamper the development of holistic approaches. Sometimes limited resources mitigate against the implementation of more gender- responsive strategies. Technical professionals often do not have the capacity to incorporate social and economic analysis into their work. Many decision makers lack understanding of the complexities of natural resource management at the community level. New projects that are designed to be sensitive to women's and men's local knowledge, often are implemented using existing staff and systems in a topdown way. The proposal suggested that the alleviation of these constraints requires more flexible structures, improved accessibility to relevant information, training in social and gender analysis and participatory approaches, and an appreciation of indigenous practices.

3.1.7. Changes required. To improve this situation, Phase I of the project identified three necessary changes:

> i. Local knowledge systems (and the differing roles and contributions of men and women) must be recognized and valued by personnel at all levels, to enable the development of strategies to secure sustainable rural livelihoods, as well as to sustain the biological diversity of their environment.
>
> ii. Policymakers and development specialists must be sensitised in order to integrate these issues into policies and practices. In the long term, this will mean a revision of policies in environment, agriculture, land tenure and rural development, together with a questioning of current strategies and market-driven systems that often devalue LK, agro-biodiversity and rural women's priorities.
>
> iii. Women and men in rural communities must be enabled to gain greater awareness of the external factors that shape their management of natural resources, so that they can decide how, if at all, to increase their capacities to influence those factors.

While these were the approaches recommended in the Phase I proposal, they were not implemented fully in the design of Phase II, so that ultimately, for example, the focus was on researchers and policymakers rather than on women and men in rural communities.

3.1.8. Phase I evaluation. The evaluation of Phase I supported the above, recommended a second phase, and raised two further issues. First, the significance of HIV/AIDS was underscored in the context of an entire generation being at risk of early death and hence there was an urgent need to

document valuable knowledge that could be lost with their disappearance. Phase II started to explore the relationship between HIV/AIDS and LinKS issues. Second, the relevance of the LinKS project was illustrated by the situation in Zimbabwe, where the decline in purchasing power had led many people to revive the use of LK and approaches as modern variety seeds and other technology became unaffordable. Farmer-saved seed of local varieties had become scarce and this could be associated with government policies that provided little support to promoting local seed supply and exchange systems.

3.1.9. Phase II proposal. The Phase II project proposal provides a rationale that builds on the achievements of Phase I, stating that the LinKS project is "*filling a gap and responding to a clearly articulated need by sponsoring opportunities to learn about and debate the issue of local knowledge and its relevance to biodiversity conservation and food security in the project countries*". Partnerships had been formed with many international, regional, and national level organizations. The stakeholder analysis and the lessons learned during the first two and a half years of implementation yielded important feedback that was used to develop a program of activities to meet the project objectives under Phase II.

LinKS Phase II aimed to build on the successes of Phase I and provide the opportunity for processes that were being supported to yield outcomes that would have long-lasting positive impact on the lives of rural women and men. These included:

- Application of experiences in field programs
- Uptake of LinKS approaches in learning and training institutions
- New methods for sharing and documenting local knowledge
- In-depth research
- Incorporation of LinKS issues in national policies and strategies
- Exchange of experiences and networking at the inter-regional level

3.2 Objectives

3.2.1. Revised objectives for Phase II. The revised development goal for Phase II was to:

Enhance rural people's food security and promote sustainable management of agro-biodiversity by strengthening the capacity of institutions in the agricultural sector to apply approaches that recognize men and women farmer's knowledge in their programs and policies.

Based on lessons learned from the implementation of Phase I and the Evaluation consultant's recommendation that the project should develop more precise objectives for each major activity area, the immediate objectives for Phase II were revised as follows:

- **Immediate Objective 1***: Enhance the ability of researchers and development workers from key partner organizations to apply an understanding of gender, local knowledge, biodiversity and food security in their work by providing them with diverse learning opportunities as well as skills enhancement in gender-sensitive and participatory approaches***.**

- **Immediate Objective 2***: Increase the visibility of men and women's knowledge about the use and management of agro-biodiversity among key development workers and decision makers by supporting documentation of good practices, research and communication***.**

- **Immediate Objective 3***: Enable partner organizations and policy makers to network, develop guidelines and strategies, and take action to promote a greater recognition of rural people's knowledge, needs and perspectives by providing financial and technical support for partner's initiatives at all levels.*

The project objectives were revised in order to give greater focus and (as recommended by the Phase I Evaluation) to help with the design of time bound objectives for each activity area, i.e. capacity building, research and communication. Preliminary indicators were developed and are included in the log frame (see Annex 4).

3.3 Project design

3.3.1. New approaches.

Both the objectives and the design of Phase II concentrated on a more active utilization and uptake of the research findings and training experiences of the LinKS project. To this end, the emphasis was on capacity building, research, and strengthening of institutionalization processes, networking and application of experiences. However, there is a great deal of overlap among these components and the activities as a whole represent a set of iterative, inter-related and mutually reinforcing processes of support to partner organizations. As is discussed in more detail below, the new approaches identified for Phase II were only partially implemented.

3.3.2. Beneficiaries. The primary beneficiaries of Phase II were researchers, trainers, development workers and policymakers. Farmers were involved as partners in some of the research projects, but the major focus was on changing mindsets among agricultural policy decision-makers and the researchers and trainers who provide input into decision-making processes. This was a pragmatic approach that recognized the importance of the intermediate level of stakeholders between farmers and policymakers (i.e. research and training). As will be discussed below, the project developed a series of appropriate training programs and research questions aimed at building capacity in these groups.

3.3.3. Project logic. The project's emphasis was on intensive training in the key concepts of gender, biodiversity and LK, followed by research on aspects of these concepts and attempts to institutionalize the concepts through university curricula was both astute and logical. One of the real strengths of the project was its active utilization of tools and approaches that had been developed with earlier FAO/SDWW support. For example, the SEAGA methodology was effectively used throughout the project. This was cost effective and at the same time it further validated and built upon earlier work supported by FAO/ SDWW. Eventually the SEAGA methodology had to be adjusted to better reflect the LinKS concepts but it provided a good starting point for the training and capacity-building component of the project.

3.3.4. Project objectives and outputs. The project objectives were stated clearly and allow for some quantitative measurement in terms of numbers of people trained, numbers of research projects completed, reports written, numbers of policymakers and/or NGOs involved with research or training, etc. Unfortunately, the project coordinators did not keep accurate records and it proved difficult for the Evaluation Team to gather precise figures for participation in every workshop and in each country.

The actual impact of the project in informing decision-makers of the value of local knowledge or in encouraging development organizations to work more closely in partnerships with rural

communities is difficult to establish since such effects are not immediately visible. The development of the Sokoine University LinKS-related curriculum and the establishment of the Trust Fund in Tanzania (a 'bonus' output) are two important outputs that will have long-term impact.

3.3.5. Project activities. The project log-frame gives specific details of how each of the outputs for the three immediate objectives will be obtained. There are no obvious gaps in the overall workplan and national workplans were reviewed on a regular basis. However, it should also be noted that the two reports by an external monitoring and evaluation specialist who did some work for the LinKS project in Phase II are critical of the log frame and suggest that "*the intervention logic reflected in the project Log-frame is not always very straightforward, and in particular, the hierarchy of objectives could be refined*." The M&E specialist also commented that the log-frame "*appears overburdened with indicators*" and recommended the development of a "*log-frame with few, relevant indicators easy to collect*". A Monitoring and Evaluation workshop held in Bagamoyo, Tanzania in August 2003 developed a simpler log frame, with fewer indicators and a costed activity plan for how the indicators might be measured. However, there appears to have been little follow-up to this in terms of monitoring and evaluation reports. This can be seen as a weakness, despite the overall strength of the project design.

3.3.6. Project internal management structure. The overall conceptualization of the management structure was good, with clear lines of authority, responsibility and accountability. Although management in the three countries operated relatively smoothly, the national coordinators in Swaziland and Mozambique only joined in May 2003 and Tanzania had a rapid turnover in coordinators during the first two years. It should be noted that, there were considerable problems in Swaziland because there was no local FAO office and most requests had to be authorized by the FAO representative in Mozambique who apparently lacked a clear appreciation of the different cost structures in the two countries.

Opportunities to explore regional issues within the LinKS project were not taken up systematically, as the regional coordination did not function effectively without a designated regional coordinator. The decision to dispense with a regional coordinator had been a concrete recommendation that came out of the Phase I evaluation, but in Phase II, aside from the annual meetings of the national coordinators and the presence of trainers from other countries at the training of trainer workshops, LinKS functioned as three separate projects on the same topic. There did not appear to be methodical learning and sharing of experience across the three countries.

3.3.7. Major risks and assumptions in the project design. The assumptions set out in the project log frame are important (see Log-frame in Annex 4), The first was that the project would not be disrupted by major political and economic problems or conflicts and hence would run concurrently in four countries: Tanzania, Mozambique, Zimbabwe and Swaziland. Early in Phase II, due to political problems, Zimbabwe was dropped from the project at the request of the Norwegian government.

Secondly, the project assumed that there would be continued interest and commitment from individuals and institutions from Phase I and hence that all four countries would proceed at more or less the same pace. Ultimately, however the three remaining countries undertook similar activities at different times, primarily because of the lack of continuity between Phases I and II. In the case of Swaziland, this meant that all activities were not fully completed.

Thirdly, it was assumed that after the completion of the sensitization phase of the project (Phase I), policymakers and researchers in each country would have some level of understanding and commitment to the LinKS issues. This does not appear to have been the case everywhere and project coordinators had to spend considerable further time during Phase II in basic sensitization.

Finally, it was assumed that the LinKS coordinators would stay with the project throughout the life of Phase II, but this did not prove to be the case. In Tanzania there were three coordinators; in Mozambique there were two, and in Swaziland, a national coordinator was identified much later and the entire project started late.

3.3.8. Institutional setting and external linkages. In each country, considerable effort was made to situate the institutional setting for the project within an independent institution, as had been recommended after Phase I. This was successful in two of the three countries. In the case of Tanzania, LinKS was based at the Tanzania Food and Nutrition Centre (TFNC). In Mozambique attempts were made to base it at the Arquivo do Patrimonio Cultural (ARPAC), but eventually it was based at the FAO office in Maputo. In Swaziland, it was based at the National Research Council which itself was at the Faculty of Agriculture of the University of Swaziland. Efforts were made to develop interaction with other organizations. Much of the LinKS work was to be featured in an international symposium that was to be organized at the end of the project that ultimately could not be held because of lack of funds.

The Mozambique team seems to have been particularly active in collaborating on the ground with other international research organizations. Activities were undertaken with ICRISAT, ICRAF, and IDRC. In Tanzania, there was active collaboration with the World Bank.

In Rome, existing collaboration within FAO was further strengthened, for example within the Gender and Population Division in relation to HIV-AIDS and agro-biodiversity and with other services such as the Seed and Plant Genetic Resources (AGPS), Agricultural Sector in Economic Development Service (ESAE) and the Sustainable Development Communication, Research and Extension program (SDRE). The project team in Rome also participated in other interdepartmental working groups/programs such as the FAO Netherlands Partnership Program (FNPP) on Biodiversity, the FAO Focal Point Network on Indigenous People (FNIP) and the FAO-DFID Livelihoods Support Program (LSP).

4. Assessment of Project Implementation, Efficiency and Management

4.1 Project budget and expenditure.

The total funding for the project under Phase I was $US 1.3 million and under Phase II, $2.28 million. The annual spending over the life of Phase II is set out below in Table 2.

Table 2: Phase II project expenditure ($US million)

2002	2003	2004	2005	Total
181,213	619,233	792,586	681,707.00	2,274,738
8.0%	27.2%	34.8%	30.0%	100.0%

4.1.1. Project activities. In 2002 (year 1), few activities were implemented because there was a funding gap in the transition between Phase I that officially ended in June 2001(although activities were reported to continue until March 31, 2002), and Phase II for which funds were

only transferred to FAO in May 2002. Until Phase II funds had been received, only seed money for small activities could be provided to project partners. The project could not prepare letters of agreement with partner or host institutions without having firmly secured the necessary financial resources. Secondly, the deteriorating political situation in Zimbabwe resulted in a recommendation from the Norwegian government that the project finalize ongoing activities in that country. Given the progress that was being made by the project in Zimbabwe, this was a major setback at the beginning of Phase II. The services of the gender and training officer based in Zimbabwe were retained, but only to work outside Zimbabwe**.**

By August 2002 the national team in Tanzania was under contract and a number of new activities were underway. In 2003, many new activities took place in Tanzania, initiated and coordinated by the LinKS country team, including three research projects, several training workshops and the facilitation of a national network on local knowledge for Tanzania.

In Mozambique the National Coordinator started working from May 1, 2003 and priority was given to the establishment of contacts with potential partner organizations and the identification of research activities. In Swaziland, the national coordinator started working from May 2003 and the office became fully functional (with e-mail and phone connections) at the beginning of August 2003. Considerable time was also spent on facilitating contacts with potential partner institutions to establish areas of collaboration and to identify possible team members. At the same time, a pool of researchers and local consultants to be engaged in the case studies and baseline activities was identified.

During late 2003 and early 2004, further activities took place in Tanzania, initiated and coordinated by the LinKS country team while in Swaziland and Mozambique, attention was given to the formulation of research proposals, in order to initiate project activities. The final draft of the LinKS training manual was developed in collaboration with several services in FAO.

By early 2004, research activities were underway in all three countries. In terms of capacity building, further efforts had been made to build and further strengthen a local pool of facilitators well acquainted with the LinKS issues. The LinKS training manual was field tested. Communication materials had been developed, including a leaflet summarizing the LinKS project, its objectives and overall activities, and a LinKS booklet giving a flavour of project experiences. In all countries, efforts were made to continue to build synergies with partner organizations to ensure that some activities/experiences would be taken up when the LinKS project came to an end.

In July 2004, the Norwegian agreed to extend the project from December 31, 2004 to June 2005 on the grounds that funds had arrived six months late.

By early 2005 most research activities were coming to an end. In Tanzania, the seed research teams conducted some household case studies looking at the impact of HIV/AIDS on local seed diversity. In Mozambique, both research teams studying the role of indigenous forest fruits for food security submitted their draft reports. However a new research activity had started in Swaziland, examining the impact of sugarcane production on crop diversity and food security.

In terms of capacity building, further efforts were made to strengthen local pools of facilitators. The LinKS training manual was finalized and prepared for printing. Entry points to continue LinKS activities included building linkages with partner organizations and identifying opportunities for follow-up activities from the research studies. A final regional coordination meeting was held in February 2005 in Tanzania, attended by all national coordinators and two

officers from Rome. Detailed work plans were developed and possible entry points identified to be followed up by the country teams. For Tanzania, the Trust Fund was identified as an important mechanism to ensure continuation and sustainability of some of the LinKS activities. FAO-SDWW provided seed money of $US 50,000 to help set up the Fund.

The overall budget allocation is shown in Figure I below. The highest proportion was allocated to administration in the LinKS countries, reflecting the decision to decentralize decision-making (see below). Training and research received similar proportions of the budget and many of the activities were intertwined. Communication and advocacy received the smallest proportion, which may be explained at least partially by delays.

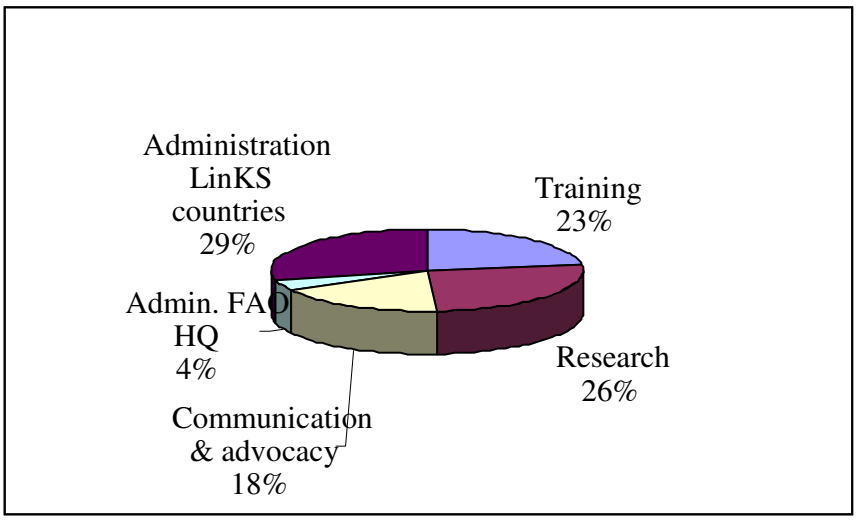

Figure I: LinKS Budget, Phase II

4.2 Assessment of results

4.2.1. Cost effectiveness Phase II put more emphasis on:

- Enabling local initiatives for mainstreaming and institutionalization. With a view towards sustainability, the project aimed to 'facilitate, enable and support' local initiatives to mainstream gender sensitive and participatory approaches into on-going strategies and programs.
- Decentralized decision-making. Country work plans were to be developed on the basis of feedback from stakeholders and decision-making power devolved to in-country teams. This had cost implications with respect to strengthening the country offices in terms of staff, structures and services. Actual allocation of country budgets was to be decided at the start of each planning period through regional coordination meetings and e-mail conferences.
- Monitoring and evaluation of project activities. A participatory monitoring and evaluation system was to be put in place to take advantage of opportunities and respond more effectively to partners' requests and needs.
- Cost sharing and pooling of resources. Where possible, the aim was to set up activities on a cost sharing basis and partners were encouraged to pool resources to make the best use of limited resources.

- Incorporating project experiences into the normative work of FAO. Outputs from the project were to be disseminated within FAO and where possible, to other international agencies.

These approaches were trying to enhance inclusive, participatory methods to achieve wider ownership and sustainability but as pointed out in the evaluation of Phase I, this inevitably would have high transaction costs. Devolving decision-making to country offices incurred relatively high initial costs, but had the potential to improve effectiveness as the project progressed. However, a major weakness at the design stage of Phase II that eventually affected the cost-effectiveness of the project was the lack of national teams in place from the start of Phase II.

4.2.2. Work planning. The first major round of work planning took place in a regional meeting in in Swaziland in July 2002. Strategies for training, capacity building and research were drafted, together with approaches to address gender and participation. An annual work plan, based on the project log frame, was developed. FAO/Rome project management made it a high priority to get country teams in place, but as already noted, this happened much later in Mozambique and Swaziland than in Tanzania and inevitably subsequent planning activities involved trying to catch-up. This made it more difficult for the project to remain fully participatory since such approaches generally require time and resources to build relationships with stakeholders at different levels. Participatory/ inclusive approaches continued to be part of LinKS, but inevitably these would have been even more effective if personnel had been in place in all three countries at the beginning of Phase II.

4.2.3. Implementation. Given the variable situation in the three countries, the decision to plan the allocation of funds annually was appropriate. The delays in putting country teams in place in Mozambique and Swaziland inevitably affected the effectiveness of research and capacity building processes there.

Key factors influencing the project included initial delays in funding, being unable to build on the Phase I investment in Zimbabwe and country teams not being in place at the start of Phase II. Another major factor that effected implementation was the continuing need to sensitize researchers, NGOs and policymakers on the core concepts of LinKS. This continued to be a necessary task throughout the project, so LinKS II was never able to concentrate fully on ensuring that the results of research were adopted or integrated into national policies. At each juncture there was need to once again introduce the basic concepts and to explain why it was important for them to be looked at within a holistic framework. Nevertheless, consultations with project partners at all levels identified considerable enthusiasm, commitment and positive outcomes.

4.3 Activities and outputs

4.3.1. Overview of Capacity-Building in Tanzania, Mozambique, Swaziland. The overall training or capacity-building strategy for Phase II was developed at the July 2002 regional workshop in Swaziland. The objectives were:

> i. To enhance the knowledge and enrich the practices of selected researchers, extension workers and change agents from key partner organizations, for them to understand the linkages between gender, local knowledge, agro- biodiversity and food security so that they apply gender sensitive participatory approaches in their work.

ii. To sensitize the development planners/workers, both field staff and project managers, on the importance of women's and men's local knowledge in the management of agro-biodiversity that is relevant for food security and agriculture production.

iii. To increase visibility of men and women's knowledge about the use and management of agro-biodiversity by supporting researchers and change agents to apply participatory methodologies and carry out participatory action research.

iv. To create awareness among policymakers and change agents about the value of men and women's knowledge by providing mechanisms for sharing information, exchange of ideas and experiences, and fostering linkages between people and institutions at all levels.

Table 3 below shows the overall training activities that were planned.

Table 3: Training Activities Planned for Phase II

Target group	**Mode of training**	**Purpose**
Field workers, researchers, extension workers	LinKS workshops (two weeks)	To prepare them for research activities and gender sensitive participatory approaches in their own work situations.
Policymakers, decision-makers /senior managers	Awareness-raising, Seminars/workshops (one-two days)	To enable them to come up with supportive policies related to the use and sharing of local knowledge.
University/college lecturers	LinKS training course (two weeks)	To prepare them for mainstreaming LinKS issues in university/college curricula

Whereas the intent of the capacity-building component in Phase I was to raise awareness, Phase II aimed to "*put a strong focus on institutionalization and uptake of gender-sensitive and participatory approaches to biodiversity conservation in institutions*" in on-going programs and to "*give priority to requests from institutions that will be able to take up and use the knowledge and approaches in programs directly benefiting rural men and women farmers. This includes agricultural extension services, development projects, NGOs and institutions of higher learning*" (Project proposal, Phase II). Ultimately this was not very realistic because it assumed that once the basic sensitization had been done during Phase I, Phase II could move towards integration of the concepts and uptake in educational curricula and policy. Notwithstanding the difficulty of achieving this end, the training and capacity building component of the project succeeded in terms of both quality and quantity. In each of the three countries, training was undertaken in a systematic manner, using both the SEAGA modules and materials that had been developed for the LinKS project. Training for researchers was especially important as the project aimed to "*provide researchers and development agents with opportunities to learn about LinKS concepts, including the value of local knowledge in a rural setting, and build skills in the use of gender-sensitive and participatory methods for practical application in their work*". Table 4 below provides a summary of the achievements, strengths and weaknesses of the capacity building efforts in Phase II.

Table 4: Summary of capacity building achievements, strengths and weaknesses in Phase II

	Tanzania	**Swaziland**	**Mozambique**
.1.Achievements	1.1 12 Trainers trained 1.2 19 workshops held 1.3 Researchers/ policymakers/ extensionists/ senior NRM managers, senior academics trained 1.4 Enhanced capacity of research teams	1.1 3 Trainers trained 1.2 4 workshops held 1.3 Researchers/ policymakers/ extensionists/ academics/ NGOs trained 1.4 Enhanced capacity of research teams	1.1 6 LinKS trainers (plus one international trainer), out of which at least 4 attended TOT workshops in Tanzania. 1.2 4 workshops held 1.3 Extension supervisors/ extensionists / researchers trained
2. Strengths	2.1 Enthusiastic praise for the trainers -5 female, 7 male trainers -trainers drawn from 6 organizations 2.2 Generally positive evaluations by participants -requests from various agencies to participate 2.3 Trainers satisfied with the manual -many requests for manual 2.4 Wide selection of staff trained from government and universities 2.5 Research teams learned by doing, which had profound effect	2.1 Praise for the training workshops 2.2 Generally positive evaluations by participants -requests from various agencies to participate 2.3 Trainers satisfied with the manual -many requests for the manual 2.4 Selection of staff trained from government and universities 2.5 Research teams learned by doing, which has profound effect	2.1 3 trainers were female, 3 were male (including the coordinator) 2.2 Joint FAO LinKS IPGRI workshop included participants from other lusophone countries
3. Weaknesses	3.1 Project did not appear to use all the trainers consistently, (although it was explained that use of trainers depended on their background, the training courses had different foci, they were adapted to the needs of the participants) 3.2 Not enough field work in the workshops 3.3 Apparently no training offered to NGOs 3.4 Relatively small number of researchers benefited from enhanced capacity	3.1 Project used only 2 trainers and they committed to doing only 1 training after their return from TOT in Tanzania - trainers were free lance and not embedded in national or target organizations 3.2 Workshops were condensed from 10 days to 6-7 days due to limited time available by participants 3.3 Relatively small number of researchers benefited from enhanced capacity -Although many university people participated in the training, few apparently had time to do research	3.1 Possibly over- dependent on international trainer, who with the help of one of Tanzanian trainers conducted the 3 LinKS trainings with extension people; the remaining three trainers plus the coordinator gave modules in the two awareness seminars with the partners. 3.2 Training workshops for extension workers in Nov and Dec 2004 focusing mainly on SEAGA tools (shortened from 10 days to 5 days because of availability of participants) - Training workshops targeted extensionists only -Lack of planned resources in the respective institutions for the replication of the trainings by the government trainers.

4. Observations	-Generally very positive opinion of the training -The three areas – gender, biodiversity, LK – were not covered equally true, depending on the different foci of the workshops, some were mainly gender focused, others had another focus -Gender was consistently considered to be the most difficult topic conceptually.	-Generally positive opinion of the training -The three areas – gender, biodiversity, LK – were not covered equally -Gender was almost always considered to be the most difficult, conceptually	-The research activities appear to focus on more conventional research outputs, with less emphasis on capacity building.

As seen in Table 5 below, there were at least 33 workshops, almost one-third (10) on sensitization and awareness-building. A further five dealt specifically with gender and participatory research methodologies, including the SEAGA approach, and eight workshops were research-specific. Several of the workshops, especially in Mozambique were co-funded by partner organizations, including the International Development Research Centre (IDRC), the International Plant Genetics Resources Institute (IPGRI) and SDRE and SEAGA, both in FAO. In Tanzania, two workshops were funded by the TARP II project at SUA.

Table 5: Types of Workshops Organized in Phase II

	Tanzania	**Mozambique**	**Swazi-land**
Sensitization/ awareness building workshops	2	4	4
Gender and participatory approaches workshops	3	1	
SEAGA workshops		1	
Tool-oriented training workshops	3		
Training of trainers workshops	2		
Research-specific workshops	8		
Total Workshops in Phase II	18	6	4

The two workshops for training of trainers helped to ensure continuity across the three target countries in the approach to introducing the key concepts and participatory methodologies to national workshop participants.

4.3.2. Training manual. One important and positive outcome of the capacity building component was the preparation of the LinKS training manual**: Building on Gender, Agrobiodiversity and Local Knowledge: A Training Manual,** published by FAO in 2005. Trainers and project teams from all three countries had input into the manual and the end result is a clear, wide-ranging manual for trainers that ties together the three concepts. Organized in five modules, the manual covers the key concepts; agro-biodiversity management from a sustainable livelihoods'

perspective; agro-biodiversity from a gender perspective; understanding the relationship between agro-biodiversity and local knowledge; and gender, biodiversity loss and conservation.

Writing and producing the manual was very time-consuming. After a year of work, progress was slow and at the second regional coordination meeting in May 2003 it was decided to hire a consultant to finalize the material. This was eventually done and the manual remains a very strong output from Phase II of the LinKS project although it should perhaps have given more attention on **how** to integrate gender into agro-biodiversity and local knowledge.

4.3.3. Overview of research in Tanzania, Mozambique, Swaziland. Research activities were carried out "*in order to increase the visibility of rural men and women's knowledge*" (Project proposal Phase II).

The draft research strategy discussed in the first Regional meeting in 2002 emphasized:

- The need to make the research relevant for development;
- The importance of research ethics and the need to follow appropriate international and national codes;
- The importance of participation and the involvement of stakeholders in various stages of research from planning, implementation, interpretation to follow-up;
- Research activities and outcomes should contribute towards the mainstreaming of LinKS concerns;
- Research methodology should take into account qualitative and quantitative approaches, methods that provide longer periods of interaction with communities to help understand dynamics of knowledge and poverty.
- A range of different disciplines and inter-disciplinarity.

A summary of research achievements, strengths and weaknesses in Phase II is shown in Table 6 below.

Table 6: Summary of Research Achievements, Strengths and Weaknesses in Phase II

	Tanzania	Swaziland	Mozambique
1.Achievements	1.1 3 research projects completed: LK, seed management and food security in Central Zone; LK, seed management and food security in S. Highlands and Livestock breeding and selection by the Maasai	1.1 3 research projects completed: Legume seeds; Indigenous crops; and Impact of sugarcane on agro-biodiversity. 1.2 2 consultancies: Impact of HIV-AIDS and drought on LinKS issues and food security; and Assessment of LinKS issues in Ministry of Agriculture planning and reporting	1.1 3 research projects completed: Impact of HIV/AIDs on farmers' knowledge of seed (ICRISAT); Mafurra tree LK, use and agroforestry potential (ICRAF); and IK of Mungomu tree (FAO-SAN and Kulima-Chimolo)
2. Strengths	2.1 Interdisciplinary teams representing different organizations 2.2 Male and female researchers on all teams 2.3 Final reports produced 2.4 Strong links with communities involved in research 2.5 Developed new knowledge about collected foods, traditional varieties and traditional livestock practices 2.6 This will be fed into new ideas for research	2.1 Interdisciplinary teams representing different organizations 2.2 Male and female researchers on all teams; women were lead researchers 2.3 Final reports produced 2.4 Links with communities involved in research 2.5 Developed new knowledge about collected foods, traditional varieties and indigenous crops, including legume seed and impact of a cash crop on biodiversity 2.6 Research on HIV-AIDS was particularly important in recognizing situation that effects all aspects of community life and agricultural production	2.1 Interdisciplinary teams 2.2 Male and female researchers on teams 2.3 Final reports produced 2.4 Developed new knowledge about non-timber tree products, impact of HIV/AIDs on farmers' knowledge of seed. 2.5. This will be fed into new ideas for research 2.6 Report was shared with rural communities
3. Weaknesses	3.1 Gender analysis not consistently present in research reports 3.2 Social scientists backstopping activities changed over time	3.1 Gender analysis not consistently present in research reports 3.2 Little social scientist participation and lack of interest in participation by university faculty, due both to their over-commitments and the limited budget available	3.1 Gender analysis relatively consistently present in research reports on HIV/AIDS & seed and Mafurra tree studies, but not in Mungomu tree study.
4. Observations	-All researchers considered their participation to have been very positive and to have had an impact on their approach to research -Gender analysis was consistently the weakest component of LinKS - External research support to the research teams was not consistent over the life of the project	-All researchers considered their participation to have been very positive and to have had an impact on their approach to research -Gender analysis was consistently the weakest component of LinKS -There was no external support to the research teams over the life of the project	-Research appears to have been the strongest component in Mozambique.

4.3.4. Overview of communications in Tanzania, Swaziland and Mozambique. During the first year and longer of Phase II, a significant proportion of the time and resources devoted to the

communications component was spent on preparing, editing, publishing and disseminating reports of activities carried out in Phase I. Early in Phase II, a video called **Sharing the Knowledge** was developed in English and distributed to partners in LinKS countries. A joint publication by LinKS, IUCN, and CTDT called **Intellectual Property Rights for Farmers and Breeders** also was produced and disseminated.

Project posters were developed in 2002 and disseminated to LinKS partners in the different countries (NGOs, government departments, etc.). In mid-2003 it was agreed to develop a project brochure that would give general information on the first page followed by a small page per project country.

None of the LinKS national teams in Phase II had individual country websites because it was difficult to manage websites in situations where connectivity was often unreliable and expensive. However, FAO/Rome revised, updated and relaunched the project's website during Phase II. Each team was responsible for ensuring that their country page was current with descriptions of past, ongoing and future activities. This seems to have been done sporadically. For example, the website does not provide a complete list of all the training workshops that were conducted in the three countries.

FAO/Rome also set up a mailing list to facilitate the communication and dissemination of information on agro-biodiversity, local knowledge systems, participatory approaches and gender, and prepared a letterhead, logo and report covers. A series of case studies "**LinKS at a Glance**" was established. They provide brief, well-written overviews of results from the LinKS project, but they do not provide in-depth analysis of the results. For example, the first case study on seed systems, based on research activities in Tanzania was published in March 2003. An interesting finding mentioned in the case study is that women considered a supportive spouse to be an essential component of a "seed expert." Male respondents did not mention this characteristic. An in-depth gender analysis would have questioned and explored the experiences of women farmers with respect to the control exercised by their husbands over women's' patterns of seed selection and preservation. In other words, it is possible that many women did not have the final authority to decide on which, if any, seeds would be preserved and therefore a supportive spouse was necessary in order for them to make decisions. In contrast, men did have the final authority.

Towards the end of the project, a start was made by the FAO-Rome team with writing an article for a wider UN publication looking at the lessons learned in promoting participatory approaches.

In Phase II, in addition to capacity-building workshops, Swaziland and Mozambique both hosted workshops aimed at informing government policymakers and researchers about LinKS and its activities and in promoting reflection on the LinKS concepts and methodologies. In Swaziland, the workshop was hosted soon after the project was launched with the objectives of discussing project strategy and potential activities with NGO representatives, government officials and researchers.

Overall in the three countries, the communications component received less attention than the capacity-building and research components. Nonetheless, an internet search using the terms 'Gender, Local knowledge and agro-biodiversity' shows that LinKS and particularly the training manual appear on a wide range of prominent websites.

4.4 Country Profiles: Tanzania

4.4.1. Capacity Building. The first workshop of Phase II in Dodoma in December 2002 and was aimed at researchers and extension workers to prepare them to work within the LinKS framework. Between December 2002 and January 2005, LinKS in Tanzania organized 19 workshops. Participants included extension workers, NGOs, government staff, district agricultural officers, farmers, seed company representatives, development workers from LinKS partner organizations, trainers, and LinKS national team members, but by far the greatest focus was on the training of researchers. Sixteen workshops included researchers. Many of the workshops were highly focused. For example, two were held for researchers in the Sokoine Agricultural University (SUA) TARP II project to introduce them to participatory approaches, the sustainable livelihood framework, and LinKS concepts for integration into their research. All costs were covered by SUA-TARP II.

4.4.2. LinKS training manual. The draft LinKS training manual was ready in February 2004 and pre-tested in a five day training of trainers' workshop in Tanzania in March/April 2004. Twelve participants attended, including two trainers each from Mozambique and Swaziland and six from Tanzania. The pre-testing was carried out by a consultant from the Natural Resources Institute (NRI) of the U.K. Feedback from this workshop was incorporated and the manual was finalized in April 2004. The participation of the Tanzanian team was especially critical to the successful completion of this work.

4.4.3. Development of a LinKS teaching module for SUA. Another positive outcome in Tanzania was the development of a teaching module for the Sokoine University of Agriculture (SUA) in Morogoro. As with the training manual, the process of putting this into place was time-consuming and beset with obstacles. In November 2002 the national LinKS team met with the directors, deans and key staff members of SUA, including the Director of the Development Studies Institute to discuss the introduction of LinKS issues into the curriculum. The intention was to build on the training syllabus and materials that had already been developed for Africa University in Zimbabwe during Phase I.

Since the SUA curriculum had just undergone revision, it was not possible to introduce a full course on LinKS issues. Eventually it was agreed that LinKS issues could be integrated into relevant existing undergraduate and postgraduate courses. In April 2003, the Development Studies Institute assembled a team of 12 subject matter specialists, drawn from different departments, to develop teaching modules for local knowledge, gender, and agro-biodiversity management for food security. The final modules were completed in mid-2005 and at the time of the visit of the Evaluation Team, the director of the Development Studies Institute said that they were ready for publication but that the requisite funding (about US$5000) was not available. The Development Studies Institute also would be prepared to host a workshop to launch the LinKS module.

The Evaluation Team was impressed with the breadth of issues and the approaches taken in the module. According to the director of the Institute of Development Studies, there is no other comparable curriculum at the university that covers gender, agro-biodiversity and LK. It remains uncertain to what extent and how SUA faculty members will integrate the teachings of this module into their on-going courses. The director noted that the agro-biodiversity part of the module could be taught in the Department of Forestry, while the LK component would be taught in Development Studies. The university has committed itself to mainstreaming gender into all its courses. Nonetheless, this parceling out of the different components of LinKS seems to go against the basic guiding principle of the project, i.e. that the three concepts should be considered as an entity.

In order to provide technical support to the finalization of a teaching module on local knowledge, gender and agro biodiversity, a conceptual LinKS training was provided to staff from Sokoine University of Agriculture (SUA) involved in the curriculum development in September, 2004. This strengthened the teaching module, especially in the area of gender and IPR, and the staff's capacity to teach about these issues.

4.4.4. Research. Three main research activities were carried out in Phase II of the project, two relating to local knowledge, seed management and food security and one on local knowledge and livestock breeding/ selection. These were:

1. A study of local knowledge in relation to management of agro-biodiversity and food security in semi-arid Central Tanzania
This study aimed to enhance the ability of researchers and development workers from key organizations to apply an understanding of gender, local knowledge, and biodiversity and food security. A multi-disciplinary/multi-institutional approach was adopted (see box 1 for details).

The team reports a lot of detailed information on changes in seed/ crop diversity over the last 50 years with changes from a primarily livestock to a crops dominant system. Over the same period it was reported that women have become more empowered in decision making, however, men continued to control resources and decision making with respect to major financial aspects. The report provides details on the seasonal contribution of collected, neglected and staple foods and crop variety preferences disaggregated by gender and food security status. The study confirmed the importance of informal seed systems and their contribution to food security. It was observed that the men had more seed information channels than women. The negative influence of HIV/AIDS on food security, labour availability and seed management is reported. It concludes by making recommendations for key stakeholders in order to further enhance awareness and understanding of LinKS issues.

A large amount of information was collected by a multi-institutional team and the analysis and reporting clearly presented a challenge. Nevertheless, very useful information has been processed and reported. Discussions with team members suggest the study has been successful in raising the importance of the LinKS issues within the team and in different ways, participants have plans to take this forward in their work.

2. A study of local knowledge in relation to management of agro-biodiversity for food security: Case studies on local seed management n Southern Highlands, Tanzania
This study aimed to create awareness and understanding of the importance of local knowledge and enhance interactions among stakeholders to improve local seed security. It involved a multi-disciplinary research team with different skills and backgrounds, including members of the community. Different perceptions of local knowledge in relation to management of agro-biodiversity, seed and food security in the formal and informal seed systems were collected and analyzed. Activities included a literature review, collection of background data, trainings, planning workshops, stakeholder analysis, stakeholder workshops, research site selection and visits, data collection, analysis and feedback meetings.

The report describes changes in crops and varieties grown which are attributed to changes in weather, migrations, government policies and interventions. Some crop species are reported to have disappeared, but many varieties with different characters have been introduced which potentially has increased agro-biodiversity. There is information about how farmers have developed different livelihood strategies and local knowledge (eg about use of ethno botanicals as pesticides). Seasonal variations in food consumption and composition are reported for different

socio economic groups. The informal seed system is the major source of seed and information for most farmers and farm saved seed is the main source of both local and modern varieties. The effects of HIV/AIDS on food security e.g. decrease in labour, increase in number of dependants/orphans and body weakness due to long illness are reported. The report makes some recommendations about further research and promotion with respect to local knowledge and agro-biodiversity.

A large quantity of data was collected and processed by a diverse team and very useful information has been reported. However, the analysis appears to give much more attention to agro-biodiversity and to some extent local knowledge, but much less consideration to gender. Interestingly, feedback from female team members suggest the study has been successful in raising the importance of the LinKS issues – including gender - and they have plans to take this forward in their work.

3. The dynamics of local knowledge among Maasai communities, With a particular focus on preferences and criteria For breeding and selection

This study explored Maasai pastoralists' local knowledge of breeding and selection of cattle, sheep and goats and its relation to the goals of food security and herd survival. A multidisciplinary team of eight researchers from the Ministry of Water and Livestock Development, University of Dar es Salaam and SUA carried out the work with extension officers and the pastoral communities. The three year project involved: 1) a study in the original settlement area of the Maasai people; 2) a study in an area where the Maasai have migrated to, in order to see whether their local knowledge on breeding and selection has changed, and 3) farmer exchange visits between the two districts in order to validate the research findings and to identify uses of local knowledge to enhance productivity.

The results provide some interesting findings. For example, breeding and selection criteria were identified according to four main aspects: production and food security; adaptation and herd survival; management and preservation of a pastoral way of life. Preferences and criteria for breeding/ selection by gender and age, reflecting differing roles and responsibilities were reported e.g. Women's livestock responsibilities include milking, caring for calves and sick animals and raising children. Young men are responsible for herding, while older men's responsibilities include ensuring boma stability and that the herd remains healthy and increases in number. The transfer of information and decision-making processes regarding animal management are described.

It was expected that the researchers, through their involvement in this study, would gain a better understanding of the pastoralists' rationale and the goals they pursue. Based on discussions with some team members this was achieved although they also reported the challenges they faced in analyzing and reporting this type of information.

4.4.5. HIV-AIDS. The Tanzania project contracted a consultant to give the seed management research teams background information about HIV/AIDS, how to approach HIV/AIDS-afflicted families and how to collect data. The information was collected by the consultant and the research teams, but the consultant's report was considered unsatisfactory by project management and therefore the research teams incorporated some of the information in their own reports.

4.4.6 Role of Noragric. The Norwegian University of Life Sciences (Noragric), was involved in Phase I of the project and in the early stages of Phase II in Tanzania. Noragric faculty members attended the first planning meetings for Phase II and participated in the development of the

research activity on local seed management systems in the Southern Highlands and Central Tanzania and later provided some technical support.

4.4.7. Other technical backstopping. Technical backstopping for data analysis and report writing for the research on local knowledge and the management of animal genetic resources among the Maasai pastoralists was provided by a Dutch consultant from RDP Livestock Services. For all three research activities in Tanzania, considerable technical backstopping was needed, especially in the analysis of socio-economic data related to gender and local knowledge. This made the process of finalizing the research reports from the first round rather slow, and therefore, the start of the second round of research was considerably delayed.

4.4.8. Communications. The Tanzania national coordination team produced three newsletters, both electronically and in hard copy. They also encouraged the participation of farmers and researchers in the National Agricultural Show at Nane Nane to exhibit their research findings on local seeds and ethno-botanicals. A national directory of all institutions working on LinKS-related issues also was developed and also an annotated bibliography. Tanzania prepared LinKS calendars for all project countries in 2004 and 2005 and LinKS posters were also produced and disseminated.

In early 2004, LinKS-Tanzania contributed to the preparation of radio and television programs about the LinKS concepts and the research activities that were underway. During the same period, the Tanzania team facilitated and coordinated an FAO mission for the development of a LinKS booklet, entitled: **Tradition unbound: new efforts to stop hunger and save biodiversity.** This was produced and disseminated later that year through FAO-Rome.

The two main indicators of success in the log-frame were: ***i. Partner institutions in all LinKS countries take the initiative to develop strategies and take action to promote LinKS issues***. For Tanzania this happened through the SUA curriculum and with TFNC/COSTECH through the establishment of the Trust Fund. In the case of Swaziland it happened through the connection between nutrition and HIV/AIDS that was promoted through the Ministry of Agriculture and Cooperatives; ***ii. National and international level guidelines on local knowledge were to be discussed and developed***. In Tanzania this happened with an introductory chapter by President Benjamin Mkapa in a 2004 World Bank book entitled: **Indigenous Knowledge: Local Pathways to Global Development**; with a section on LK to be included in the government's Livestock policy; and with an Access and benefit sharing Regional Capacity Building workshop for Eastern and Southern Africa held in Addis Ababa in October 2005.

4.5 Country Profiles: Swaziland

4.5.1. Capacity-Building. Swaziland's first introductory workshop was in July 2002. Participants came from the university, government ministries and various NGOs and the focus was on participatory methodologies. However workshop feedback indicated that participants thought they needed better grounding in the core concepts of LinKS. The next workshop, for researchers, had a stronger focus on the core concepts but feedback from participants indicated that they wanted better grounding in participatory methodologies. Since most of the LinKS researchers had already completed their fieldwork by the time they received this training, the impact was less significant than it might have been.

It is evident, therefore that both approaches (i.e. concepts first or participatory methodologies first) had strengths and weaknesses. A possible reason why this appears to have been more problematical in Swaziland is that the workshops were reduced in length, being collapsed on one

occasion into five days and on another into six days, rather than the recommended 10 days. In Swaziland the number of hours spent in the class per day was lengthened and the fieldwork component was shortened in order to cover all the LinKS training material. While this was a practical solution, it is likely that it left some residual confusion in the minds of participants about the meanings and use of the complex concepts and methodologies to which they were being exposed. The question of whether to begin with concepts or methodologies continued to perplex the Swazi team and in the final regional coordination meeting in February 2005, the Swazi coordinator concluded that the best approach would have been to introduce participants to a full day of SEAGA tools (participatory methods), before introducing the LinKS concepts.

According to the national coordinator, the gender concepts were the most difficult for workshop participants to absorb. Conversely however, in the workshop evaluation forms most participants claimed to have had no difficultly in understanding the gender concept and the gender analysis methodology. It may be that gender has been promoted so actively by the international donor community and more recently by government in Swaziland that all participants had had some previous exposure to the terminology but they did not necessarily have a deep understanding of the concepts underlying the terminology. In retrospect, the national coordinator thought that special attention should have been given to gender, perhaps by bringing in a separate expert to teach the gender concepts in the workshops. According to one of the Swazi trainers, many participants equated gender with women's rights and some felt "threatened."

The national coordinator said that local knowledge was the most exciting concept for workshop participants and this was reinforced by interviews with researchers. We were told by several that LK had not received much attention or respect in Swaziland and that the LinKS project had made a significant impact by opening the eyes of at least a few people- researchers and some policymakers – to the importance of traditional crops and conservation methods. In the context of increasing food insecurity, this was considered to be extremely useful.

The relationship between capacity-building and research was particularly important in Swaziland. At the final regional coordination meeting in 2005, the Swazi national coordinator said that she "found it at times difficult to find the right balance between facilitation/capacity building and taking over the implementation of activities. She felt that the capacity building process was in some cases more important than the research outputs itself." This was significant in Swaziland because research capacity of the people involved with the LinKS project was on the whole less developed than in Tanzania. Although the project was based on the university campus and the national coordinator was a university lecturer on leave from her post, it proved impossible to involve university faculty as researchers. In Tanzania there was active participation from faculty at Sokoine University of Agriculture (researchers) and the University of Dar es Salaam (trainer). Moreover, the LinKS project provided at least some research backstopping in Tanzania but this did not occur in Swaziland.

4.5.2. LinKS concepts in the university curriculum. As early as May 2003, the national coordinator said she would try to encourage the University of Swaziland to integrate the LinKS concepts into the university curriculum, and she commissioned a local consultant to review the curricula of tertiary institutions for coverage of LinKS approaches and issues. However, when the Evaluation Team visited the university in November 2005, we were told that there were a number of students in the Faculty of Agriculture who were working on traditional foods and that there was some interest in local knowledge but that gender had not been integrated into the curriculum. The university is currently reducing its bachelor of agriculture program from five years to four years and some courses have been dropped or revised. The new program includes courses on agro-forestry, indigenous crops, HIV-AIDS, biofuels, under-utilized crops and herbs and spices

but gender has been omitted. From this perspective, it would seem that the LinKS project was partially successful in raising the profile of agro-biodiversity and local knowledge, but less so in influencing the Faculty of Agriculture to incorporate gender, although many faculty members had participated in LinKS sensitization or training workshops.

4.5.3. Research. All the research was done by government research officers, extension officers and private consultants. The national coordinator explained that university faculty are over-burdened with teaching responsibilities and have little extra time for research. It is unfortunate that there was not greater involvement of university faculty since this would have enhanced the possibility of including some of the LinKS findings in the university curriculum. Overall, the research results in Swaziland were less visible than in Tanzania**.** In total, four reports were completed in Phase II, three of them research projects and the fourth a consultancy:

i. Indigenous crops, their preparation methods and acceptability: a case study of the Manzini region

This study was carried out by a team of 11 researchers and extension workers from the Ministry of Agriculture & Cooperatives. It covered an inventory, availability and utilization of indigenous crops in selected communities in the Manzini region. They also looked at human consumption of and medicinal uses of indigenous crops. Part of their focus was on the cultural beliefs and practices related to the production and preparation of food that proved to be important constraints for women. Because of the severe drought over the past few years, older women have found ways of bypassing (although not rejecting) some of these cultural beliefs, to take advantage of whatever agricultural possibilities exist. The research team also found that food preferences were linked with age and sex. The most surprising finding for the researchers was the considerable importance of wild edible species. Rural people depend on wild foods as a survival strategy during periods of severe drought (such as have been experienced over the past four years in the country). They regard wild fruits as a treat. However, wild food is becoming scarce and people often have to walk long distances to find edible wild foods. Moreover, when they are harvested they are not replanted.

The research team found that farmers "blame" the Ministry of Agriculture & Cooperatives for having steered them towards excessive reliance on fertilizers, hybrid seeds and tractors, none of which they can now afford. Ironically, the Ministry is now encouraging the re-adoption of traditional methods of agriculture in cases where modern methods are unaffordable. Not surprisingly, the research team found that young people are the least likely to be attracted to traditional crops like sorghum and millet and many had no idea of how to process or prepare such foods.

The project has already had practical outcomes. Two members of the research team reported on their findings to a Ministry of Agriculture & Cooperatives planning workshop for home economists from around the country. The findings generated considerable interest and it was agreed that the government extension services would promote the consumption of indigenous foods. Efforts would also be made to demonstrate preparation/ cooking and preservation of indigenous foods. Moreover, the extension officers who were part of the project team are now promoting the cultivation of indigenous crops, especially legumes.

ii. A study on local knowledge in sustainable grain legume crops seed production in Swaziland

Two research officers from the Ministry of Agriculture & Cooperatives, together with several extension officers, carried out this study. The primary aim was to develop a community-based

strategy for legume seed production and distribution. Fieldwork was done in one community in each of the country's four agro-ecological zones.

The researchers found that farmers had their own ways of preserving seeds and many still use traditional storage facilities and techniques. In fact, those that used traditional methods tended to be self-sufficient in seeds. Interestingly, they found that men and women use different methods of storing seeds. Men save seeds with paraffin or disinfectant because seeds could not be consumed (by pests) if preserved that way. In contrast, women prefer to use chili powder and other edible methods of preservation. Traditionally women had complete charge of seed preservation but now legume production is becoming a cash crop and men want to protect their seeds. Legumes are becoming a cash crop because they are being promoted by the government as a good source of protein, especially for HIV-AIDS patients. The team also found that men and women had different preferences with respect to varieties. Women preferred ones that grew faster and were easier to harvest because labour is a problem for them.

One of the three lead researchers in this project had spent 15 years working as a plant breeder, releasing conventional hybrid varieties. The participatory methods she learned in the project "opened her eyes" to a new way of working with farmers, recognizing that they also have expertise and that many do constant research and experimentation on their plots. Another lead researcher, an extension officer, said that "now I view my farmers differently. We are partners. I am no longer the teacher."

As a result of their participation in the LinKS project, the research team has developed closer relations with several NGOs that work in the rural sector in Swaziland, including World Vision, the African Christian Action Trust, the Lutheran Development Services and SWADE, the Swaziland Water and Agricultural Development Enterprise. The research team also said that they found the LinKS training documents very useful and they are continuing to use them in their work.

iii. Sugarcane production

The project investigated the impact of sugarcane production on crop diversity and household food security and tried to establish the agro-biodiversity in areas earmarked for sugarcane production. The study was done in collaboration with the Gene Bank, which collected and managed plant genetic resource material in the communities intended for sugarcane.

The research team, consisting of two research scientists, an extension worker and two NGOs, worked on three different sites where sugarcane is grown, and interviewed 100 farmers. On one site 10 species had been lost, on the second seven had been lost and on the third, five had been lost. Sesame, sorghum and sweet sorghum were lost at all three sites. It is unclear whether any new species were gained. The research also found that women have longer lists of crops that they produce or have produced. This is probably due to the fact that women grown crops primarily for consumption while men grow crops for sale. Indeed, women knew much more about the uses for food crops while men knew more about herbs. The project ended before the researchers could bring the farmer groups together from the different sites to exchange information on what they grow and how they prepare the different crops.

The principal researcher, a plant geneticist, said that in the past it never occurred to her that male and female farmers grow different crops or have different types of knowledge. Moreover, in the past she would never have separated men and women in order to elicit information from both groups. The principal researcher also said that the next logical stage would have been to develop an

IPR Policy for Swaziland. They are currently working on a biosafety policy, using the Namibian and South African examples.

iv. The Impact of HIV/AIDS and Drought on Local Knowledge Systems for Agro-biodiversity and Food Security

This consultancy investigated the impact of HIV/AIDS and drought on local knowledge and agrobiodiversity management.

Several other documents were also produced: Directory of Institutions; A Bibliography on LinKS issues; an overview of student research reports, theses and dissertations; an overview of the policy framework for gender, local knowledge and agro-biodiversity; an assessment of the coverage of LinKS issues in the curriculum of tertiary institutions in Swaziland; and a report on local knowledge and agricultural shows.

4.5.4. Communications. The Swaziland program sponsored a communication workshop on the role of indigenous plants in health, in collaboration with the Swaziland Institute for Traditional Medicine and Indigenous Food Plants. Generally, the communications element seems to have been weak in Swaziland. The national coordinator said this was because the project started late and there was little to communicate until near the end of the Phase II time period. Moreover, since the research was finished late (due to the late start of the project in Swaziland), at the time of the Evaluation Team's visit, the Swazi results had not been published as LinKS project reports.

4.6 Country Profiles: Mozambique

4.6.1. Capacity building. In collaboration with the Ministry of Agriculture, three training workshops for extension workers were held in November and December 2004. Training focused mainly on the SEAGA tools. As in Swaziland, the workshops were shortened to five days.

A workshop in 2003 had a wide reach, including participants from 23 government institutions, including the faculty of biology at the University, the Ministry of Environment (MICOA) and the National Directorate of Forestry and Wildlife (DNFFB-CEF). This workshop was prepared and facilitated by the three local consultants who had attended the LinKS Training of Trainers workshop in Tanzania. The main purpose of the 2003 workshop was to raise awareness of the LinKS project, to introduce the LinKS training manual, and to identify areas of future collaboration between the LinKS project and the partner organizations represented at the workshop. Another training workshop in December 2004, with 25 participants, focused primarily on extension workers and agriculturalists.

The Mozambican capacity-building efforts included researchers not only from the home country but also from other lusophone countries in Africa including Cape Verde, São Tomé e Principe, and Angola. This helped to promote the LinKS concepts beyond the three target countries, but there does not appear to have been follow-up to see whether the training had any impact in those countries. Moreover, because the records for capacity-building and workshop participation in Mozambique are not complete, it is difficult to judge the effectiveness of the training in terms of quality and quantity.

4.6.2. Research. During the first half of 2004, a number of activities took place in Mozambique, including the translation of the LinKS Manual into Portuguese; initiation of research activities with Kulima, a national NGO and ICRAF, the International Centre for Research on Agro-

Forestry, respectively on "Indigenous uses of forest biodiversity resources: the case of Mungomo tree" and "The Trichilia Africana: myths and uses".

The research projects undertaken by LinKS in Mozambique included:

i. Indigenous knowledge on the use and conservation of Trichilea emetica (Mafurra tree).

This study was implemented in collaboration with ICRAF in Zavala and Inharrime district in Inhambane province. The study also was of interest to the FAO Nutritional Program for Mozambique. The objectives were to document local indigenous knowledge with respect to utilization, propagation, conservation and myths related to mafurra; and to analyze the potential contribution of mafurra to household income and food security. As in the case of research done by other teams, the gender component was not well covered in the final report, despite the fact that the team had collected a lot of relevant information.

ii. State of indigenous knowledge of edible non-timber forest products in the central region of Mozambique: the case of Mungomo tree

This study was done in collaboration with Kulima, a Mozambican NGO. The objective was to document indigenous knowledge of the Mungomo tree. The research team did fieldwork, community feedback, and a one-day stakeholder workshop with 28 participants.

iii. The impact of HIV/AIDS on gendered information flows related to seeds among rural producers in Chowke district

This study was done in collaboration with ICRISAT and generated a lot of interest within Mozambique and also at the international level. One of the findings of the study was that women had greater knowledge than men of traditional crops but that they also had relatively poor access to agricultural resources, to information and to training. The study also found that certain types of agricultural knowledge tends to be gained later in life and that older people had better understanding of traditional crops and seed preservation than the young. The study concluded that both men and women learn about the seed types they are actually able to grow and this depends on the ability to conserve seed, to purchase seed or to acquire seed through other mechanisms. Access to all of these factors is affected by HIV-AIDS. Upon completion of the fieldwork and data analysis, a field seminar for consolidation of the collected data and a seminar with policy makers in Maputo were organized. The research report was finalized and has been widely disseminated. The case study was also published by FAO/Rome.

iv. A synthesis of student theses and research work on LinKS in the high level education and research institutions (1990-2003)

The purpose of this overview of research in the areas of gender, biodiversity and local knowledge was to avoid repetitions and to better direct new theses to be developed by the university students and to promote and encourage research in the area.

v . Report on the extension services.

This study analysed the impact of the LinKS concepts in the Mozambican extension sector and identified areas for future work.

vi. Legal framework on gender, biodiversity and local knowledge for food security in Mozambique.

This study looked at the main national and international legislation that is supportive to the LinKS concepts.

vii. LinKS Directory of institutions

4.6.3. Communication. A sensitization workshop on the LinKS issues was organized in August 2004 in Maputo. Participants also reviewed the **The Legal Framework on Gender, Biodiversity and Local Knowledge for food security in Mozambique** and the LinKS Directory of Institutions.

A bibliography containing an overview of existing publications on LinKS issues was produced in January 2004. Contacts were also made with the government's Department of Communication to see how community radio programs and newspaper articles could be developed on LinKS issues. The main challenge was to translate the academic research findings into messages that could be easily understood by the general public. Eventually, newspaper articles and case studies were written and published in local and national newspapers

4.7 Government support

4.7.1. Overview. National and local governments' support for the project may be assessed according to a number of factors including financial contributions, participation of government personnel, policy, and political support. Table 7 below summarizes government support to the project across the three countries. As seen, support was greatest in Tanzania, followed by Swaziland and finally Mozambique. While there appears to have been little direct government financial support in any of the countries, there was support through government personnel working on project activities in Tanzania and Swaziland. In Mozambique, international research organizations and NGOs appear to have taken the lead. Policy support is discussed in Section 5.2 below on Sustainability of results. In Tanzania, further political support came from President Benjamin Mkapa's contribution to the World Bank publication on indigenous knowledge.

Table 7: Government Support to the LinKS Project

	Tanzania	**Swaziland**	**Mozambique**
National government	TFNC COSTECH SUA Ministry of Agriculture Agricultural Research Institute, Uyole Livestock Production Research Institute, Mpwapwa Ministry of Natural Resources University of Dar es Salaam Ministry of Water and Livestock NEMC	UNISWA Ministry of Agriculture & Cooperatives	DNER, DNFFB (National Directorate of Rural Extension; National Directorate of Forestry and Wildlife – Ministry of Agriculture) ARPAC (Ministry of Culture) INIA (Ministry of Agriculture)

Local government	Dodoma rural district Singida Rural district Simanjiro District Mbarali District	Regional government	Chokwe District (Province of Gaza); Macossa district (Province of Manica); Districts of Inharrime & Zavala (Inhambane Province)
Types of support			
Financial	None	None	None
Personnel	Personnel from government organizations participated in project activities TAC members from government organizations COSTECH/ TFNC are settlors for the LinKS trust Fund National and local government personnel carried out research and training.	Personnel from the above government organizations participated in project activities	Research activities primarily carried out by CGIAR research centres and NGOs Four of the trainers from Government institutions: 1 MICOA (Ministry of Environment); 2 Ministry of Agriculture (DNFFB, DNER);1 Faculty of Biology-UEM).
Policy	Policy statements are supportive of addressing gender issues. Policy implementation environment generally not conducive to addressing LinKS issues.	Mainstreaming of gender issues in the development process, part of Country Strategy Paper of 2000. Govt. promoting use of traditional crops to enhance nutrition to combat effects of HIV/ AIDS Grain legume seed producers association.	PRSP recognizes the challenges pertaining to gender equality in priority areas including education, health, and agriculture.
Political	President Mkapa's LK paper gives strong political support Ileje distict (S. Highlands) and Singida Rural district have expressed future support, e.g. to seed fairs		

4.8 Project management

4.8.1. Country level management. In different ways, during Phase II all three countries had problems with their national coordinators. In Tanzania, the first coordinator soon left for a better opportunity, the second died tragically in a traffic accident, and the third stayed with the project until the end. In Mozambique, it proved difficult to find a qualified English-speaking coordinator and the start-up of Phase II was delayed. Similarly, in Swaziland the first coordinator was dismissed and it took many months before a replacement was identified. The two national coordinators visited by the Evaluation Team (for Tanzania and Swaziland) both seem to have been talented individuals with strong commitment to the LinKS project.

The identification of a country office was especially difficult in Mozambique where efforts to place the project with the Ministry of Higher Education, Science and Technology ultimately proved unsuccessful. The government of Mozambique seems to have had somewhat less interest

in local knowledge than was the case in Tanzania and Swaziland. Eventually the LinKS project was located in the FAO office in Maputo, which meant that it did not have the same level of local ownership as in the other two countries.

From time to time, there were misunderstandings between FAO/Rome and the national coordinators. For example, the Mozambican national coordinator was advised to purchase a sedan car for the project because he could rent a four-wheel drive from the FAO office in Maputo when necessary. However, he proceeded to purchase a four-wheel drive vehicle. In Tanzania, telecommunications problems created lapses in communication between TFNC and FAO/Rome. To help resolve these difficulties, a wireless internet access was fixed in the office and a landline telephone/fax number with international access was installed exclusively for the project.

In Swaziland, because of the slow arrival of funding, the national coordinator was burdened with the simultaneous tasks of setting up an office and starting capacity-building and research activities. The office only became fully functional (with e-mail and phone connections) at the beginning of August 2003 and it took a further month for a project assistant to be in place.

In Tanzania, a team of seven technical experts in various LinKS-related topics was appointed to serve on a Technical Advisory Team (TAT) for the project. Members included three from the Ministry of Agriculture, two from the University of Dar es salaam, one from SUA and one from Moshi Cooperative College. Three were female, including the Chair. The main role of TAT, which met about twice a year, was to provide technical backstopping and advice to project activities in the three areas of capacity building, research, and communication/advocacy and networking. The TAT was also responsible for providing advice to the national team on how to enhance linkages and collaboration with various stakeholders. The TAT supported capacity-building and promoted the use of participatory methods in their own networks. In an interview with the Evaluation Team, one Tanzanian TAT member mentioned that LinKS promoted the idea of an open competition for research funds and that this transparent method has now been adopted more widely in government.

Additionally in Tanzania, a group of four resource persons, the Core Group, was identified to provide advice and support to mainstreaming and advocacy of local knowledge at the policy level. This comprised of influential people in government institutions who had genuine interest and commitment in promoting LK in Tanzania. The Core Group later provided input for the development of the Trust Fund.

In Mozambique, according to reports from the regional coordination meeting, a Technical Advisory Team was put in place in 2002 to develop an overall project strategy. There is no further documentation about the role of the Mozambican TAT, which met in a more informal way, but provided inputs to the project. Swaziland did not have a Technical Advisory Team.

4.8.2. Regional component. Like Phase I**,** Phase II of LinKS was intended as a regional initiative, and three regional coordinator meetings were held: in Swaziland in July 2002, in Tanzania in May 2003 and in Tanzania in February 2005. At these meetings each country coordinator discussed what had been achieved since the last meeting and presented their work plan for the following months. Meetings were always well attended by staff from FAO/Rome and regional personnel, providing opportunity for participants to comment on activities underway in the other countries, to identify and discuss mutual problems, and to plan around issues that affected all of them, e.g. monitoring and evaluation. In response to a weakness identified in Phase I, in Phase II, efforts were made to develop systematic work plans that were presented, discussed and approved at the regional meetings. Efforts were made to ensure that the same types of

activities were being carried out in the three countries but because the projects had started at different times, this was not always possible.

Project monitoring and evaluation seems to have been a weakness during both Phase I and II. This was identified as problematic in the final Regional Coordination Meeting in February 2005 where the three national coordinators were encouraged to put more effort into this activity. Despite the efforts made by the Monitoring and Evaluation consultant who worked with the teams on the log frame in August 2003, an effective M&E framework was not established.

4.9 Technical and operational backstopping

4.9.1. FAO/Rome management. Under normal FAO policy, the LinKS project should have been managed out of the Africa regional office in Accra, Ghana, but in this case, management was overseen by FAO/Rome. This was universally considered to be a more efficient way of operating since communications with Rome were fairly easy for each of the project countries. The involvement of the FAO office in Accra would have added another layer of bureaucracy and regular communication would have been more problematic.

The LinKS team in Rome provided technical backstopping to the development of the under-graduate training module about LinKS issues for SUA in Tanzania and for the development and finalization of the local seed management proposal in Tanzania. Strong support was given in the development of a research strategy and a research guide, a work plan, and budget. FAO/Rome also identified a consultant to provide backstopping support to the livestock research activity in Tanzania. It also established a joint research activity with SDRE on agricultural knowledge and information systems (AKIS). FAO/Rome gave more technical support and backstopping to the Tanzanian team than to either of the other countries, although in the case of Mozambique there was FAO APO who worked on the project in Maputo for a substantial period of time prior to the identification of the coordinator(s) for the second phase.

FAO/Rome found itself in a difficult position in some respects. The LinKS project was conceptualized as a participatory initiative but some of the necessary administrative procedures were less than participatory. This was brought up as an issue at one of the meetings of the regional coordinators and it was explained that the team at headquarters tried to work together with the national teams in the most participatory way possible. Even when decisions had to be made at headquarters, the views of the national team members were always taken into account. The structure and administration of the project allowed for a more participatory approach at the country level, encouraging LinKS country teams to work very closely with the research teams and partner institutions. This was consistent with the intent in the Phase II project design that the LinKS concepts should be mainstreamed into national institutions.

5. Assessment of results and effectiveness

5.1 Effects and impact

5.1.1. Capacity Building. At least 30 training workshops and seminars were carried out and approximately 900 people were trained. National resource persons for each country were trained in the SEAGA and LinKS concepts and later conducted successful training workshops in their home countries. Workshop participants everywhere included policymakers, extension workers, NGOs, and academics. The LinKS training module was prepared, field tested and produced and a LinKS curriculum was prepared by SUA. While the depth of the training varied – e.g. it was

longer and included more people in Tanzania – the general approach was successful in each country.

Inclusion of Gender Component. Gender was the most problematic of the three key concepts, which was surprising, given the depth and scope of both the SEAGA and LinKS gender training materials. A clear understanding of the reasons why gender presented a greater challenge would be extremely useful but it is beyond the scope of this evaluation to provide conclusive answers. A possible reason for the difficulty experienced by participants in absorbing the gender component may have been that it called for a different analytical approach than either local knowledge or agro-biodiversity, both of which can be discussed in the context of the scientific terminology that was more familiar to most of the participants. Local knowledge and agro-biodiversity may simply have been of greater interest to many participants. Gender may have been perceived as a more sensitive and hence challenging subject for some participants. A greater understanding of these issues at the intermediary organizational level would be very useful.

5.1.2. Research. In terms of number of outputs, the research component was also successful. Approximately 60 researchers were involved across the three countries. At least 20 case studies and more than 25 research reports were prepared. Participation in the research activities seems to have been a positive experience for researchers in both Tanzania and Swaziland. See Annex 5 for a sample of their responses to questions about their participation in LinKS research and training activities.

The draft research strategy discussed in the first Regional meeting in 2002 emphasized the need to make the research relevant; the importance of research ethics; the importance of participation and the involvement of stakeholders; the need to mainstream LinKS concerns; and the need for qualitative and quantitative research and inter-disciplinarity.

In the section below, we offer some insights into the questions that the research teams set for themselves in the Phase II research strategy.

Was the research relevant for development?
The research topics are relevant to development and the participatory process has created opportunities for development initiatives to emerge. Importantly, the researchers, who came mostly from technical areas, were introduced to social analysis and while the end results of the research may not have been as rigorous as originally hoped, the researchers acquired important skills and insights related to the LinKS concepts that they will carry into their future work.

Were research ethics and appropriate international and national codes followed?
According to research reports and discussions with research teams, ethical codes were followed.

What was the involvement of stakeholders in various stages of research from planning, implementation, interpretation to follow-up?
The project, particularly the seed management research teams, set out to be inclusive and bring a wide range of stakeholders into the research process. In Central Tanzania, for example, activities carried out by the seed group are indicated in Box 1. The seed management teams in particular included a range of stakeholders from public sector research and extension, together with NGOs. Considerable time was spent with communities and in the case of the Central Zone team this included living in villages for some time. Participation also involved working with project management and other resource people over a period of time e.g. in workshops. Unfortunately, in the case of resource persons, the Noragric support dropped away over time for the seed teams and

Box 1:
Activities of LinKS Seed Management Research Team in Tanzania

Baseline survey - carried out by consultant
Training workshop- PAR and Participatory rural appraisal (PRA)
Joint research planning workshop - to develop a common approach with other teams;
Stakeholder analysis - to explore stakeholders' willingness to participate and bring them on board
Stakeholder workshop -to establish stakeholders' commitment and partnerships
Zonal research team planning meeting - research teams from SHZ and CZ attended the planning meeting facilitated by National team and Noragric; Research questions and tools of analysis developed
Implementation, documentation and dissemination - implementation took place between late June and July 2003
Consolidation workshop - to present major findings and identify gaps
Report writing - core members took retreat session in Mpwapwa.
Preliminary Dissemination - drama troupes (choir, poetry, traditional dance, *ngonjera* groups) competed for LinKS award of Tshs 6000)
Seed Fairs.

Note: This box only reflects part of the research process. After the report writing, there was feedback, identification of gaps, planning for 2nd round, etc…

the Dutch consultant didn't start working with the livestock team until after the research had started.

How did research activities and outcomes contribute towards the mainstreaming of LinKS concerns?

Feedback from members of the research teams suggests that the research activities have contributed towards mainstreaming of LInKS concerns. Some examples of the impact of participation in the research are provided in Box 2. The team members provided the Evaluators with many examples of how their own work has been affected by the research they carried out. Seed fairs appear to have attracted especially wide interest. For the Central Zone and Southern Highlands teams it is less clear to what extent this is having an impact within their organizations and more widely on decision makers. However, in SUA, the livestock team members appear to be contributing towards mainstreaming their research within university teaching and research.

Box 2:

Comments from Tanzania LinKS Researchers

I have developed a concept note on local seed… and submitted to different donors. Southern Highlands team member

As a researcher I have understood more on the contribution that IK, biodiversity and gender have on day to day work. Central Zone team member

Teaching: aspects of biodiversity that include local knowledge and management of farm animals
Research: two MSc students have completed their thesis on characterization of indigenous pigs and Iringa red cattle where aspects of local knowledge, gender and biodiversity were included.
Curriculum: A course (AS 311) on domestic animal biodiversity and conservation was adopted in year 2003 under semester system.' Livestock Team member

I am currently doing more research related to LK and gender than those of animal nutrition, which is my field of specialization.
The project made me orient myself more to participatory approaches in doing research and outreach activities. Livestock team member

Did the research utilize qualitative and quantitative methods and inter-disciplinary approaches?

The research teams were multi-disciplinary and multi-stakeholder and the teams comprised extension officers and NGO representatives, as well as full-time researchers. They did use different methodologies and interdisciplinary approaches but the final output of much of the research appeared to lack rigour. Overall, the research results were weakest in addressing the gender component. Researchers generally did not analyse the levels of access of men and women to resources, land, technology, knowledge, etc. but instead tended to evaluate women's participation in seed management or livestock production as neutral activities that were unaffected by their overall status in society. Without this type of analysis, there will only be limited progress towards understanding and mainstreaming gender concerns.

5.1.3. Follow-up activities. An important element of the work during the final year of the project was the identification of entry points for the continuation of some LinKS-type activities after the project ended. This was done through building connections with partner organizations and trying to find opportunities for follow-up, based on the main findings of the research studies.

In two cases, LinKS experiences were used to develop similar activities. For example, based on the research findings of a joint LinKS-ICRISAT study on the impact of HIV/AIDS on local seed systems in Chokwe district in Mozambique, ICRISAT decided to develop a large regional research program in eastern and southern Africa. This regional program was intended to look into the impact of HIV/AIDS on local seed systems and information flows. The FAO Gender Officer for North Africa also began to use the LinKS project concepts and experiences as the basis for developing a regional program in the Magreb, focusing on medicinal plants, local knowledge and gender**.**

5.1.4. Skills enhancement. In Tanzania**,** the enhanced skills and the main findings of the research teams were acknowledged and recognized within the national agricultural research institutions. Members of the Southern Highlands research team shared their experiences and findings in several presentations at workshops. For example, they participated in a DFID-funded workshop in

February 2005 that looked at ways to improve access to formal seed systems. In Swaziland, researchers also reported that their research skills had been improved and that in future they would do research in a more participatory manner.

5.1.5. Internal evaluation. For monitoring and evaluation purposes, during the regional coordination meeting in February 2005, it was decided to undertake an internal evaluation to find out how the different LinKS partners (project staff, research teams, trainers and trainees, partner organizations, consultants, etc.) had experienced their collaboration. This internal evaluation, by R. Pfeiffer and A. Loconto, "***Reflecting on lessons learned from the LinKS Project. Document prepared at the request of the SDWW, FAO Rome***," was completed in 2005. The six main issues identified by the internal evaluation related to concepts, methodology, capacity building, mainstreaming and project management. For example, it was pointed out that the holistic view of gender, agro-biodiversity and local knowledge was particularly difficult to institutionalize in ministries and universities that were organized on disciplinary or sectoral lines. With respect to methodology, it was pointed out that participatory approaches are time-consuming and labour-intensive and LinKS project did not allow sufficient time or budget for the overall application of participatory approaches. It was also noted that Intellectual Property Rights with respect to biodiversity were an issue of major importance, especially in communities that have little else. The evaluation also found that mainstreaming of the LinKS issues into government institutions and universities would require a longer period of time then allowed by the project. These are valid points that underscore the difficulty of undertaking a complex participatory project like LinKS that involved training, research and communications over several countries.

5.2 Sustainability of results

The sustainability of results stemming from the LinKS project will depend on a number of factors including:

- supportive policy frameworks that provide appropriate incentives;
- long-term funding sources;
- awareness and understanding of the benefits of new approaches and activities;
- local ownership, brought about by genuine participation and influence of all key stakeholders in decision-making and prioritization of activities; and
- the ability of organizations, including private businesses, to use effectively the resources provided.

5.2.1. Policy frameworks. An original aim of LinKS was to influence policy makers. In the case of gender, supportive policies already exist to some extent in all three countries. The challenge for LinKS has been to raise the profile of the synergies among gender, LK and agro-biodiversity and then to influence actual practice. Consultations with stakeholders suggest that in Tanzania and Swaziland some progress has been made: a chapter on local knowledge and gender is to be included in future livestock policy in Tanzania; and in Swaziland the Ministry of Agriculture & Cooperatives is putting more emphasis on promoting traditional crops such as grain legumes. However, the over-riding policy environments in the three countries still provide few incentives to address LinKS issues. For example, the Plant Breeders Rights Act in Tanzania has created incentives for breeders and others to develop new varieties, but there is little incentive for any stakeholder to work with farmers to improve the management of their own varieties.

5.2.2. Funding sources. The LinKS project did not manage to identify alternative sources of funding to allow project activities to continue after the official closing date. However, there was

considerable success during the life of the project in sourcing small amounts of funding from various organizations, including government, university, NGOs and other donors for concrete activities, especially workshop participation. In Tanzania, the project provided seed money to the creation of the Trust Fund, which now must find further sources of support. In Swaziland a proposed FAO-TCP project may create the opportunity to work towards more sustainable funding sources.

5.2.3. Awareness and understanding of the benefits of new approaches and activities. The project was very successful in raising awareness and understanding among those who participated. The challenge will be to move this out to the wider community. This will require significant commitment from key agencies in terms of capacity building and financial resources. Section 6 below outlines some possible ways forward.

5.2.4 Local ownership, brought about by genuine participation and influence of all key stakeholders in decision-making and prioritization of activities. The project made a major commitment towards participation and involvement of key stakeholders. The outcomes varied considerably, but based on discussions with project partners in Tanzania and Swaziland there was genuine enthusiasm and commitment from those directly involved in the project. Future activities should build on this to achieve wider ownership.

5.2.5. Ability of organizations, including private businesses, to use effectively the resources provided. This will be a key factor and one way of addressing it is through the maintenance of longer term partnerships and relationships with individuals and organizations. The Trust Fund in Tanzania provides an exciting opportunity and significant challenges. Table 8 below provides an overview of the partners that were involved with LinKS Phase II. It is evident that the greatest strides forward have been made in Tanzania which is not surprising given that the project operated longest and had fewer institutional problems there.

Table 8: Project Partners and Approaches to LinKS Activities

	Tanzania	**Swaziland**	**Mozambique**
Partners	TFNC COSTECH Sokoine University of Agriculture Ministry of Agriculture ARI Uyole LPRI Mpwapwa Ministry of Natural Resources University of Dar es Salaam? District extension offices (Dodoma Urban, Singida?)	UNISWA Ministry of Agriculture & Cooperatives NGOs – World Vision, African Cooperative Action trust (ACAT)	Kulima ICRAF ICRISAT DNER DNFFB (Ministry of Agriculture) IDRC ARPAC (Ministry of Culture)

Approaches	-Trust Fund (COSTECH & TFNC are Settlors) -SUA curriculum -SUA, Uyole -research proposals -Singida DC promised to support seed fairs in other villages -Ileje DALDO very supportive of seed fairs	-Ministry of Agriculture – Supportive of application to FAO for TCP project to continue LinKS activities -Promoting use of traditional crops to enhance nutrition to combat effects of HIV/ AIDS -Grain legume seed producers association -Selling landrace seed (cowpea, bambara nut, groundnut, common (sugar) bean, sorghum at FAO seed fairs for disadvantaged people (exchange for tokens)	Initiatives identified by Coordinator - Botanics working group in IK (Ministry of Science and Technology); - SADC experts group on Access and Benefit Sharing -Department of Plants and Traditional Medecine (Ministry of Health) and DNER (Ministry of Agriculture) committed to proceed with the legal incorporation of LinKS concepts in their work
Outcomes	-TF has been commissioned to facilitate training of senior managers in Ministry of Natural Resources (November/ December 2005) -SUA curriculum – see capacity section	TCP proposal not yet submitted	Not known at this stage
Factors	-TF launch was not very timely – many donor reps were on leave	-Food preference – young do not favour traditional foods -Indigenous foods are expensive and take a long time to cook -Profitability of selling landrace seed	See above
Policy	-Future livestock policy will have chapter on IK	-Extension policy promoting use of traditional crops to enhance nutrition to combat effects of HIV/ AIDS	See above

5.2.6. LinKS Trust Fund (TF). In Tanzania, particular attention was given to the formation of a formal network on local knowledge systems. Facilitated by LinKS, TFNC, and COSTECH, several interested scientists from government ministries and other organizations committed themselves to establish a Trust Fund on local knowledge. The LinKS Trust was registered in April 2005 and officially launched in August of that year, with COSTECH and TFNC as the settlers. There are ten trustees, the majority of whom are currently or formerly employed in government ministries or universities. Representation from the private sector includes the vice president of the Tanzania Chamber of Commerce, Industry and Agriculture. Users of local/ indigenous knowledge are represented by the owner of a private hospital using traditional medicines and the head of the association of traditional herbal practitioners. Only one of the 10 trustees is female. The LinKS project coordinator and assistant are currently managing the Trust from the project office at TFNC in Dar es Salaam.

The vision of the TF is to have local and indigenous knowledge systems valued in the decision-making processes for socio-economic development of Tanzania.

The aims and objectives of the TF are to:

> *i. Recognize and protect the local and indigenous knowledge systems as part of the knowledge system;*
>
> *ii Raise awareness and promote local and indigenous knowledge systems for enhancing ecological and socio-economic diversity;*
>
> *iii. Advocate for the formulation and implementation of local and indigenous knowledge systems policies and local/indigenous knowledge- related intellectual property rights mechanisms;*
>
> *iv. Advocate and promote the inclusion of local and indigenous knowledge systems into conventional knowledge systems;*
>
> *v. Ensure the sustainability of the local and indigenous knowledge systems;*
>
> *vi. Promote local and indigenous knowledge systems through community participation and empowerment; and*
>
> *vii. Create a foray for public debate on national issues relating local and indigenous knowledge systems.*

Interestingly, agro-biodiversity and gender are not mentioned in these aims and objectives. This is probably because the Trustees felt that the Trust should focus primarily on local knowledge systems. Gender equity does not seem to be a focus of the TF, which is surprising given that it grew out of a project that had gender at its core. This is consistent with the inclusion of only one female member on the Board of Trustees.

A strategic plan and work plans have been developed for the LinKS Trust Fund for the first three years (2005 – 2008). The general objective is to recognize, promote and protect local and indigenous knowledge systems as part of the overall knowledge system. The specific objectives, which again do not mention gender equity nor agrobiodiversity, are as follows:

> *i. The TF supports the formulation and implementation of local and indigenous knowledge systems policies and intellectual property rights by advocacy and mainstreaming efforts.*
> *ii. Capacities to address local and indigenous knowledge issues at various levels are developed.*
> *iii. Collaboration and networking activities with local, national, regional and international partners dealing with local and indigenous knowledge issues are undertaken.*
> *iv. TF on local indigenous knowledge is managed in a sustainable way.* [sic]

In the shorter term, therefore, the work plan of the TF is focused on the sustainability of the fund itself, collaborating and networking, building capacity and advocacy. These objectives are consistent with the overall aims of the TF and identify potential areas for partnership in any future initiatives. Although the TF already has developed objectives, it is still in the process of establishing operating principles and looking for funding sources. In this context, it is useful to briefly examine other trust fund experiences.

5.2.7. Factors influencing successful trust fund operations. A 1999 GEF review of environmental trust funds identified numerous factors that influence their sustainability. These have been reproduced in Table 9 below, and compared against the current status of the Tanzania Trust Fund, to provide some guidelines for its future sustainability.

Table 9: Profile of Trust Fund Sustainability

Factor	Tanzania Trust Fund	Suggestions
Clear and measurable goals and objectives, with a learning organization mentality	Goals and objectives have been identified with some indicators and means of verification provided	Regular monitoring and reflection and clearly linked subsequent actions well reported
Governance structure with appropriate checks and balances, conflicts of interest provisions and succession procedures.	This appears to be in place, although conflicts of interest provisions are not clearly stated.	Ensure conflicts of interest provision procedures are in place
Ownership of the fund by the board and others involved indicated by commitment of time, engagement in policy and leadership, and building support for the fund with varied constituencies	Based on discussions with the Fund director and some trustees there is significant ownership by some members, but this may not be case for all	Foster greater commitment from members showing less ownership
Linkage between the Fund and appropriate leaders in government	The Fund has some members in senior positions in relevant ministries	Encourage committed patrons in senior government positions
Ability to attract dedicated, competent staff. Harmonious board-staff relationships	Current personnel appear committed and no apparent disharmony between board and staff	Build on existing relationships
Basic technical and other capabilities that permit the Fund to become a respected and independent actor in the community. Access to training, mentoring and technical assistance programmers to build capacity	Too early to assess. Establishing contacts with organizations dealing with LK issues is in work plan.	Specifically develop links with agencies that have appropriate Trust Fund experience
Constructive relationships with relevant government agencies and other organizations in the community. The Fund should avoid becoming an executing agency itself	Establishing contacts with organizations dealing with LK issues is in work plan.	The Fund should avoid becoming an executing agency itself
Financial/ administrative discipline combined with program flexibility and transparency.	To early to know.	Ensure procedures are in place that demonstrate flexibility and transparency
Mechanisms to involve a wide range of stakeholders in the Fund's programs and direction with clear vision and leadership to avoid being pulled in too many directions	A number of project partners expressed strong interest in becoming Fund members and/ or working closely with the Fund	Priority for Fund should be to develop mechanisms to foster links with project partners and new partners.
Asset management competitively selected; diversified portfolio of investments; financial expert to provide regular reporting; and oversight by Fund boards comparing actual performance to benchmarks.	The fund currently has few assets	Financial expertise will be needed if and when the fund attracts substantial financial resources
A supportive nurturing director; able to bring in the needed resources and expertise	The LinKS national coordinator is the current director.	There is a strong case for continuity at the present time.

Based on GEF (1999) Experience with Conservation trust Funds Evaluation Summary # 1-99 www.gefweb.org

TF Funding opportunities. The main problem faced by the TF at this early stage is a lack of operational funds beyond the seed money made available by FAO-SDWW. To date the Government of Tanzania has not made a commitment to provide core funding. The TF must therefore quickly provide services that will be of interest to other agencies in Tanzania, e.g. training courses and/or it must seek support from other donors. Indeed this has already started as the TF organized a LinKS-type training course for a Tanzanian government ministry in late 2005.

With respect to funding from other donors, at a roundtable meeting at COSTECH in October 2004 the World Bank representative made specific comments about the type of activities the Bank would consider funding. He suggested that the Trust Fund should prepare a community tool book focusing on local practices in rural communities. This tool book would provide rural communities with a collection of simple and practical fact sheets for different activities and could become the basis for rural communities to take decisions about whether, for example, they wanted to build a seed bank, how to start working and preparing the construction of a seed bank, etc. The World Bank indicated that they would be able to commit US$100,000 – 200,000 for this tool book and they were also willing to support specific activities at the rural community level. One idea was to support follow up activities on LinKS research studies focusing on seed systems and animal genetic resources management and local knowledge systems. It is evident that to be consistent with the participatory ethos of the LinKS project and poverty reduction strategies, the specific activities would need to respond to a clear need expressed by poor people living in rural areas. When the Evaluation Team visited the TF, these leads had not yet been explored.

5.3 Gender equity in project implementation and results

At the first regional coordinators meeting in Swaziland in July 2002, members of the LinKS team identified very clearly the gender component of the project, which would include:

- Equitable participation by rural men and women both young and the elderly in all research activities
- Systematic training that focuses on linking gender, biodiversity and indigenous knowledge systems to attain food security.
- Designing gender monitoring and evaluation indicators for each research activity programmed in each of the projects key areas/issues.
- Gender sensitive communication materials
- Mainstreaming gender in research, training, policies and advocacy activities.

Efforts were made at every stage to ensure that both women and men benefited from training, research opportunities and participation in project activities. Although ultimately only the Swaziland national coordinator was female, the first national coordinators in Tanzania and Mozambique also were female. In FAO-Rome, the management team was completely female. Both male and female trainers were used to run workshops in the three countries. Efforts were made to ensure that both women and men participated in the training workshops and received research grants. Most of the research teams had both female and male members and team leadership positions were held by both sexes. In the research projects, efforts were made to work with both male and female farmers.

At the level of numbers therefore, the LinKS project was exemplary in ensuring systematically that both women and men benefited. This is significant as it is especially important to ensure that

women are given visible leadership roles both to provide role models for other women and simply to "normalize" the notion of women in positions of authority.

However, as discussed, the final results of the project are disappointing with respect to the incorporation of gender issues into agro-biodiversity and local knowledge. Most of the research reports give superficial attention to gender issues and "gender" is invariably interpreted as a euphemism for "women" with the result that many give passing attention to the role of women in seed conservation or livestock management but do not provide a more nuanced evaluation of the impact of differential access to resources, decision-making, information, training, knowledge, etc. of men and women and the way that this effects their agro-biodiversity management strategies. The Evaluation Team was told by the two national coordinators that research teams had collected considerable information on gender but that this was not reflected in the final reports.

It appears that the researchers did not have appropriate skills to analyze the gender-related data in a meaningful way that would have enriched their understanding of the situation that they found on the ground. The LinKS project assumed that if researchers were trained in **how** to collect gender-related data (e.g. through the SEAGA tools and the LinKS training manual) they not only would collect the data but also would incorporate it into their research analysis. This did not happen.

Interestingly, at a Swaziland LinKS project identification/ sensitization workshop in July 2002, almost a year before LinKS really took off in that country, participants were asked to identify on-going activities that focused on gender, agro-biodiversity and local knowledge. When a list of activities had been compiled, one participant commented that although the activities were strong on biodiversity and local knowledge, they did not include a strong gender component. This comment seems to have been lost in the overall process of developing the project, or in any case, it was not given particular attention. In retrospect, it provided an early clue as to the lack of enthusiasm for or at least the lack of attention to gender issues among workshop participants.

5.4 Major factors affecting the project results

Key factors that influenced the project included the focus on capacity-building. The project aimed to transfer complex concepts and wisely invested heavily in practice-orientated iterative training. It is clear that this changed the way of thinking of some project partners, although the numbers influenced were relatively small. Another factor was the initial delays in funding and the fact that country teams were not in place at the start of Phase II. This resulted in major delays that started a process of 'catch-up' which may have had a detrimental affect on the participatory approaches of the project because time became a problem and as noted earlier, true participatory work requires lengthy time commitments. Finally, there were major changes in personnel between Phases I and II at almost every level (including being unable to build on the Phase I investment in Zimbabwe). This had a major influence on continuity and the overall project process.

6. Conclusions and recommendations

6.1 Conclusions

FAO has a strong commitment to the achievement of the first Millennium Development Goal: ***Eradicate extreme poverty and hunger***. Based on the findings of the Evaluation Team, it appears that the LinKS project has made a noteworthy, if modest, contribution to the achievement of this goal. By underscoring and giving value to the LinKS concepts, the project had some

success in convincing policymakers, researchers and others to give greater attention to local knowledge (with some appreciation of gender differences), agro-biodiversity (e.g. traditional and under-utilized crops, and livestock) and to work with farmers in a more participatory manner. Particularly in Tanzania and Swaziland, the LinKS project can point to concrete examples of impact at the policy level.

There are few broad conclusions that apply equally to the three countries. No baseline study was done at the beginning of Phase I or at the beginning of Phase II, so it is difficult to gauge the extent to which LinKS influenced the current level of attention to gender, agro-biodiversity and local knowledge in the three countries. Moreover, although monitoring of project activities was systematic and sustained during Phase II, this was not true of project outcomes. Ideally, indicators should have been set up at the beginning of the project to measure the understanding and use of the key LinKS concepts by local institutions.

Even without the benefit of a baseline study, it is clear that the project started at different levels in the three countries. For example, in Tanzania, gender is being mainstreamed through all government departments and the most recent government cabinet (January 2006) includes seven female cabinet ministers and 10 female deputy ministers. Also, in Tanzania there was more openness to LK from the beginning and this may explain why ultimately, the LinKS project achieved its most notable successes there. In Swaziland, there were problems with start-up but eventually momentum was achieved and some impact was made at the policy level. In Mozambique, the government was resistant to the idea of raising the profile of LK, and the project worked with NGOs and international agricultural research centers like ICRISAT and ICRAF.

Some people considered a focus on local knowledge to be primarily of historical /anthropological interest rather than providing a forward-looking perspective. One of the challenges that faces the any future LinKS-types project entities is to convince policymakers, academic decision-makers and other pertinent actors that local knowledge is relevant to economic growth. Similarly, although the significant role of women in African agriculture is sometimes publicly recognized by senior officials, they rarely factor it into agricultural policy decision-making. Increasingly donors and other agencies are emphasizing the relationship between the role of women, agricultural productivity and economic growth. However, as is evident in the overview of agriculture and local knowledge activities presented in Annex 1, few international organizations mainstream gender into their work in a systematic way. The more usual approach is to have mostly gender "neutral" projects and perhaps one or two that look specifically at women and women's issues. Since gender "neutral" projects usually see the male experience as the norm, they are likely to miss many of the sex-specific nuances of LK.

One very positive aspect of the LinKS project, especially during Phase II, was the openness of project managers, both in Rome and in the partner countries, to adapt their programming to better respond to conditions on the ground. For example, although initially the SEAGA training was used, during Phase II local capacity was built and trainers used a combination of the SEAGA methods and ones developed specifically for the LinKS project. This flexibility allowed the project to adapt training to meet the needs of different types of audiences (e.g. academics, government policymakers, NGOs, etc.).

It is useful to look specifically at the three immediate objectives of Phase II to judge the extent to which these were achieved:

Immediate Objective 1*: Enhance the ability of researchers and development workers from key partner organizations to apply an understanding of gender, LK, biodiversity and food security in their work by providing them with diverse learning opportunities as well as skills enhancement in gender-sensitive and participatory approaches.*

Conclusion: **T**he project succeeded in enhancing the ability of researchers and development workers from key partner organizations to apply an understanding of gender, LK, biodiversity and food security in their work. However there are some caveats. First, the application of the concepts was uneven, as evidenced in the final research reports. Second, there was no systematic follow-up of participants in training courses so it is impossible to know if they later applied these approaches in their daily work. Third, in Tanzania there has been continued partner demand for LinKS training, but there is little evidence that this is the case in Swaziland and Mozambique.

With respect to the expectation that LinKS concepts will have been integrated into the university curricula at various institutions, this also had mixed results. In the case of SUA in Tanzania, a well-articulated curriculum was prepared but it has not yet been formally adopted. In the case of Swaziland, the gender component was not integrated into the recent reorganization of the Bachelor of Agriculture degree program at the University, although agro-biodiversity and to some extent LK were incorporated. In Mozambique, this does not appear to have been discussed.
A lasting legacy of the LinKS project is the training manual that was produced and widely disseminated. It involved input from all partner countries and stands as an excellent example of a concrete project output.

Many publications have been produced over the two phases of the project. According to the LinKS website, there have been 43 separate papers and/or publications (including workshop reports). The vast majority of these reports were produced during Phase II and this consequently is a significant output. Nonetheless, the quality and scope varies. Workshop reports are simple descriptions of activities that have been undertaken while some of the other reports provide more widely applicable findings about the LinKS issues and are very useful reference documents..

Immediate Objective 2*: Increase the visibility of men and women's knowledge about the use and management of agro-biodiversity among key development workers and decision-makers by supporting documentation of good practices, research and communication.*

Conclusion: The project was successful in producing research documents in every country. Some, especially those from Mozambique, are already finished products while others would lend themselves to careful editing to make them useful to a wider audience.

The intention of the project was to support at least eight research studies in Phase II and this was successfully achieved.

The project intended to publish both an anthology and a manual about techniques and case studies. The training manual was produced.

Immediate Objective 3*: Enable partner organizations and policymakers to network, develop guidelines and strategies and take action to promote the greater recognition of rural peoples' knowledge, needs and perspectives by providing financial and technical support for partners' initiatives at all levels.*

Conclusion: This objective was only partially achieved. There was significant success in Tanzania, but there was less success in the other two countries.

A major achievement of the LinKS project is the creation of the Trust Fund in Tanzania. The Trust Fund will provide a forum for the systematic consideration of LinKS issues; it will continue to facilitate LinKS-type training; and it is a body outside government that will have the capacity to facilitate the provision of relevant advice on intellectual property rights. It is also clear that some aspects of LK are becoming part of government policy. In Swaziland, one of the outcomes of the project has been the promotion of the recognition within the Ministry of Agriculture and Cooperatives of the connection between HIV-AIDS, good nutrition and traditional crops.

In Mozambique it has proved difficult to identify policy impact. Government support was less visible in Mozambique from the beginning, as it proved difficult even to find a host office for the project. However, LinKS-type activities are now starting to be recognized by the government. For example, the Ministry of Health has developed a policy on traditional medicine, produced in collaboration with the WHO; the Ministry of Industry and Trade has established an Institute of Industrial Propriety Rights; and the Ministry of Science and Technology has established a multi-sectoral ethno-botanics working group of which the Faculty of Sciences of the University Eduardo Mondlane is an active partner. Moreover, local groups such as the Association of Traditional Healers or international NGOs, such as PROMETRA are promoting further practice and research in LK. LinKS played a role in initially bringing together these different groups. Furthermore, Mozambique and Swaziland both participate in SADC´s Regional Experts Group on Access and Benefit Sharing for the Convention on Biological Diversity (CBD), providing an opportunity for revisiting the LinKS concepts. LK is highly appreciated in the agenda of this group as per article 8 (j).

Highly successful seed fairs in Tanzania and Swaziland provided opportunity for sharing of local germplasm and knowledge among farmers and other stakeholders. There is considerable interest in continuing these initiatives in the future. In Mozambique there was earlier experience with seed fairs through prior FAO initiatives in collaboration with ICRISAT.

The project was not successful in achieving its objective to establish a framework for a national local knowledge policy in at least two countries by the end of Phase II. However both Tanzania and Swaziland have integrated LK into some aspects of their government policy and efforts are underway in Mozambique to further mobilize LK.

Within the project framework, all three countries participated actively in the concept development and policy discussions related to the LinKS project. In both Tanzania and Swaziland, active discussions were held with country partners and based on the documentation available this also appears to be the case for Mozambique. However, the sub-regional discussions do not appear to have been held except in the context of annual meetings of national coordinators.

Finally, perhaps because of timing and resource constraints, the project was unable to organize a symposium on the LinKS issues with participants from Asia and Latin America.

6.2 Recommendations

The recommendations for this study are divided into two sections. Section I below focuses specifically on sustainability/ follow-up of the outcomes of the LinKS project. Section II is focussed on the potential for a new program entity in FAO-SDWW that relates to work done in LinKS and elsewhere. There are areas of overlap between the two sections and some of the

activities that are directly related to LinKS follow-up could become part of the new program entity.

The process by which new initiatives are developed is important and there will be a need for wide stakeholder consultation and participation. The options set out below include suggestions made by project partners.

I. Sustainability/ follow-up of the outcomes of the LinKS project

Another phase of LinKS is not possible due to the changed donor approach. However, some aspects of the LinKS initiative are already being integrated into ongoing national programs, particularly in Tanzania and Swaziland. In Tanzania the Trust Fund provides an obvious entry point for follow-up activities. In Swaziland a proposed FAO-TCP project may create the opportunity to work towards more sustainable funding sources.

Scaling up and scaling out LinKS-type concepts and outcomes.

- For greater impact and visibility and to allow the core concepts to take root, it will be necessary to "scale up" and "scale out" the LinKS initiative. This implies strategic partnerships with other organizations, including other FAO programs, and agencies such as IDRC, IFAD, Ford Foundation, the World Bank and the PRGA program of the CGIAR system. In order to introduce/take forward the project results with these actors and others, we recommend that the SDWW and/ or project partners first makes personal contacts with relevant individuals in these organizations and then hosts a project results/ project planning workshop for a selection of donors and partners. One option, to achieve wider ownership and to share costs, would be to identify another agency as a co-host.

With respect to taking forward the LinKS core concepts, we recommend the following:

Taking forward with Farmers:

- The Farmer Field School (FFS) approach builds on farmers' existing knowledge and enhances their decision-making capacity through learning by doing. It could provide a suitable means of scaling out LinKS concepts, especially since FAO already is a lead agency in promoting this approach. Although FFSs have been criticized as being cost intensive, modified approaches are feasible. In Tanzania, the Ministry of Agriculture is promoting the FFS approach as part of its extension policy. There are clear opportunities to introduce LinKS concepts into FFS curricula as a means of enhancing the capacity of both farmers and those managing the FFS, e.g. extension workers. The FFS approach is being adapted to a range of settings, including schools. This could provide an opportunity for young people to learn and value knowledge held by elders in their community. The use of tools such as ICTs and video would provide a complimentary technical component (see below.) In Mozambique, Junior Farmer Field and Life Schools are running in the central provinces. The program targets orphans with hands-on lessons in farming techniques, nutrition and medicinal plants. Theatre and discussion groups are used to tackle issues including the prevention of HIV/AIDS and malaria, gender equality and children's rights. The program is funded by Finland, Norway, FAO and WFP. In Swaziland, FAO, WFP, UNICEF and the Ministry of Agriculture & Cooperatives have initiated FFS.

- Farmers' networks are potentially important partners for scaling out. For example, the Farmers' Groups Network in Tanzania (MVIWATA) was formed in 1993 and is based in Morogoro. MVIWATA is becoming increasingly active in advocacy on behalf of farmers and farmer's networks could provide a valuable means of scaling out LinKS concepts.

- Seed fairs have been very successful under LinKS and could be much more widely promoted by FAO and other agencies.

- Participatory video has potential for empowering rural people and scaling out LinKS concepts. Participation by community members in all stages of the production of the video can create a sense of ownership and understanding within a community as well as provide a credible means to communicate LinKS principles more widely. Video/film has the potential to reach thousands of viewers and in many countries, entrepreneurs are bringing visual media to rural areas. The core objective would be to assist farmers to share their own messages and experiences with other farmers. The focus could be initially on farmers who have taken part in active 'hands on' activities in the LinKS program. Property rights would be an important issue to take fully into account with this approach

- In Tanzania, COSTECH already has set up several telecentres in different parts of the country and preliminary discussions suggested they would be interested to participate in an initiative aimed at collecting and disseminating LK through them. In a new initiative, young people could be asked to interview older members of the community to collect information about issues such as seed preservation, traditional crops, traditional construction methods, traditional recipes, etc. These could be written up as stories or interviews and collated on CD ROMs that would be made available at the telecentres. In fact, there are now telecentres all over Africa and one of their main problems is a dearth of local content so it is likely that the CD ROMs could have dissemination beyond the COSTECH telecentres.

- Also, in the area of ICTs, small projects could be started in communities where LinKS has worked, involving the same farmers, to establish LK databases and to discuss issues around ownership (i.e. intellectual property rights). Schools could become possible bases for computers and suitable personnel (e.g. teachers, agricultural extension agents, senior children and others) would be trained in the use of computers. Other agencies like UNESCO and IDRC would perhaps be interested in working jointly on this.

Taking forward with Researchers, Educators and other Service Providers:

- In Tanzania, the director of the Institute of Development Studies at SUA said his institute would be interested to host a workshop to launch the LinKS module. This is a recommended activity as the costs would be small and it would ensure that the resources already invested in the development of the curriculum are brought to fruition.

- Efforts should be made to introduce LinKS concepts into organizations that train agricultural service providers such as extension workers, e.g. the Ministry of Agriculture training institutes in Tanzania. It may be necessary to produce a simplified version of the LinKS training manual, focused specifically on the needs of extension workers.

- A competitive research fund could be established or a partnership developed with an existing initiative (e.g. the Programme for Agricultural and Natural Resources Transformation for

Improved Livelihoods (PANTIL) at SUA, Tanzania) to provide funds for further research and application of LinKS concepts.

Taking forward with Policymakers

- Strategic engagement with policy makers at local, national, and global levels is very important. Approaches will vary and may include some of those suggested for working with farmers e.g. seed fairs and videos. Written materials can also play an important role.

- Preparation and wide dissemination in eastern and southern Africa of one-page policy briefs based on the research findings. These should be very practical and focused on specific questions: e.g. what did LinKS tell us about food security; about approaches to HIV-AIDS; about loss of agro-biodiversity; about knowledge resources of rural women and men…and what are the policy implications of these findings?

II. Towards a New Program Entity (PE)

Why? Rationale for a new PE

A new programme entity (PE) for FAO-SDWW should build on and expand the positive outcomes of the LinKS project while at the same time, provide fresh areas of programming. The FAO, like other UN agencies is committed to working on the Millennium Development Goals (MDGs). At least four of the eight MDGs are relevant in the development of a new PE:

- Eradicate extreme poverty and hunger
- Promote gender equality and empower women
- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability

The FAO-SDWW has a comparative advantage in terms of making conceptual and programmatic links among gender, biodiversity and local knowledge. Although many organizations are trying to work at the community level and some give special attention to gender issues, almost none are working on local knowledge, agro-biodiversity and gender within a participatory framework.

The strengths of the LinKS project included aspects of the training process (e.g. training materials, increased awareness and interest in LinKS issues by trainees and the SUA curriculum); the participatory ethos and approaches being promoted; the direct influence on project participants in terms of thinking about LinKS issues in their work; the research-based policy implications; the establishment of the LinKS Trust Fund; and the emphasis on gender, LK, and agro-biodiversity and by implication, environmental sustainability. The weaknesses included over-estimation of prior knowledge/ understanding of LinKS concepts (particularly gender issues) resulting in over-ambitious targets; multiple aims of the research activities resulting in the frustration of some partners when the participatory approach raised unfulfilled expectations, and the frustration of others when research outputs showed limited analytical rigour; and the uneven mainstreaming of gender, LK and agro-biodiversity into government departments. A new PE should build on these strengths while addressing the weaknesses.

A new PE should continue to aim to systematically integrate gender, LK and agro-biodiversity issues into agricultural policymaking and implementation at national, intermediate and local levels. This can be justified within the context of overall economic efficiency, social equity, improved food security and environmental sustainability as explained further below

What? Some options for a new PE

In addition to covering the core concepts (gender, agro-biodiversity and local knowledge), a new PE could:

- further explore the synergies with nutrition, especially in the context of traditional foods and HIV-AIDS;
- focus on market links and income generating opportunities;
- examine institutions, constraints and incentives for relevant actors (policymakers, academics, extension officers, etc.) to use the LinKS concepts in their daily work
- continue to work on the impact of HIV-AIDS;
- build on the food security focus of LinKS, looking beyond subsistence production;
- continue work on intellectual property rights and LK emphasising a gender perspective
- explore governance, decentralization and LinkS issues
- examine the relationship between increasing productivity and pro-poor growth in relation to gender, LK and agro-biodiversity

Nutrition. New research could further explore the relationship between LinKS concepts and nutrition in agriculture. The relationship between gender, LK, agro-biodiversity and nutrition was raised particularly in Swaziland with respect to HIV/AIDS. This appears to offer potential for further exploration, working with partners who are specialists in the area of nutrition.

Market links and income generating opportunities. If LinKS concepts are to be regarded holistically and in the context of poverty reduction, then markets and income generating opportunities must be taken into account. This was raised by project partners, both in Tanzania and Swaziland. Local knowledge and agro-biodiversity in the context of traditional medicine, is of course a very significant source of income generation. Because of the intellectual property rights involved, the LinKS project specifically chose not to address this topic. In Swaziland, the marketing of grain legume seed is being encouraged as an income generating activity for women and it would be useful to work with these women to assess the profitability of their enterprises and how this may be improved. In Tanzania, it was also suggested that seed could be marketed (e.g. pumpkin seed from Dabalo village). Ethno-botanicals are widely used for the control of field and storage pests in Tanzania. There are reports that these are being made available on a commercial basis. More research into existing commercial activities and the identification of new opportunities (e.g. market research for crop such as bambara nuts) would make an important contribution

Institutions, constraints and incentives. More work is needed to understand the institutions, associated constraints and incentives influencing relevant actors (policymakers, academics, extension officers, etc.) in their use of the LinKS concepts in their daily work. The influence of institutions on development outcomes, in general, is becoming of more importance to development agencies. This is at least partly because an increasing proportion of development aid is contributing directly to budgetary support and not being managed as separate programmes or projects. Policy can only be effective when it is implemented and this requires appropriate actions, which will be more likely to occur if incentives are in place. For example, the Plant Breeders Rights Act in Tanzania provides the incentive for breeders and others to develop and release new varieties (a percentage of the royalties from the sale of seed should go to the breeder and organization responsible for release), but there few incentives for researchers and extension workers to assist farmers to better manage their own seed (which comprises the vast majority of

the seed planted in Tanzania). Research to examine the institutions, identify constraints and draw out the current pattern of incentives, done in close communication with key decision-makers, would contribute towards appropriate change.

Poverty reduction, economic growth and increased productivity. There is widespread consensus that increased productivity and resulting economic growth are key, although not the only, elements in poverty reduction. This has led to a renewed interest by donor agencies (e.g. World Bank DFID, USAID) in increasing agricultural productivity. However, the diverse and complex agro-ecological environments of sub-Saharan Africa among many other factors, suggests an Asian-type Green Revolution is unlikely and there will be a need for more localized solutions. This will mean building on LK and agro-biodiversity with a clear understanding of gender implications (Gender and agricultural productivity issues are being raised in terms of both efficiency and equity (eg World Bank, IFPRI, USAID)). Detailed research to inform policy and practice in this area is necessary.

HIV-AIDs. There is a clear need for more focused research on the LinKS concepts -gender/agro-biodiversity/ local knowledge- and HIV-AIDS. FAO has been active in looking at the impact of HIV-AIDS on agricultural productivity since at least the mid-1990s but there seems to have been relatively little work on the local knowledge and gender aspects that were part of the LinKS approach. It is evident that women are particularly affected by the HIV-AIDS pandemic, first because their level of infection is slightly higher but secondly because they are usually tasked with providing care for family members who are living with HIV-AIDS. Thirdly, cash-strapped families spend what little money is available on medicine for sick family members. Consequently, women have less time for agricultural activities and they have less cash to spend on seeds, fertilizers or other inputs. They must look for alternative cheaper or less time-consuming ways of meeting the food security needs of their families. It is recognized that SDWW already has a PE that focuses on the Mitigation of the Impact of Diseases and there may be possibility for collaboration specifically in the context of local knowledge.

Food security. Food security is becoming especially critical in the context of the loss of labour and income due to the high incidence of HIV-AIDS, in addition to the prevalence of drought conditions over the past few years, especially in southern Africa. The work done by the LinKS project on traditional seeds, some of which are more drought-resistant, provides a good entry point for more systematic examination of the possibilities of using local knowledge (and combining it with other sources of information) to address food security. For example, there is much potential in some of the work currently being done by CIAT in legume production. CIAT has introduced a marketing component which could also be very relevant to the new PE. Further work could build on the food security focus of Phases I and II, looking beyond subsistence production and identifying other options for achieving food security eg through improved incomes.

***Intellectual property rights*.** This continues to be a very important and contentious issue. LinKS supported some very useful initiatives, particularly in Tanzania, to raise the profile of LK and IPRs (eg Kabudi's report on benefits and risks of sharing local and indigenous knowledge). Signatories of the CBD are obliged to put in place mechanisms to protect the rights of local communities with respect to their LK. A future initiative could continue to strengthen institutions, and build capacity in this area with a view to improving access and benefit sharing. There is need for further work on the identification of women's IPR and the inclusion of a gender component into the International Treaty on Plant Genetic Resources, adopted by the FAO Conference at the end of 2001. The Treaty does not focus on the gendered nature of local knowledge and as such there continues to be need for research and action to ensure that distinctions are made, where

appropriate, between the different knowledge bases and access of resources of women and men. When the potentially separate knowledge systems of women and men are considered, it becomes even more complex. There is need for further development of local cases and local analysis on IPR in eastern and southern Africa.

Governance and decentralization. National policies are only effective when they are implemented. A recent review of gender issues in Tanzania, for example, noted that although national policies were in place, political will to implement policies was stronger at the national level than among district and community organizations. The LinKS initiative rightly targeted intermediary organizations with a view to mainstreaming LinKS themes. Increasingly government policies are towards decentralization of agricultural, natural resource and other service provision. Identifying factors that result in bringing desired changes for gender and social equity and the treatment of LK and agro-biodiversity is a priority.

Who? Potential partners.

For greater impact and visibility, the new PE should engage in strategic partnerships with other organizations, including other FAO programs and outside agencies such as IDRC, IFAD, Ford Foundation, the World Bank and the PRGA program of the CGIAR system. Specifically, the Ford Foundation, the International Development Research Centre, or the CGIAR Centres would be potential partners for working with researchers to improve their analytical capacity. Another approach could involve a partnership with a strong faculty of agriculture in North America, Europe or South Africa, whereby technical assistance would be provided in research analysis in general and gender analysis in particular.

Annex I provides an overview of other organizations that are currently engaged in research or action related to some aspects of agro-biodiversity, local knowledge and gender. In joining with some of these potential partners, FAO-SDWW would bring the added value of its almost decade-long investment in LinKS and the lessons that have been learned especially about the gender component (since this seems to be a weakness for many other agencies working on these topics).

How? Modalities.

Below we present a few examples of activities that could be undertaken by a new PE. It should be noted that these are presented as modalities that can be used to promote the substantive areas that were discussed above:

Social impact analysis training. Much of the research undertaken by the teams in LinKS was weak in social impact analysis. Ideally, research projects focussing on the intersection between agro-biodiversity, local knowledge and gender should have had the participation of social scientists but for various reasons this did not always happen. It should be possible to provide training for natural scientists in basic social sciences methods. Another aspect of the PE should focus on the provision of highly focussed, practical training in how to collect and analyse social information (with a particular focus on gender).

Utilizing gender analysis. Results from the LinKS project suggest that over the next medium-term, the SDWW should focus more closely on the utilization of gender-related information on NRM. LinKS generated considerable information on agro-biodiversity, local knowledge and gender but the final reports did not adequately reflect the gender component. This suggests that more attention must be given to how gender can be integrated into natural resource management.

Gender must be mainstreamed into participatory natural resource management, but in for this to happen, there has to be an appropriate enabling environment.

Most of the partners who were with LinKS as researchers, workshop participants or policymakers were not gender experts, but in all three countries, and especially in Tanzania, some level of gender mainstreaming is underway in government. Since to some extent, gender equality already is a government policy, a new program entity could focus on how this can be institutionalized and reinforce the capacity of specialists in agriculture and natural resource management to integrate gender into their planning and policy development. It would be important to work not only with the Ministry of Agriculture but also to identify some "champions" in other important ministries (e.g. Finance).

An important focus should be on the development of methodologies, procedures and approaches for using sex-disaggregated information. This should be advocated not only from the perspective of *equity* but also from the perspective of *efficiency*. World Bank studies have shown that gender is an issue of development effectiveness.

Computer-based training modules. One way of helping researchers to understand how to integrate gender into their work is to develop computer-based learning modules that present scenarios at each stage of research, i.e. data collection, analysis and write-up. By working through the modules, researchers would learn that each choice has consequences and if gender is omitted from their analysis then the outcome of their work will be less effective.

Researchers could be presented with different scenarios (perhaps based on real research findings from earlier LinKS projects.) For example, in the case of seed selection and preservation, they could be presented with a scenario that focuses exclusively on the role of men in seed selection with choices based on profitability, marketability and knowledge of and access to new varieties. However, when faced with a crisis situation (e.g. drought) none of these factors will be sufficient to ensure household food security. A second scenario could focus on the different roles and knowledge bases of both men *and* women in seed selection. There would be greater emphasis on the practical day-to-day needs of household food security and no assumption that farmers will have access to new varieties or money to purchase them. This type of computer-based learning module approach would help researchers to actually work through all aspects of their analysis.

Policymakers could also be presented with computer-based learning modules that illustrate the potential hazards of overlooking the important role played by women in natural resource management.

Because computers are now widely available in many countries of Africa and in the Ministry of Agriculture in Tanzania every professional staff member has access to a computer, it is quite feasible to use this ICT-based approach to train researchers and policymakers. In fact, it is very likely that many staff will be particularly intrigued by the idea of computer-based t raining.

Recording, sharing and legitimizing of information. FAO-SDWW already has invested in the development of the Dimitra project and now has a gender and ICT presence in the Africa region. One aspect of the new PE could build on the increasing importance of information communications technologies (ICTs) in the region. Dimitra's main goal is to empower rural women and to improve their living conditions and status by highlighting the extent and value of their contributions. It aims to provide rural populations with easier access to information that can be used as a means to mobilize people for change. Dimitra's focus on the exchange of information, has common cause with the LinKS focus on local knowledge and by using ICTs to

record and disseminate local knowledge, the latter may gain a new legitimacy among younger people who have tended to see LK as offering little for their daily lives.

Dimitra has concentrated on numerous different aspects of the empowerment of rural women and the new PE, could extend this to an examination and recording of at least some aspects of women's traditional knowledge in agriculture and natural resource management. Young people could be involved in this project, taking the role of interviewing their elders and preparing short descriptions of different aspects of women's traditional knowledge.

7. Lessons learned

7.1 Overall

The LinKS project has amply demonstrated the importance of the relationship among gender/agro-biodiversity/ and local knowledge. It has become very apparent that while each of these concepts is familiar to policymakers, academics and NGOs in the target countries, there is considerable confusion about the relationship among them. It is also clear, based on the review of what other donors, development agencies are doing, that FAO-SDWW is ahead of others in having seen the importance of the gender component. The decision to focus on research, capacity-building, and communications was bold and the results have been uneven, but there is no doubt that the LinKS project has broken new ground.

7.1.1 Capacity-Building.

- The project made a substantive contribution in capacity-building. Overall, approximately 900 people were trained in the LinKS concepts but the type of training varied and in Mozambique and Swaziland it was collapsed into a shorter period. To better understand the impact of the training and inform future work, the workshop participants should be consulted at a later stage to see whether the LinKS training made a difference in their work.

- Both the LinKS training manual and the university curriculum prepared for Sokoine Agricultural University were important achievements but it took longer to complete these products than initially anticipated and in both cases it was necessary to bring in external technical support.

- Gender was the most difficult concept for workshop participants to assimilate. At first, most considered gender to be fairly straight-forward, but in practice they often had difficulty in conceptualizing how it fit with LK and agro-biodiversity or why it was important. Some participants found it "threatening."

- The content of capacity-building workshops for researchers assumed that all researchers were at the same level but this was not always the case. Timing of training also was a problem. In some cases, researchers seem to have received training after they had done their research. A clearer process of assessing training needs should be included in future initiatives.

7.1.2. Research

- Many of the research reports that came out of the LinKS project do not adequately tie together the three core concepts. Despite the emphasis on training and at least for some of

the Tanzanian researchers, technical backstopping, many of the final research products fail to address the three concepts in an integrated manner. Inevitably, as was the case in the training workshops, gender seems to be the concept that is least well understood by the researchers.

- This suggests that in a future activity, research teams should include a gender expert at all stages, i.e. in question formulation, data collection, data analysis and research write-up. Although the FAO-SDWW team and the national coordinators gave substantive comments it would seem that there was need for even greater involvement of gender experts.

- Technical backstopping for data analysis and report writing for the research on local knowledge and the management of animal genetic resources among the Maasai pastoralists was highly appreciated by the team and seems to have been a key factor in the successful completion of the study. However, according to the consultant, the final results were not up to her expected standard. Therefore it would have been useful to provide more training in social scientific research methods as well as in the LinKS concepts. Although efforts were made to include social scientists on the research teams, for various reasons this did not achieve the hoped-for results. This was also evident in the written research reports, which were for the most part less analytical than might have been expected.

- The research activities were carried out with multiple aims and different expectations, which led to frustrations for project partners. A clear consensus is needed over the research process, expected outcomes and associated resources, including personnel. Sure, but difficult to achieve in a multidisciplinary team and stakeholder involvement.

7.1.3. Communications.

- The communications component was the least developed of the three foci of the LinKS project. Most of the communications materials were produced by FAO-Rome, which although not in itself a negative thing, probably did not involve the same level of local commitment as would have been the case had the materials been produced locally.

- The Trust Fund in Tanzania is another of the major achievements of the LinKS project. However this came about only after sustained intellectual support and encouragement from FAO-SDWW. It seems likely that FAO-SDWW will have to continue to provide some support (i.e. not just financial support) for some time until the TF has had a chance to become better established.

7.1.4. Project Management.

- Project monitoring seems to have been a weakness during Phase I and II. This was identified as being problematic in the final Regional Coordination Meeting in February 2005 where the three national coordinators were encouraged to put more effort into this activity. Despite the efforts made by the Monitoring and Evaluation consultant who worked with the teams on the log frame in August 2003, an effective M&E framework was not established. In a future project, M&E should be part of the initiative from the planning stage and there should be continuous learning and feedback from project activities.

- The original project log frame was over-complicated, with 10 stated outputs. It is not entirely clear whether this affected the implementation of the project, but it appears to have presented problems for monitoring and evaluation.

- Aside from the annual meetings of the national coordinators and the presence of trainers from other countries at the training of trainer workshops, the LinKS project functioned as three separate projects on the same topic. Efforts should have been made to ensure that there was more sharing of information and results and learning across the three countries.

References

FAO/WFP (2005) FAO global information and early warning system on food and agriculture World food programme special report. FAO/WFP Crop and Food Supply Assessment Mission to Mozambqiue 20 June 2005
www.fao.org/documents/show_cdr.asp?url_file=/docrep/008/J5510e/J5510e00.htm

GEF (1999) Experience with Conservation trust Funds Evaluation Summary # 1-99 www.gefweb.org

Government of the Kingdom of Swaziland. 2004. **Medium Term Budget Policy Statement 2005/06 – 2007/08.** http://www.gov.sz/home.asp?pid=4342 (Accessed 15 December 2005).

Government of the Kingdom of Swaziland. Ministry of Agriculture & Cooperatives. 2005. **Government Policy for the Ministry of Agriculture & Cooperatives.** http://www.gov.sz/home.asp?pid=4362

ODI (2004) Food security options in Mozambique: One country, two worlds? . Country Food Security Options Paper 3. http://www.odi.org.uk/Food-Security-Forum/Publications.html

PARPA.. **Action Plan for the Reduction of Absolute Poverty. Strategy Document for the Reduction of Poverty and the Promotion of Economic Growth**. April 2001. http://www.govmoz.gov.mz/parpa/eindex.htm (accessed 20 December 2005).

Scoones I. and Thompson J. (1994) .**Beyond Farmer First Rural people's knowledge, agricultural research and extension practice.** Intermediate Technology Publications, London, U.K..

Selvester, K. and Castro, M.A. (2003) **Mozambique Food Security Issues Paper**. http://www.odi.org.uk/Food-Security-Forum/Publications.html

World Bank, Gender Stats (2000). http://devdata.worldbank.org/genderstats/genderRpt.asp?rpt=profile&cty=SWZ,Swaziland&hm=home

World bank (2004). Knowledge and Learning Group. **Indigenous knowledge: Local pathways to global development**. Washington: World Bank.

World Bank (2004) World Development Indicators. www.worldbank.org

ANNEX 1: Overview of Activities by International Organizations in Gender/ Agro-biodiversity/ Local Knowledge

Introduction

A. United Nations Organizations
1. United Nations Development Programme (UNDP)
2. UNDP. Global Environment Facility (GEF)
3. United Nations Commission on Sustainable Development (CSD)
4. International Fund for Agricultural Development (IFAD)
5. World Bank – Indigenous Knowledge Program

B. Consultative Group on International Agricultural Research (CGIAR)
1. International Centre for Tropical Agriculture (CIAT)
2. World Agro-Forestry Centre (ICRAF)
3. Center for International Forestry (CIFOR)
4. International Plant Genetic Resources Institute (IPGRI)
5. International Crops Research Institute for Semi-Arid Tropics (ICRISAT)

C. Bilateral Donors
1. Deutsche Gesellshaft für Technische Zusammenarbeit GTZ (Germany)
2. Canadian International Development Agency (CIDA)
3. Ministry of Foreign Affairs of France
4. Department for International Development, United Kingdom (DFID)

D. Foundations and Research Organizations
1. International Development Research Centre, Canada (IDRC
2. Ford Foundation
3. Rockefeller Foundation
4. CABI Africa Regional Centre
5. World Conservation Union (IUCN)

E. Regional Networks
1. Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)
2. The Eastern and Central Africa Bean Research Network (ECABREN)
3. Pan-Africa Bean Research Alliance (PABRA)
4. Eastern and Central Regional Sorghum and Millet Network (ECARSAM)
5. FOODNET

F. Non-Governmental Organizations
1. Africa Biodiversity Collaborative Group (ABCG)
2. Community Conservation Coalition (CCC)
3. Organization for Conservation of Natural Resources and the Combat of HIV/AIDS (OCRA)
4. International Institute for Environment and Development (IED)
5. International Centre for Under-Utilized Crops (ICUC)
6. ITDG

G. Conclusion

Introduction

A rapid overview of the on-going activities of international organizations that focus on gender, agro-biodiversity and local knowledge in developing countries, suggests that the LinKS project is unique in having brought together these three areas of concern. Although there is a high level of interest in each of the three topics separately, little effort has been made to combine them into one conceptual framework. This is particularly surprising because since the 1990s, there has been a growing academic literature on women's and men's separate knowledge systems about different aspects of farming, including seeds and crop preservation.

On the one hand, this lack of attention to an integrated approach to gender/ agro-biodiversity/ and local knowledge by international agencies helps to explain the difficulty that many LinKS researchers experienced in working simultaneously with the three concepts. It also highlights the vision of the LinKS project in beginning to think about these areas in the mid-1990s. On the other hand, the lack of donor attention to the LinKS concepts reflects the reality that the majority of international organizations working in the area of biodiversity and local knowledge still do not systematically analyze their work within a gender framework, despite the fact that most have at least some staff with expertise in gender analysis and many, especially those within the U.N. system, have publicly subscribed to the goal of mainstreaming gender throughout their programming. Based on the results of this quick survey, gender mainstreaming has not been achieved. In fairness, it must be noted that the impressions reported here are based on a superficial desk review and as such they are unlikely to reflect the full scope of programming being undertaken by different organizations. It is possible that the websites of the different programs/ projects do not fully reflect the approaches and methodologies that are being pursued in-house.

Notwithstanding these caveats, it is apparent that there is a strong interest among many organizations in local knowledge (often called traditional or indigenous knowledge) and in underutilized crops. Many organizations note on their websites that underutilized crops provide the best hope for combating drought and hunger. Many are also trying to use participatory, community-centered approaches in at least some of their work. The strategic advantage of the LinKS project is that it has made a direct connection between local knowledge and underutilized crops (agro-biodiversity) and then gone a step further in recognizing that knowledge and use patterns of men and women vary. The LinKS project has also demonstrated that women's role in food preparation and in family health is a strong motivating factor for them to grow crops that have good nutritional potential but at the same time are relatively easy and/or fast to prepare. This is particularly important in situations where women are caring for family members living with HIV-AIDS (or they themselves are HIV-positive).

Since it proved difficult to find projects or initiatives that combine the three areas, the list below includes initiatives that do not focus specifically on gender but do give consideration to agro-biodiversity and local knowledge. The list of projects for different organizations is intended to be indicative rather than exhaustive. Most of the activities mentioned below are located in Africa region.

A. United Nations Organizations

1. United Nations Development Programme (UNDP)

http://www.undp.org/biodiversity/benefitsharing.html

UNDP promotes the protection of traditional knowledge (TK) and the equitable sharing of the benefits derived from TK and genetic resources as a means of promoting the conservation and sustainable use of biological diversity, and the sustainable livelihoods of communities that rely upon these resources. UNDP's mandate to work on these issues follows directly from its commitment to promote the achievement of the Millennium Development Goals (MDGs), in particular those associated with poverty reduction and with environmental sustainability. It also provides UNDP with a means of advancing its policy of engagement with indigenous peoples, and of building upon its support for systems that encourage indigenous knowledge and practices.

The projects listed below provide only a sampling of current UNDP projects in the area of traditional knowledge.

Kenya. An ongoing project is focused on the conservation and documentation of medicinal plant genetic resources among local communities. National science and technology bodies in Kenya have identified the importance of working on genetic resources information management through ex-situ and in-situ conservation measures; African health ministries are encouraging the sustainable use of medicinal plants and seek to establish traditional pharmacopoeia departments. The project seeks to build information bases and capacities within countries, in the NGO sector, and build on these.

Another project on sustainable agriculture, traditional knowledge and herbal medicines is investigating the effectiveness of traditional veterinary medicine as an essential component of sustainable agriculture in three districts. One objective is to promote the conservation of indigenous vegetation.

Senegal. An agro-biodiversity project focuses on the in-situ conservation of endemic ruminant livestock in West Africa. Four countries in the region are under increasing threat of genetic dilution and extinction and this project removes barriers to in-situ conservation. Activities include community based natural resource management, and incentive programmes to motivate farmers and herders to maintain endemic, pure breeds in herds. The project is identifying habitats, increasing awareness and developing links with the private sector for appropriate economic incentives at the community level for endemic livestock and habitat conservation.

South Africa. In South Africa UNDP is supporting the Hoodia ABS Deal between research scientists and the San People. This is an agreement that royalties from a chemical produced by a local cactus for an anti-obesity drug will be shared equally among all San communities living in Southern Africa. The San have decided to establish an audited trust and some funds will be used for scholarships. The agreement is intended to be a model for other developing states.

Botswana. A project on sustainable use of veld products is promoting the sustainable use through dissemination of information about ecology and marketing.

Interestingly, despite UNDP's stated commitment to gender mainstreaming, none of these projects appears to include gender analysis as a fundamental component.

2. UNDP. Global Environment Facility (GEF)
http://www.gefweb.org/

The GEF, established in 1991, helps developing countries fund projects and programs that protect the global environment. GEF supports projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants. One of the areas of focus of the GEF is enhancing and sustaining participation of local and indigenous communities and the private sector in GEF projects. Projects generally deal with one or more of four critical ecosystem types and the human communities found there: i. arid and semi-arid zones; ii. coastal, marine, and freshwater resources; iii. forests; and iv. mountains. Between 1991 and 2004, GEF allocated US$1.89 billion in grants and mobilized an additional $3.80 billion in co-financing (from recipient countries, bilateral agencies, other development institutions, the private sector, and nongovernmental organizations) for biological diversity projects.

The UNDP/Global Environment Facility (GEF) Small Grants Programme (SGP) has supported more than 300 projects involving indigenous peoples. Indigenous peoples and their organizations are GEF/SGP major partners in a wide range of activities including the revival of the use of traditional medicinal plants and sustainable agricultural knowledge practices and systems. The GEF/SGP draws on indigenous peoples' expertise in undertaking environmental surveys; facilitating dialogue with local and central government; and institutional and legal capacity building.

The GEF does not appear to give special attention to gender analysis.

3. United Nations Commission on Sustainable Development (CSD)
http://www.un.org/esa/sustdev/csd/csd_mandate.htm

The United Nations Commission on Sustainable Development (CSD) was set up in 1992 to oversee the implementation of the Agenda 21 recommendations that came out of the 1992 Earth Summit in Rio de Janeiro. It is composed of 53 members that meet annually and receive substantive and technical services from the Department of Economic and Social Affairs/Division for Sustainable Development. Women's Caucuses to the CSD have been established before major UN environmental meetings and they have lobbied for the inclusion of gender into the work of the Commission. However, there appears to have been little attention to the core issues of LinKS – gender – agrobiodiversity – and local knowledge. Perhaps this is not surprising since Agenda 21 did not frame the issues in this way. The document made reference in Chapter 24 to women and the environment and in chapter 26 to the role of indigenous communities but the specific role of gender as a key variable in the protection of biodiversity and local knowledge is not recognized.

4. International Fund for Agricultural Development (IFAD)
http://www.ifad.org/

IFAD has numerous projects focussed on agro-biodiversity. For example, the agency has a multi-regional programme for enhancing the contribution of neglected and underutilized crops to food security and to incomes of the rural poor. Based in Latin America, South Asia, West Asia and North Africa, the US$7 million project is being implemented through the International Plant Genetic Resources Institute (IPGRI) in addition to various national agricultural research systems. Locally important species are often neglected by science and lack of research and development attention has meant that their potential value is underutilized, both in household consumption and economic terms. This places them in danger of continuing genetic erosion, further restricting development options for the rural poor. IFAD's project aims to contribute to raising the incomes

and strengthening the food security of small-scale farmers and rural communities around the world through securing and exploiting the full potential of the genetic diversity contained in neglected and underutilized species. The grant also aims to redress the neglect of valuable plant genetic resources of crops managed by the rural poor through development-oriented research and action to tackle the major causes of under use of such crops and their genetic erosion. Specific objectives include:

- increasing the demand for and use of neglected and underutilized species through development and application of appropriate processing technologies, commercialization and marketing strategies;
- enhancing the genetic diversity, improving the quality, and increasing the availability of germplasm of the most promising species and varieties; and
- securing the genetic resource base and expanding the distribution of specific crops through the development and application of integrated conservation strategies.

This project is very relevant to the work of LinKS but once again, there is no specific focus on gender (or on defining the issues through local knowledge.) Nonetheless, in recent years IFAD has given increased attention to gender issues. In its current gender equity work, the agency is looking towards empowering women and reducing gender inequalities; participating in policy dialogue and advocacy; and building broader partnerships and coalitions

5. World Bank – Indigenous Knowledge Program
http://www.worldbank.org/afr/ik/iknotes.htm

The objective of the World Bank's Indigenous Knowledge Program is to learn more about the indigenous/traditional practices in local communities to better adapt global knowledge to local conditions, and to design activities to better serve community needs. This may involve the development of pilot instruments for the capture, dissemination, and application of indigenous/traditional knowledge of development practices; the facilitation of the sharing of indigenous practices and innovations among local communities through a South-South exchange; the promotion of the integration of indigenous/traditional knowledge in the development process; and the establishment of partnerships.

Some current activities include:

i. Capturing and Disseminating Information. Increasing and improving the available information on IK, its collection and classification. Developing a database of IK practices, lessons learned, sources, partners and successful methods of exchange. Identifying and testing instruments for capturing and disseminating of indigenous knowledge of development practices in Sub-Saharan Africa in selected locations. Publishing cases in print and electronic format.

ii. Facilitating information exchange. Facilitating a global network to exchange IK. Helping build local capacity to share indigenous knowledge. Identifying appropriate methods of exchanging indigenous knowledge among and across local communities.

iii. Applying Indigenous Knowledge in the development process. Increasing the awareness of the importance of IK and enhancing its application in development activities. Advocating the use of indigenous knowledge in programs and projects of the World Bank and its development partners.

iv. Establishing partnerships. Sharing responsibility in the exchange of indigenous knowledge. Learning from local communities and NGOs as key sources of indigenous

knowledge. Leveraging limited resources of partners to obtain a greater impact on the ground. Addressing intellectual property rights issue of indigenous knowledge.

Dome of the Bank's projects in IK include a gender perspective and they have produced a "Gender Knowledge Pack" that provides gender-related information. (http://www.worldbank.org/afr/ik/ikpacks/gender.htm)

B. Consultative Group on International Agricultural Research (CGIAR)

1. International Centre for ropical Agriculture (CIAT) http://www.ciat.cgiar.org/africa/agroenterprises.htm#top

In Africa CIAT is spearheading work on beans, and efforts have been made to work with women farmers. CIAT also is expanding its work on agro-enterprise development in the region, drawing on earlier experience in helping Latin American farmers add value to traditional crops, analyze market opportunities, and diversify into new enterprises. CIAT has senior specialist in the region to gauge demand and identify partners for this work; adapt and apply new knowledge and tools (e.g., for designing agro-enterprises that link small farmers to growth markets) through action research; and scale up the work through wide dissemination of R&D products and intensive training for staff of African government organizations and NGOs.

CIAT has entered into "learning alliances" with Catholic Relief Services (CRS) and Foodnet, an ASARECA-sponsored regional network. In cooperation with CRS, Foodnet, and Uganda's national agricultural research organization, CIAT scientists have helped organize courses in eastern Africa on agro-enterprise development and farmer groups have begun developing the most promising agro-enterprises.

CIAT's Enabling Rural Innovation (ERI) initiative (http://www.ciat.cgiar.org/africa/eri.htm) aims to empower farmers and communities to experiment and develop market opportunities through the application of innovative participatory approaches, to capitalize on emerging market opportunities. This approach, in which rural communities become active partners in processes of co-innovation, predisposes fundamental changes in the behaviour, roles and functions of formal agricultural R&D service providers. As farmers successfully experiment and learn, the community begins to create a sustained and collective capacity for innovation to improve their livelihoods.

In eastern and southern Africa, CIAT is applying elements of the ERI approach in the action-research mode in partnership with national agricultural research and extension services, nongovernmental organizations, and rural communities to empower communities. The ERI approach begins by analyzing the targeted community's strengths and opportunities (rather than problems and constraints). To take advantage of those strengths and opportunities, the participation of the community's stakeholders is essential, whether they be farmers, other community members, outside business entities, or governmental and nongovernmental organizations. Participation helps to facilitate the collective analysis and understanding of community assets, ascertain community capabilities and opportunities, and create a collective vision of desired future conditions. With this vision, strategies for achieving improved livelihoods can be defined and rural people empowered to become able agents of their own change. Ultimately, the ERI approach has the following desired outcomes:

- Rural communities identify and develop sustainable enterprises that generate income and employment.

- Communities generate and access information, knowledge and technology in support of their productive activities and to demand effective services in support of these activities.
- Local support institutions and community organisations provide an enabling environment that permits development to proceed.

CIAT is one of the few CGIAR centers that consistently has recognized the importance of and tried to work with women farmers and some of their field experiences are very relevant to the aims of the LinKS project.

2. World Agro-Forestry Centre (ICRAF)
http://www.worldagroforestry.org/

ICRAF's work falls into four theme areas: i. trees and markets; ii. environmental services; iii. land and people; and iv. strengthening institutions. Aspects of work in the first and third areas focuses on the conservation of biodiversity and on participatory forest management.

In Eastern and Central Africa, ICRAF has several activities that are relevant to the work of the LinKS project. For example, work is being done on increasing the number and diversity of agroforestry options available to smallholder farmers and improving their adaptations and adoption through the participatory research that incorporates feedback of farmers and end-users into research and development. Another focus is on the assessment of impacts (both ex- and post-ante) and identifying cost-effective and participatory processes for wide-scale dissemination. ICRAF is also putting emphasis on production systems, for example, developing tools for analysing the value chain in the market and helping smallholder farmers to establish a competitive position, including improving production and marketing technology, product quality and reliability of supply.

ICRAF has a strong program in Southern Africa that focuses on the development of agro-forestry innovations to improve livelihoods of the poor. The innovations also contribute to sustaining the natural resources on which the local people depend and help in sustaining the global environment. On-going research is identifying: key poverty and natural resource problems; the driving forces that lead to these problems; and opportunities for addressing the problems.

The problems are defined in biophysical terms (soil fertility, deforestation, water quality and biodiversity) and in socio-economic terms (equity, income, risk and food security). The attainment of sufficient understanding to address these problems requires an inter-disciplinary approach to research for development.

Although ICRAF in Nairobi hosts the Gender and Diversity program for the CGIAR system (http://www.genderdiversity.cgiar.org/home.asp), there is little discussion of gender-specific programming on the website.

3. Center for International Forestry (CIFOR)
http://www.cifor.cgiar.org/docs/_ref/research/governance/gender_biodiversity.htm

CIFOR, based in Indonesia, currently has a Gender and Biodiversity project, designed to encourage junior Indonesian researchers to address gender issues more systematically and effectively with ongoing village level work. The project grew out of the recognition of an Indonesian shortage of expertise on gender and biodiversity. CIFOR responded to this concern by offering to work with selected Indonesian NGOs in Sumatra and Kalimantan to improve their capabilities in this sphere. The project began in mid-2004, funded by Ford Foundation/Indonesia. Activities have included training workshops, field visits, and writing workshops.

4. International Plant Genetic Resources Institute (IPGRI)
http://www.ipgri.cgiar.org/system/page.asp?theme=2

IPGRI's global goal is to encourage, support and undertake activities to improve the management of genetic resources so as to eradicate poverty, increase food security and protect the environment. In sub-Saharan Africa, IPGRI's core activities are aimed at developing strategies, approaches and methodologies for the conservation and use of plant genetic resources. The focus is on finding ways to conserve and use the diversity of plants (crops, wild relatives, trees, shrubs, medicinal plants and other wild plants), both at species and genetic levels, so that they are maintained in both their original habitats (*in situ,* on farm) and in collections (*ex situ*). This includes both crop genetic resources and forest genetic resources. By "use", IPGRI understands the exploitation of diversity to support genetic enhancement, the task of genetic enhancement itself and the deployment of traditional or enhanced germplasm to enrich production systems.

The political and financial support for plant diversity conservation depends a great deal on the perceived medium- and long-term benefit of these resources, with an increasing emphasis on the short-term. Traditionally, *ex situ* collections have been linked to the concept of breeders as the main users of the germplasm with indirect longer-term benefits to farmers. More recently, along with the idea of *in situ* conservation on-farm, the concept of direct use by farmers has emerged, e.g., through improving local seed supply systems in communities as a component of agro-ecosystem conservation projects. Further developments are likely to blur the line between the two with increased emphasis on activities such as participatory plant breeding, restoration of plant diversity from genebanks to farmers' fields, etc. Some of the key elements in IPRGI's 'advancing use' subcomponent are: i. use by breeders in breeding; ii. community and farmer use of conserved germplasm; iii. use in restoration of germplasm; and iv. use in advanced gene modification research and development.

Somewhat surprisingly, given the important role of women in seed conservation, gender does not appear to be a central factor in IPGRI's programs.

5. International Crops Research Institute for Semi-Arid Tropics (ICRISAT)
http://www.icrisat.org/

ICRISAT believes that viable seed systems are a pre-requisite to ensure farmers' access to quality seed of improved varieties. Seed sector development varies considerably among eastern and southern African countries and local public agencies have been developing, multiplying and distributing seed of new varieties. Strict controls on variety release, multiplication and trade are necessary to protect the farmers' interests. ICRISAT's focus in the seed sector is to:

- improve and strengthen the efficiency of crop breeding and cultivar evaluation through new institutional arrangements and integration of new breeding tools and techniques;
- collaborate with public and private sectors and provide technical inputs to institutions spearheading the harmonization of seed regulations and policies especially variety registration, seed quality and certification procedures;
- pursue and promote alternative seed delivery mechanisms on combination with other technology that enhance productivity;
- maintain and use plant genetic resources for tapping traits that are required by the end users, e.g. farmers and product markets.

ICRISAT has regional gene banks in Bulawayo, Zimbabwe and in Nairobi, Kenya which hold sorghum and millet germplasm and landraces collected from the SADC region and sorghum and millets from East and Central Africa, as well as pigeonpeas. The program will continue to add to the collections, fill gaps, continue the characterization and conservation, and incorporate landraces in the breeding programs. ICRISAT also is working on improved germplasm and regionally adapted parental lines, varieties/hybrids.

Based on ICRISAT's website, and confirmed by discussion with a member of the ICRISAT Board of Governors, the Centre does little or no work in the area of indigenous knowledge, however they have supported the establishment of seed producing and distributing associations in Mali managed by women. The objective is to make improved and standardized locally-produced seed available to farmers. It is also noteworthy that ICRISAT participated in the LinKS project in Mozambique on HIV-AIDS and after the successful completion of this project indicated that they planned to replicate this work throughout the region. This suggests that there may be opportunities for further LinKS-type work with ICRISAT.

6. Participatory Research and Gender Analysis (PRGA)
http://www.prgaprogram.org/index.php?module=htmlpages&func=display&pid=1#research

Based in Cali, Colombia but working with partners around the world, the goal of the PRGA program is to alleviate poverty, improve food security, and protect the environment with greater equity by improving the ability of the CGIAR centers and collaborating institutions to use participatory research and gender analysis as scientific tools. The objective is to assess, develop and promote methods and organizational innovations for gender-sensitive participatory research, and to mainstream their use in plant breeding and in crop and natural resource management. The current phase, which ends in 2007, is focussed on mainstreaming gender analysis and equitable participatory research to promote learning and change in CG Centers and national agricultural research systems (NARS) so that they can better target the demands of beneficiary groups, particularly poor rural women. Mainstreaming refers to: (a) capacity development for gender analysis, participatory research, impact assessment and organizational development; (b) establishing a cadre of change agents versed in gender analysis, participatory research, impact assessment, and organizational development skills, who are networked for support and exchange of experiences; (c) establishing internal working groups to facilitate adaptation of organizational structures and practices to initiate a demand-driven agenda within their organizations; (d) access to a high-level external support group that represents the interests of clients, particularly poor rural women, and functions as a body to ensure accountability for instituting the demand-driven agenda in participating institutions.

The PRGA has initiated a partnership with ASARECA (see below) to strengthen, consolidate and mainstream participatory research and gender analysis in a high-priority, high-visibility program that recognizes and promotes gender equity and gender-sensitive participatory approaches as an important strategic process to enable research for development to become demand-driven (2004-06). The program focuses on enhanced capacity development for gender-sensitive participatory approaches, combined with capacity for organizational effectiveness to sustain the use of such approaches beyond the project life through their institutionalization within the procedures, structures and cultures of the participating organizations. The initiative includes the following countries: Congo, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Rwanda, Sudan, Tanzania, and Uganda.

PRGA has a website that provides useful resources on gender and participatory approaches in agriculture:
http://www.prgaprogram.org/modules.php?op=modload&name=Web_Links&file=index

C. Bilateral Donors

1. Deutsche Gesellshaft für Technische Zusammenarbeit GTZ (Germany)
http://www.gtz.de/en/

One of the major agricultural initiatives supported by GTZ is Sustainet, the Sustainable Agriculture Information Network (**http://www.sustainet.org/index.php?left_menu=3&sub=yes&language=english&bg=3**)

While they pursue widely varying approaches to sustainable agriculture, Sustainet projects all help to achieve long-term food security, thereby contributing to reducing hunger in Africa, Latin American and Asia. The approaches range from measures such as the management of watersheds, the dissemination of direct seed methods (conservation agriculture) and integrated plant conservation, to certified organic vegetable production. There are approaches that focus on seed conservation and the exchange of old seed species with the intention of reintroducing more diversity. Others help to strengthen small-scale production organisations to improve small farmers' production conditions and the food situation in rural regions.

The Sustainet projects and organisations work at various levels and with different target groups. While many NGOs work as grassroots groups directly with small farmers, to whom they pass on agricultural knowledge, other projects focus on building local networks. Public-sector development cooperation (TC) concentrates on overarching strategic functions, including the provision of advanced training to agricultural support services and of advice to national agriculture ministries on national legislation and management issues. Some projects promote and provide training to those parts of the private sector that are important to agriculture, e.g. manufacturers of farming equipment, fertiliser retailers and slaughterhouses. Some activities undertaken during Phase 1 (which will end in 2006) include the following:

- Development of an analysis matrix to assess the potential for scaling-up selected positive experiences (best practices) in the field of sustainable agriculture.

- Evaluation of project experiences through local partners (self-evaluation) and assessment of each project's Scaling-up potential in the pilot countries India, Tanzania/Kenya, Peru/Bolivia and Brazil.

- Establishment of local and international communication structures. Acess to a communication platform will be provided to all project participants via the Sustainet homepage. The platform shall be used to exchange information and experiences, and to plan joint activities.

- Exchange of experiences and strategic dialogue between actors in the partner countries and in German and international development cooperation, such as the United Nations' Food and Agriculture Organization (FAO) and the World Bank

Sustainet does not appear to give special attention to female farmers.

2. Canadian International Development Agency (CIDA)

http://www.acdi-cida.gc.ca/cida_ind.nsf/0/AE3DD45C673231C785256C4E007431DA?OpenDocument

CIDA currently has five broad thematic areas for its agricultural programming:

i. Build national capacity. CIDA is helping developing-country partners to strengthen both their human resources and their institutions related to the areas of international trade policy, the environment, and biotechnology.

ii. Create and share new and traditional knowledge. Knowledge, both traditional and new, has been critical to meet the food needs of growing populations. Innovations in agriculture may also help address long-standing issues such as land degradation, and pests and disease control, as well as new challenges such as climate change and water scarcity. CIDA is strengthening the capacity of research institutions to develop and transfer appropriate knowledge, helping crops and livestock adapt to environmental stresses, and increasing the food and feed value of staple crops.

iii. Enhance food security, productivity, and income. The rural poor, particularly women, need more opportunities and choices. CIDA is promoting strategies to increase agricultural production such as integrating crop and livestock production and agro-forestry. It is also improving access, management, and administration of land, reducing post-harvest losses to augment food supply and income, and improving food use and safety through research and education.

iv. Promote sustainable natural resource management. Livelihoods of the poor, especially in rural areas, depend on healthy natural resources, including land, water, and biodiversity. At the same time, increasing poverty threatens the sustainable management of these finite resources. Through its programming, CIDA is helping top reverse land degradation, promoting integrated natural resource management, and improving the efficiency of water use in agriculture.

v. Develop well-functioning markets. Food-processing companies around the world increasingly source their supplies globally. Developing countries need to overcome many obstacles for a greater chance to participate in such trade. To that end, CIDA is supporting agro-based processing and rural entrepreneurship, strengthening local market organizations, promoting rural agricultural education and services through cooperatives, and helping farmers in developing countries access international markets.

3. Ministry of Foreign Affairs of France
DURAS (*Promotion du development durable dans les systemes de research agricole au Sud)*
http://www.egfar.org/tools/special2004/news.html

The DURAS project aims to strengthen the involvement of southern stakeholders in the agricultural research process and ensure that their voices are heard at the international level. It also aims to enhance the scientific potential of these stakeholders through the implementation and management of research programs that are strategically important for their regions. The project's three components include:

i. Support to the strengthening of regional fora in agricultural research, particularly in enabling relevant stakeholders such as NGOs, farmer groups and small and medium agri-enterprises to actively participate in the R&D process;
ii. Reinforce functional information communication management (ICM) system and development of Regional Agricultural Information Systems (RAIS);
iii. Launch a Competitive Grants Systems to encourage as well as promote innovation; and to scale up innovative practices developed in the south.

A three-year project funded by the French Ministry of Foreign Affairs, DURAS is also a Type 2 Initiative under the World Summit for Sustainable Development (WSSD) referred to as

Partnerships for Sustainable Development. These are voluntary multi-stakeholder partnerships programs that contribute to the implementation of inter-governmental commitments in Agenda 21, and the Johannesburg Plan of Implementation. As such, the project is contributing to the empowerment of all stakeholders in agricultural research to make a concrete contribution to the outcomes of the WSSD and other international agreements in furthering sustainable development (SD).

The objectives of the Competitive Grants Scheme are to encourage and promote innovation as well as to scale up innovative practices in the south; and to enhance scientific capacity in southern partners. The scheme supports research proposals on agro-biodiversity and genetic resources management for food security; local knowledge in natural resources management; rural innovation and linking farmers to market; and agro-ecology and other sustainable farming practices

4. Department for International Development, United Kingdom (DFID)
Renewable Natural Resources Research Strategy (RNRRS) and Research in to Use for Poverty Reduction Programme
http://www.dfid.gov.uk/research/reduce-rural-poverty-adv.pdf

The goals of the Renewable Natural Resources Research Strategy (RNRRS) for 1995-2006 were the alleviation of poverty, the promotion of economic growth and the mitigation of environmental problems. The strategy aimed to achieve economical and environmentally sustainable enhancement of productive capacity in the renewable natural resources sectors through contracted out management of competitive research funds. The budget for the programme was more than £190,000,000. A recent positive evaluation of the RNRRS emphasized the work of the programs as including: good science, a balanced poverty-focused research portfolio, the application of the Sustainable Livelihoods framework, a multi-disciplinary approach, a diversity of partners and countries (Africa, Asia and South America), Many of the programs (e.g. Crop Protection, Plant Sciences, Natural Resources Systems, Crop Post Harvest) have supported projects working on LinKS concepts. The evaluation went on to point out this has led to the creation of a massive knowledge base. The RNRRS comes to an end in March 2006, but DFID is planning to support a five year 'Research into Use' Programme aiming to scale up and apply RNRRS research and process outputs.
http://www.dfid.gov.uk/aboutdfid/performance/files/ev659.asp

D. Foundations, Research Organizations and International Networks

1. International Development Research Centre, Canada (IDRC)
http://www.idrc.ca/index_en.html

IDRC's Rural Poverty and Environment (RPE) program initiative (http://web.idrc.ca/en/ev-81769-201-1-DO_TOPIC.html) supports research on the needs of the rural poor living in fragile or degraded ecosystems. The program initiative combines participatory action research to generate knowledge; capacity development for researchers and decision makers to participate in multi-stakeholder processes; and policy engagement to build action and learning oriented partnerships.

For example, a number of countries have begun to develop national policies and laws to protect traditional knowledge. At the international level, the Convention on Biological Diversity (CBD) is developing a regime on access and benefit sharing and traditional knowledge protection. However, there is still lack of understanding of the kinds of mechanisms that are appropriate and effective for protecting the rights of indigenous and local communities over traditional knowledge. Working with indigenous communities, researchers undertake case studies of customary laws and practices for controlling external use of traditional knowledge in five countries. The research focuses on traditional maize varieties in China; traditional rice varieties and medicinal plants in India; medicinal plants in Kenya; medicinal plants in Panama; and traditional potato varieties in Peru. The researchers are drawing implications for the development of mechanisms to protect traditional knowledge at the local, national and international levels; and inform policymakers of their findings. The overall objective is to help indigenous and local communities to protect their rights over traditional knowledge related to biological resources, in accordance with their customary laws and practices.

IDRC is also active in the area of genetic resources. Despite attention paid to the principle of adding value to existing biodiversity and related knowledge, *systematic* research into the design, implementation and monitoring of practical, fair and appropriate mechanisms concerning access and benefit sharing (ABS) has remained underdeveloped. There is scope for more opportunities to become knowledgeable about issues, to exchange experiences and share learning, to examine what is actually working and what is not under current international and national regulatory systems, and to identify both informal and formal systems of ABS that support the rights of marginalized and indigenous groups. In particular, there seems to be a need to research these questions from a local perspective taking into account the ideas, views and interests of local farmers, herders, fishers and gatherers. Specific areas of focus include the design, testing and assessing of novel practices of prior informed consent, roles/responsibilities and participation of right-holders and stakeholders, and innovative incentives for valuation of local knowledge systems.

While the work described above does not appear to have a specific focus on gender, IDRC has an active gender and sustainable development unit. (http://www.idrc.ca/en/ev-29740-201-1-DO_TOPIC.html)

2. Ford Foundation
http://www.fordfound.org/

The Ford Foundation's Community and Resource Development unit aims to create conditions for the development of sustainable and equitable communities. Two areas of focus are of particular relevance to the LinKS project.

- ***Environment and Development*** projects help people and groups acquire, protect, improve and manage land, water, forests, wildlife and other natural assets in ways that help reduce poverty and injustice.
- ***Community Development*** projects seek to improve the quality of life and opportunities for positive change in urban and rural communities. The Foundation supports community-based institutions that mobilize and leverage philanthropic capital, investment capital, social capital and natural resources in a responsible and fair manner.

The Ford Foundation has supported numerous projects in Africa aimed at the protection of indigenous crops and knowledge systems. Some activities supported in 2005 include the following:

Association for the Promotion of Traditional Medicine. This support was aimed at strengthening the Association's chapters in Southern Africa, conducting research on the safety and efficacy of traditional herbal medicines and providing technical support.

Association of Uganda Professional Women in Agriculture and the Environment. This support was aimed at empowering rural women and girls through capacity building for sustainable development.

Indigenous Information Network (INN). Support was intended to strengthen the environmental conservation, sustainable development and income generation skills of nomadic pastoralists and hunter-gatherers in Eastern Africa. Founded in 1996, IIN works to develop connections between indigenous groups in Kenya, strengthen indigenous demands for human rights and enhance the political participation of Indigenous peoples. It produces a grassroots publication, which focuses on environmental issues and successes affecting pastoralists and hunter-gatherers in Africa. The Network has also organizes workshops to provide a platform for African indigenous people to share and discuss information and to clarify their positions on international events like the World Summit on Sustainable Development and the current work on the Convention on Biological Diversity on Article 8(j) which focuses on the role of indigenous people in conserving biodiversity.

3. Rockefeller Foundation
http://www.rockfound.org/

The Rockefeller Foundation has a long history of supporting the improvement of African agriculture and continues to be active in the following areas:

- ***Improving crop varieties*.** Support is aimed at programs to improve crop varieties that increase and stabilize yields, and work to gain their broad adoption by farmers in Africa and Asia.
- ***Enhancing soil productivity.*** The Foundation supports the development and widespread use of soil management practices that improve the productivity and sustainability of African soils.
- ***Development markets for poor African farmers.*** The Foundation supports the development of policies and institutions to create functional, accessible and more equitable markets where small-scale African farmers can purchase seeds and fertilizer, and receive a fair price for excess crops.
- ***Improving access to international public goods for poor farmers.*** This includes support for strengthening global and regional public research systems, and improving access by developing country researchers to proprietary tools, technologies, information and genetic resources designed to benefit poor farmers in Africa and Asia.

The Rockefeller Foundation does not appear to have a specific focus on local knowledge or on gender in its agriculture programming.

4. CABI Africa Regional Centre
http://www.cabi.org/InternationalCentresAndOffices.asp?Heading=Africa

CABI is an international organisation with a turnover of more than £20 million annually and a network of centres and offices around the world. Activities are carried out by two divisions; CABI Publishing and CABI Bioscience. CABI Bioscience is focussed on problems in agricultural

sustainability and biological diversity. CABI also has a Trust that undertakes development projects in the areas of: i. building local knowledge systems; ii. biologically-based sustainable agriculture; iii. bridging the digital divide; iv. genetic resources management; v. supporting commodity producers; and vi. reducing the threat of biological invasions

CABI Africa Regional Centre focuses its activities on six themes that impact on the livelihoods of the rural poor in Africa.

- Rural knowledge systems
- Smallholder commodity chains
- Sustainable pest management
- Alien invasive species
- Conservation and utilisation of biodiversity
- Information and communication technologies

CABI works in collaboration with community organisations, NGOs, national agricultural research and extension systems, international agricultural research centres and the private sector. Some current activities include:

- Facilitating institutional partnerships for pest management and information
- Curriculum development for farmer field schools
- Farmer participatory training and research
- Analysis and participatory appraisals of farmers' pest and disease problems
- Indigenous pest control methods and pest management in organic farming
- Development and implementation of integrated pest management (IPM) of diseases and pests
- Methods for enhancing the effect of natural control agents such as insect predators
- Information pathways and technology uptake and adoption

CABI does not appear to focus specifically on gender issues.

5. The World Conservation Union (IUCN) http://www.generoyambiente.org/ing_aboutiucn.php

The World Conservation Union is the world's largest and most important conservation network, with a mission is influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. The IUCN has a senior gender advisor and has been actively promoting gender and conservation for a number of years. Some recent and current activities included work on:

- Improved understanding of the interdependent nature of gender equity and biodiversity conservation.
- Development of reliable tools and methods to mainstream gender equity in biodiversity conservation and sustainable use policies and practice.

- Development of improved understanding of how gender and environmental objectives can be reconciled in the management and restoration of ecosystems**.**

E. Regional Networks

1. Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)
http://www.asareca.org/

ASARECA's overall objective is to strengthen and increase the efficiency of agricultural research in Eastern and Central Africa, and to facilitate economic growth, food security and export competitiveness through productive and sustainable agriculture. Its' primary goal is to facilitate agricultural research that will promote agriculture oriented towards markets and income generation. Its secondary goal is to serve as the main forum where strategies and ideas for agricultural research and their relationship to agricultural development in the sub-region are conceived and exchanged. Although ASARECA does not focus directly on indigenous knowledge, several of the networks that it coordinates give attention to traditional crops, including beans. While ASARECA does not have a gender unit, it has supported a few gender-related training and research activities.

2. The Eastern and Central Africa Bean Research Network (ECABREN)
http://www.ecabren.org/

ECABREN, which is part of the ASARECA network, aims to satisfy increasing end user's demand in marketable bean varieties. Market characterization in ASARECA member countries identified nine bean types or major market classes on which a regionally coordinated breeding strategy program was established in late 2000.

A priority setting exercise in 2003 ranked and prioritized major research-for- development sub-themes in the bean sector. If carried out, the sub-themes should enhance sustainable bean production, increase efficiency in bean markets and ultimately contribute to the reduction of malnourishment and hunger, prevent nutritional health related problems through increased consumption of beans rich in fiber, protein, iron and zinc and improve the export of high quality African beans that meet international standards. The network does not appear to give special attention to women farmers.

3. Pan-Africa Bean Research Alliance (PABRA)
http://www.ciat.cgiar.org/africa/pabra.htm

Founded in 1996, PABRA is a consortium of African regional bean networks, consisting of National Agricultural Research Systems (NARS) in 18 countries in sub-Saharan Africa, an international research organisation (CIAT) and a number of donor organisations. The regional bean networks are the Eastern and Central Africa Bean Research Network (ECABREN) and the Southern Africa Bean Research Network (SABRN). Efforts are underway to integrate a fourth group of countries in the West and Central Africa region. PABRA's research and development) programme is implemented by ECABREN, SABRN and CIAT, NARS, NGOs, community-based organisations, selected rural communities, farmers (seed producers and on-farm researchers), traders and in a few situations the commercial private sector.

PABRA's programme focus is on improving the bean crop and increasing its productivity for the benefit of the urban and rural poor. The ultimate goal is to enhance food security, income generation and the health of resource-poor communities. The major beneficiaries of PABRA activities are women, who play the main role in the crop's production and post-harvest handling in Africa.

PABRA facilitates collaborative research within and between the networks by providing a forum for building and maintaining linkages to multiple partners (researchers, NGOs, CBOs and farmers). These collaborative linkages are maintained and strengthened through joint priority-setting, planning, agreed division of responsibilities, joint implementation of activities and joint reporting. In this way research technologies are shared among countries, and significantly contribute to scaling up and wider dissemination efforts.

4. Eastern and Central Regional Sorghum and Millet Network (ECARSAM) http://www.asareca.org/index.php?option=networks&Itemid=54

Sorghum is the third most important crop among the commodities and factors identified by ASARECA to increase agricultural productivity and competitiveness of agricultural systems in the eastern and central African sub region. The Eastern and Central Africa Regional Sorghum and Millet Network (ECARSAM), strives to create synergy and effectiveness of national agricultural research systems and all stakeholders through networking to remove some of the bottleneck to increased productivity of sorghum and millet, and their use in value addition and processing at farm and village levels by generating and adopting appropriate technologies, knowledge and information. The network also stimulates use of sorghum and millet for small and large scale industries, enhance information flow among stakeholders, and strengthen capacity of NARS in the ASARECA member countries – Burundi, D.R.Congo, Eritrea, Ethiopia, Kenya , Madagascar, Rwanda, Sudan, Tanzania and Uganda.

5. FOODNET
www.fooodnet.cgiar.org

FOODNET is an ASARECA post-harvest and market research program for East and Central Africa established in 1999. FOODNET mainly focuses on market analysis studies, market information and agro enterprise development, and related business development support services. FOODNET is under the administration of the International Institute of Tropical Agriculture (IITA - Uganda) and the programme activities are funded by consortia of donors including, USAID (ACDI-VOCA), GOU (NAADS, MAAIF). Other organisations that have supported FOODNET include CTA, RELMA. FOODNET also has collaborative partnerships with various NGOs such as CRS, and the private sector.

F. Non-Governmental Organizations and Research Centres

1. Africa Biodiversity Collaborative Group (ABCG)
http://www.frameweb.org/ev.php?URL_ID=6775&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1056571399

ABCG comprises several U.S.- based conservation non-governmental organizations (NGOs) with field programs in Africa, including African Wildlife Foundation (AWF), Biodiversity Support Program (BSP), Conservation International (CI), The World Conservation Union (IUCN), Wildlife Conservation Society (WCS), World Resources Institute (WRI), and World Wildlife Fund (WWF). They agreed that a number of priority biodiversity issues were not being adequately addressed by any one institution or the development assistance community at large. In addition, the complexities of many of these issues require a range of expertise and experience that no one institution currently possesses.

ABCG's mission is to tackle complex and changing conservation challenges by catalyzing and strengthening collaboration, and bringing the best resources from across a continuum of conservation organizations to effectively and efficiently work toward this vision of Africa. It's objectives are to promote networking, awareness, information sharing and experience among U.S. conservation non-governmental organizations working in Africa; to encourage information exchange and idea sharing with African partners; to identify and analyze critical and/or emerging conservation issues in Africa as priorities for both future NGO action and donor support; and to synthesize collective lessons from field activities and share them with a broader multi-sector community in the United States and Africa.

ABCG does not appear to focus specifically on gender issues.

2. Community Conservation Coalition (CCC)
http://www.frameweb.org/ev_en.php?ID=1052_201&ID2=DO_TOPIC

The CCC is a Washington, D.C., based forum made up of diverse organizations concerned with the human dimension of the conservation of biodiversity worldwide. The Coalition is supported by USAID and the University of Michigan Population-Environment Fellows Program.

The CCC recognizes that conservation is a social issue and that engaging communities in the work of conservation is critical. A community conservation approach is participatory, respecting the needs, values, and traditions of local people and emphasizing equity and transparency. The approach calls for understanding the dynamics of cultural and ethnic diversity and gender roles and relations in natural resource management. At the regional and international scales, the community conservation approach promotes local empowerment through information exchange, technical assistance and training, applied research, and promotion of policy reform.

The Coalition is carrying out activities highlighted as essential steps in implementing Agenda 21, such as:

- Developing information and raising public awareness of demographic and sustainable development interactions;
- Strengthening institutions and research programs that integrate population, environment and development; and
- Promoting human resource development and developing and/or enhancing institutional capacity and collaboration.

3. Organization for Conservation of Natural Resources and the Combat of HIV/AIDS (OCRA)
http://www.frameweb.org/ev_en.php?ID=7626_201&ID2=DO_TOPIC

Based in Kenya, OCRA's mission is to take steps, actions and measures to prevent and reduce negative impacts of HIV/AIDS, including impacts on the management and conservation of the environment and natural resources. Orphans and others whose bread-winners have prematurely died of HIV/AIDS are increasingly resorting to the harvesting of wood for fuel, charcoal and for sale to meet subsistence needs. In addition, many of the people in the area are poor and do not have access to clinics and doctors. Neither can they afford the cost of modern medicine. This has resulted in an increase in indiscriminate harvesting of medicinal plants in the era of HIV and AIDS and this threatens certain species of plants with depletion. In recognition of the linkages between HIV/AIDS and biological diversity (plant, genetic and species), OCRA is currently

implementing a Medicinal Plants and Traditional Herb and Foods (MEPAHEF) Project. Through the project, OCRA seeks to educate community members on the need for conservation and sustainable use of the plants, herbs and foods, to make traditional medicines available, especially to people living with HIV and AIDS and to enhance biological diversity in the area.

4. International Institute for Environment and Development (IIED)
http://www.iied.org/index.html

Although IIED is primarily a research center, it has undertaken considerable work related to biodiversity and natural resource management, sometimes with a strong gender focus. The IIED's Sustainable Agriculture, Biodiversity and Livelihoods program seeks to promote sustainable agri-food systems based on local diversity and participatory democracy and, in doing so, find ways to yield more sustainable livelihood opportunities out of biodiversity for the poor. The aim is to thereby contribute to improved livelihoods and entitlements, poverty reduction, and long-term ecological and economic sustainability. For example, a recent IIED publication **Sowing Autonomy: Gender and Seed Politics in Semi Arid India (2005)** looked at women's roles in saving and reproducing seed in South India. Detailed farmers' accounts of why seed-saving is essential emphasise the interconnectedness between self-reliance in seed, crop diversity and nutrition. By extension, the realms of food culture and religious rituals (which entail the use of traditional crops) are also linked to seed autonomy.

4. Center for Indigenous Knowledge for Agriculture and Rural Development (CIKARD)
http://www.ciesin.org/IC/cikard/CIKARD.html

The Center for Indigenous Knowledge for Agriculture and Rural Development (CIKARD) at Iowa State University focuses its activities on preserving and using the local knowledge of farmers and other rural people around the globe. CIKARD was established at Iowa State University in October 1987 with a goal to collect indigenous knowledge and make it available to development professionals and scientists. CIKARD concentrates on indigenous knowledge systems (such as local soil taxonomies), decision-making systems (such as knowledge of which crops are best suited to particular types of soils), organizational structures (such as farmers problem-solving groups), and innovations (such as local methods for pest control).

CIKARD's activities and programs are based on the following objectives: i. to act as a global clearinghouse for collecting, documenting, and disseminating information on indigenous knowledge of agriculture, natural resource management, and rural development; ii. to develop cost-effective and reliable methodologies for recording indigenous knowledge; iii. to conduct training programs and design materials on indigenous knowledge for extension and other development workers; iv. to conduct interdisciplinary research on indigenous knowledge systems; v. to promote the establishment of regional and national indigenous knowledge resource centers; and vi. to formulate agricultural and natural resource management policies and design technical assistance programs based on indigenous knowledge.

5. International Centre for Under-Utilized Crops (ICUC)
http://www.soton.ac.uk/~icuc/index3.html

ICUC is an autonomous, non-profit, scientific research and training centre based at the University of Southampton, UK, with overseas offices in the Philippines and in South Africa. The Centre was established to address ways of increasing the use of underutilized crops both for food, medicinal and industrial products, and also for environmental improvement. Its objectives are to identify demand-led needs and opportunities for research and development of new and

underutilized crops from wild and semi-domesticated species; to develop training courses relevant for the promotion and sustainable production of new crops, to provide professional and vocational development and to develop skills needed for technology transfer through practical participation; and to establish and manage information sets on networks of farmers, scientists, traders and users working on new and underutilized crops. This includes ethnobotanical information and information on underutilized species derived from any source. It also contains information on ecological and agronomic requirements of the species, and the results of known research and development work. The overall aim of the ICUC is to develop new and underutilized crops and to foster their adoption to the benefit of both the producers within sustainable production systems and consumers in local, regional and international markets as well as to conserve global biodiversity through its sustainable use.

Research and development: Several research projects on identified high priority species have been undertaken by ICUC staff in partnership with NARS and other international centres (e.g. tropical fruits in Asia and Africa, indigenous vegetables in Africa and industrial crops in Asia). Work has also been done on Improvement of farm economies through the use of under-utilised crops (eg. crop diversification, agroforestry, homestead farms, peri-urban and urban land use development) management programmes.

Networking: Establishment of regional and global networks. ICUC has established a number of regional networks:

- Underutilized Tropical Fruits in Asia Network (UTFANET), established in 1995 with the co-operation of CSC, APAARI and FAO.
- Southern and Eastern Africa Network for Underutilized Crops (SEANUC), established in 1995 with FAO and the Commonwealth.
- West Africa Network for Tropical Fruits (WAFNET), established in 1998 in collaboration with FAO.
- Underutilized Traditional Vegetables for Asia and the Pacific Network (UTVAPNET), established in 1999 in collaboration with FAO.

6. ITDG/ Practical Action

http://www.itdg.org/?id=programmes

ITDG works with poor communities to help them choose and use technology to improve their lives. Work in Africa, Asia and Latin America is in partnership with poor people and their communities, building on their own knowledge and skills to come up with innovation, sustainable and practical solutions. ITDG's work is people focused, locally relevant, and environmentally sensitive and offers tangible ways out to poverty. ITDGPractical Action aims to help eradicate poverty in developing countries by developing and using technologies, and by demonstrating results, sharing knowledge and influencing others. To achieve this, ITDGPractical Action focuses its efforts, skills and resources around four international programmes:

- Reducing vulnerability
- Production and markets
- Access to services
- Responding to new technologies

ITDG has several on-going African projects that have some relevance to the LinKS approach. For example, the *Ethno-Veterinary Knowledge (EVK) Research and Development Project* in Kenya

refers to people's beliefs, knowledge and practices pertaining to animal health. This project promotes the use of Ethno-Veterinary Knowledge (EVK) in animal health care as an affordable, available alternative that complements modern medicine. The purpose of the project is to improve the health systems of marginal farmers and pastoralists through increased use of effective EVK incorporated into Community-Based Animal Health Care Programmes (CBAHCP). The Project encourages the conservation of biodiversity by the communities as the value of medicinal plants is recognized. Similarly, the *Marginal Farmers Project,* is is a food security project in Kenya's semi-arid areas with the objective of increasing food production of farmers, using a participatory, community-based approach.

G. Conclusion

As already noted in the introduction, this overview suggests that there are few other international organizations that have taken the same approach as the LinKS project. However, there are numerous others who have focussed on some aspects of the LinKS concepts and new program entity (PE) that tries to build on the results of LinKS should attempt to create partnerships with at least some of these organizations. For example:

- In terms of both the capacity-building and the research elements of LinKS, the PRGA of the CGIAR system seems to have invested considerable time and effort into developing methodologies and conceptual frameworks which have some overlap with LinKS. Since the PRGA is part of the CGIAR system, a partnership with FAO-SDWW in a new program entity (PE) would help to broaden the catchment area for the agro-biodiversity/ local knowledge/ and gender concepts.

- Similarly, IDRC has supported considerable work in the South that touches on all three of the LinKS concepts. It is possible that IDRC could be approached to support further research on the areas that have been identified for further attention.

- The Ford Foundation also is a likely partner since it is already supporting some work in Africa that is focussed on community management of natural resources

- Although most of the CGIAR centres are focussed on technology development, there is also some experience with local knowledge, especially within CIAT. This could be another critical source of partnership for a new PE.

- A new PE should focus more on income-generating activities. As noted in the overview, many international organizations, including UNDP, are already doing this in community-based projects in Africa.

ANNEX 2: List of Persons Met

Rome

Coccia, Federica	LinKS project, FAO
Lambrou, Yianna	SDWW, FAO
Laub, Regina	LinKS project, FAO
Osbourne Tom	Seed and Plant Genetic Resources Services, FAO
Villareal, Marcella	Director, SDWW, FAO

Tanzania

Baya, B.T.	Director, Environmental Compliance and Enforcement, NEMC
Das, Sachin	LinKS Project Coordinator, Tanzania
Jansen, Eirik G.	Counsellor, Environment & Natural Resources, Norwegian Embassy
Kinabo, Ludovick D.B.	Director, PANTIL, SUA
Kirway, Timothy N.	Assistant Director, Ministry of Agriculture and Food Security
Koda, Bertha	Institute of Development Studies, University of Dar es Salaam
Laswai, Germana	Senior Lecturer, Animal Science & Production, SUA
Lema, Ninatubu M.	Ministry of Agriculture and Food Security, Dar es Salaam
Letayo, Elias A.	Hombolo Agricultural Research Institute
Lugeye, Elizabeth M.	Dodoma Regional Office
Mapinduzi, Arnold L.M.	Senior Environment Management Officer, NEMC
Mascarenhas, Adolfo	The African Link
Mateo, Raphael	Director-General, COSTECH, Dar es Salaam
Mbaga, S.H.	Animal Breeding, SUA
Mikwana, Francis	COSTECH, Dar es Salaam
Minja, M.M.J.	Head, Ethno-veterinary Medicine Unit, ADRI, Dar es Salaam
Misano, Hilda	Tanzania Food and Nutrition Centre
Mongi- Henday, Rose	Uyole Agricultural Research Institute
Mkuchu, Margaret	Uyole Agricultural Research Institute
Mwageni, Eleuther A.M.	Director, Development Studies Institute, SUA
Ndossi, Godwin D.	Managing Director, Tanzania Food and Nutrition Centre
Sendalo, David S.C.	Assistant Director, Ministry of Water & Livestock Development
Sendalo, Emma D.	ADRI, Dar es Salaam
Senyagwa, Agatha H.	Cooperatives Inspector, Dodoma Municipal Council
Setshwaelo, Louise L.	FAO Representative in Tanzania

Swaziland

Dlamini, Mkiwe	Home Economist, Ministry of Agriculture & Cooperatives
Edje, O.T.	Director, UNISWA Research Centre
Eman Mabuza, Khanyisile F.	Assistant FAO Representative, Mbabane
Lupupa, Thandie	Plant Genetic Resources Centre,
Mdziniso, Phumasle	Research Officer, Ministry of Agriculture & Cooperatives
Malima, Carol L.	Agricultural Officer, Ministry of Agriculture & Cooperatives
Mamba, Zodwa	Senior Research Officer, Ministry of Agriculture & Cooperatives
Mondlane, Sibusiso	LinKS Trainer, Manzini
Mtlembu, Lenana I.	Ministry of Agriculture & Cooperatives, Manzini
Musi, Patricia	Swaziland Focal Point, Regional Hunger and Vulnerability

Programme (formerly LinKS Project Coordinator, Swaziland)

ANNEX 3: Terms of Reference for the Evaluation

Purpose of the Evaluation

As the project draws to the conclusion of the second phase of operation, the evaluation is intended to provide useful information, lessons learnt, guidelines and recommendations to FAO, FAO member countries and partner institutions involved in the project, as well as the Government of Norway. The evaluation will involve (a) an in-depth analysis of the project's activities and its impacts in the project countries. (b) Based on this analysis, the evaluation will provide detailed recommendations to FAO, the partner institutions and the donor how to build on the project's experience and outcomes. Recommendations for a new programme entity will also be provided.

Scope of the Evaluation

The evaluation consultants will assess the:

a) Relevance of the project to development priorities and needs, such as food security, sustainability, gender mainstreaming, national capacity building and conservation of agro-biodiversity, etc.

b) Clarity of the project's development and immediate objectives and whether they can realistically be achieved in the timeframe and context in which the project works and prospects for sustainability.

c) Appropriate specification of targets and identification of beneficiaries.

d) Quality, clarity and adequacy of project design including:

- clarity and logical consistency between, inputs, activities, outputs and progress towards achievement of objectives (quality, quantity and time-frame);
- realism and clarity in the specification of prior obligations and prerequisites (assumptions and risks);
- realism and clarity of external institutional relationships, and in the managerial and institutional framework for implementation and the work plan;
- likely cost-effectiveness of the project design.

a) Efficiency and adequacy of project implementation to date including: the quality and timeliness of input delivery by FAO; managerial and work efficiency; implementation difficulties; adequacy of monitoring and reporting; the extent of host institutions' support and commitment and the quality and quantity of administrative and technical support by FAO.

b) Project results, including a full and systematic assessment of outputs produced to date (quantity and quality as compared with workplan and progress towards achieving the immediate objectives). Particular attention should be paid to reviewing the volume and quality of outputs and outcomes being produced and the extent to which they are being used by the intended target groups, in the following work areas:
   - development of directories of key networks, persons, and institutions working on gender, agro-biodiversity and local knowledge systems in food security in each country;

- training workshops and public seminars organised by the project and any other relevant training workshops co-sponsored and co-facilitated by both the LinKS project and other FAO projects/programmes; available training material, trainers and training workshop participants;
- communication material developed by the project including the LinKS project website under the FAO Homepage, videos, and other material; awareness of partner institutions on LinKS issues;
- results of research activities, which were conducted by the project partner organisations and sponsored by the project in each country;

a) The prospects for sustaining the project's results by the beneficiaries after the termination of the project. The mission should examine in particular:
    - the ability of host institutions and/or certain project partners or existing networks in the project countries to carry on project activities
    - the impact of partnerships which have developed as a result of the project
    - development of the "LinKS Trust", an initiative for a network on this issue that has recently been developed as a result of project activities in Tanzania

a) The cost-effectiveness of the project – in particular, attention will be given to the efforts made in the project design, work planning and in implementation so that those alternatives with "the least cost" (to achieve the target) or "most effective" (for given level of resources) approach have been selected.

Based on the above analysis the mission will draw specific conclusions and make proposals for any necessary further action by FAO and/or the donor to ensure sustainable development, including possible additional assistance for the future. Recommendations for a new programme entity for FAO will be provided.

ANNEX 4: Briefing at FAO HQ, Rome (17-18 October) and Evaluation Mission to Tanzania and Swaziland 20 - 30 November, 2005 Schedule

Day / Date	Time (hrs)	Activity / Person Responsible	Venue
Monday 17. 10. 2005		Briefing in Rome	FAO HQ
Tuesday 18. 10. 2005		Briefing in Rome	FAO HQ
Sunday 20. 11. 2005	14.00 – 17.00	Meet in Dar es Salaam (Eva travel from Tunis, Richard already in Dar) Meeting with Aisha, Hilda and Nhamo	
Monday 21. 11. 2005	8.30 – 10.00	Louise Sethswaelo – FAO Rep	FAO Office
	11.00 – 12.00	Prof Bertha Koda	Uni of Dar es Salaam
	13.30 – 17.00	Travel to Central Zone	
Tuesday 22. 11. 2005	8.30 – 17.00	Visit Dabalo village with Central Zone research team members; Discussions with participating farmers	Dabalo
	19.00- 21.00	Discussions with Central Zone research team members	Dodoma
Wednesday 23. 11. 2005	8.30 – 11.30	Travel to Morogoro	
	13.00 – 14.00	SUA curriculum (Prof Mwageni)	SUA
	14.15-1500	SUA TARP 2 (Prof L. Kinabo)	SUA
	15.00- 16.00	Prof Germana Laswai and Dr S. Mbaga	SUA
		Travel to Dar	
Thursday 24 .11. 2005	08.00 08.30 – 9.00	Dr Sachin Das, LinKS coordinator Dr Erik Jansen (Norwegian embassy)	FAO office Norwegian embassy
	10.0-12.00	Dr Mkangare Minja and Mrs Sendalo - Livestock research Dr David Sendalo – Livestock Research	Ministry Temeke
	12.30 – 1400	Prof Mascarenhas	
	1400-1500	B.T. Baya and Arnold Mapunduzi - NEMC	NEMC
	15.30-1700	Dr Raphael and Francis Mkwawa COSTECH	COSTECH
Friday 25.11.2005	08.30 – 12.00	Mr Timothy Kirway DRD, MAFS Ninatubu Lema – DRD, MAFS	Ministry Temeke
	14.00 -14.30 15.00 – 16.00	Louise Sethswaelo – FAO Rep Dr Ndossi TFNC	FAO TFNC
Saturday 26.11.2005		Sachin Das and Hilda Missano	TFNC
Sunday 27.11.2005		Travel to Swaziland	

Day / Date	Time (hrs)	Activity / Person Responsible	Venue
Monday 28.11.2005	9.00 -10.30 2.00-4.00	Meeting with Khanyisile Mabuza (assistant FAO Rep) Meeting with Dr Patricia Musi, LinKS National Coordinator Meeting with trainer (Sibusiso Mondlane)	Mountain Inn FAO Office
Tuesday 29.11.2005	 8.30 – 10..30 11.00- 12.30 15.00 – 17.00	Meeting with representatives of ministries involved in project research □ Indigenous crops study Mdziniso & Dlamini) □ Legume Seed (Zodwa Mamba & Carol Malima) Proposal for promoting LinKS issues (Prof Edje)	 Agric Office Manzini University Luyengo
Wednesday 30.11.2005	Morning 12.00 Afternoon?	Field: Seed Fair (L Mthembu – Ag shows) Sugar cane study and the Gene bank(T Lupupa) Departure	Manzini Gene bank
2.12.2005		Debriefing in Rome	

ANNEX 5: Results of FAO LinKS project mini questionnaire survey

Feedback was provided by research team members in Tanzania and Swaziland on their involvement with the LinKS project through a small questionnaire survey. This included seven (five female) team members in Tanzania and five (all female) team members in Swaziland. In addition, one male extension worker based in Dabalo village gave some feed back.

1. Capacity building

1.1 What capacity building activities have you been involved in as a result of this project?

	Tanzania
F	Exposure about how research work is done
	I learned how to collect data
	I participated in the analysis practically
	I shared knowledge with the research people who were doing their research work
	To stay with farmers for a long time learning their experiences
M	Data collection
	Facilitating farmers groups in steps of the research work
	Group formation
	Organizing seed fairs
F	Empowering community groups in building confidence discussions and sharing of experience especially for women
	Facilitating stakeholder research groups in the whole research process
F	Curriculum development on mainstreaming LinKS issues in the university curricula
	Research
	Training programs on the LinKS issues
	Workshops including project proposal development workshops
F	Explaining to farmers what is LK, Biodiversity ,gender , empowering farmers on the importance of LK in agro-biodiversity management
	Trained on livelihood analysis tools
	Trained on the use of participatory gender sensitive tools during PRA
F	Training in gender based PRA. Meeting with different stakeholders to learn.
M	Curriculum; A course (AS 311) on domestic animal biodiversity and conservation was adopted in year 2003 under semester system.
M	Research: two MSc students have completed their thesis on characterization of indigenous pigs and Iringa red cattle where aspects of local knowledge, gender and biodiversity were included.
M	Teaching: aspects of biodiversity that include local knowledge in management of farm animals

F = female respondent; M = male respondent

Village extension officer M	Mobilization of farmers to join the project; Prepare venue for holding the meeting; All other logistics

	Swaziland
F	Training Lauumisa Maplotini farmers co-operative on participatory approach
	Training Shiselusemi Region Extensive workers of the participating approach
F	Agro-biodiversity, gender and local knowledge
	Data collection and analysis of PRA methodology
	Participatory rural appraisal [PRA] methodology
F	Experienced data analysis and how to write report
	How to process data from focus group discussion since here you get a lot of information that will not address your objectives
	How to write a project proposal
	Learning about the concept of agro-biodiversity local knowledge and gender and how they can impact on food security

F	Attended a workshop on- Socio-Economic and Gender Analysis (SEAGA) and general participatory tools.
F	How to collect data based on gender responses
	Training other colleagues (technicians) on how on how to go about a participatory meeting when coordinating on-farm trials

1.2 What impact did the project have on your level of knowledge about LK, biodiversity and gender?

	Tanzania
F	Men are the heads of households but women are managers of LK as they process preserve and store seeds
	Within their destination farmers can do many things for survival therefore farmers cultivate many varieties for safety and women are the ones who mix different crops varieties in one field for hunger relief .
M	Across the time line and of late the rural people at least started to appreciate contribution of women.
M	Realization that LK has a lot to contribute towards local people's development
M	That there is a lot of biodiversity [mostly local]that the rural people rely on for daily consumption
F	Change in my perception on rural communities that they are experts in their own capacities or on knowledge of their surroundings/ problems especially on the way they address their food security and division of activities.
F	It enhanced my level of understanding of LK, agro-biodivesity and gender issues
	It impacted through providing various approaches and tools for capturing LK.
	It sensitized me on the importance of incorporating LK, agro-biodiversity and gender in lecturing students, research and in development programs.
F	It has increase the level of my knowledge about LK ,biodiversity and gender . That is I came to learn that there is a lot of LK which farmers are using to manage the biodiversity. Also I learned that this is a wide genetic base of crop diversity on which farmers depend on for food. Also I learnt that the crop diversity is maintained based on gender, hence gender plays a major role in crop diversity
F	I came to know the importance of local knowledge and biodiversity in food and seed security
	I learned that gender plays a big role in technology adoption .Therefore in developing a technology, gender must be considered.
M	The project enlightened me more on the three aspects more so on how the attributes are linked.

VEOM	The project has increased the level of my knowledge about LK , biodiversity and gender I have come to understand that farmers use their local knowledge in seed production selection processing a storage basing on garden. Also I learned that there is a lot of agro-biodiversity on which farmers depend on for food/seed (BS).

Swaziland	
F	It has widened my level if thinking in that I now know that I have to considers local know biodiversity and gender in my work
F	From the information collected from the study we conducted . I realised that I should acknowledge the local knowledge people shared
	I had a better understanding with the 3 concepts and how to link them in my work
F	It was improved or enhanced because I had not attended the initial training that was conducted before the proposal was made. so after the training that was conducted for all people involved in research work with links I felt comfortable and began to understand how the concepts can affect food security
F	It had never occurred to me that if you gather information from different age groups, separation of man and women; gives rise to better results. You find that women are better users of agro biodiversity than men and if you need information in that field, you would definitely get it from women than from men.

F	It was an eye opener on these concepts. The importance of incorporating LK provided by farmers in technology development and how adoption of the technologies could be enhanced when gender roles (men and women) are known

1.3 Did it have impact on other areas of knowledge?

	Tanzania
F	Yes ,LK was used privately by farmers but was not exposed to Agriculture Officers because of new technologies introduced were more emphasized. Some of the new technologies were not liked by farmers, it was done by force.
M	The participatory approach is an important way of getting rural populace joining hands working together for common goal in Development
F	Yes the approach of involving communities in research activities from the start of the process
F	Yes. It impacted knowledge and provided opportunity for field experience on the research methodologies in social studies in particular participatory approaches.
F	I learned that not only knowledge generated for seed sector can improve food security .I know now that farmers has a lot of LK to tap from
M	Yes: opportunity to interact with other social scientist and the pastoral communities. Learned how Maasai pastoral communities interact and how it is organized.

VEO M	Yes, it had impact on other areas of knowledge such as to be aware about AIDS [a dangerous disease of human beings].

Swaziland	
F	Yes ,when I plan my work or write my reports I now consider gender ,biodiversity and local knowledge
F	Yes, I am able to use PRA in other areas of my work eg needs assessments
F	Yes because I realized that with the technical knowledge we still need to consider LK to positively impact on food security
F	It had impact especially knowing that women are more knowledgeable in using agro-biodiversity, but you only get to know that if you group them alone so that they tell you everything When conducting germplasm collection, I now know that I can not ask about maize and cotton from a lady, that is a man's thing
F	Yes. There was no information on LK or gender when developing concepts and technical reports. They should include this information before a technology is recommended

1.4 Did participation in the project change your approach to your work?

	Tanzania
F	Yes ,it changed me a lot as ,I learned that participatory work have good impacts as shared within the farmers as implementers and Agriculture officer
M	Yes that commonage is important in development , but it can only be reached after a common understanding on issues from different stakeholders
F	Yes listening and letting community take charge of important activities
F	Did participation in the project change your approach to your work? i) It made me orient my way of teaching focusing more on the local situations e.g. when giving examples to the students ii) Made me to be more gender sensitive and participate on several matters related to gender, such as advocacy and encouraging female students in their studies. iii) Base actions more on participatory way both to students and to my fellow colleagues

F	Yes it did . I have to take into consideration of including LK in my work for it is important for the technology adoption
F	Yes it did .Actually my main concern is to work on the local seeds which have made many people to survive.
M	Yes: Learned that society is complex and multidisciplinary approach is important in understanding it. Societies have their own logics and reasoning which at times does not conform to our scientific thinking. Feed back sessions are important in triangulating information gathered.

VEO M	Yes ,it has changed my approach of involving farmers in extension i.e. I have to involve all gender because all have role to play in management agro-biodiversity for food/seed security

	Swaziland
F	I now consult the farmers and get their views on any subject and not impose my own ideas
F	Yes participation in the project has changed my approach in my work now farmers are my partners and they are no longer my pupil
F	Yes, I have learnt to acknowledge LK and appreciated that local people know better and understand their environment
F	Yes, because my section [home economics] has set its focus or priorities for next year based on the finding of the research we did,. that is we now want to promote the consumption of indigenous crops through cookery demonstration, processing and preservation using appropriate methods. This will not only address women as we have been doing before but we want to encourage the whole family especially youth who are the future population of this country
F	Yes it did. I'm now aware that farmers are researchers in their own ways. If I bring something new to them, I should consider what they already know and build up from there
F	Yes. The approach is that the identification of problems and solutions be done in a participatory manner. It is no longer imposed by me as a researcher

2,Research

2.1 What research activities were you involved with?

	Tanzania
F	Agriculture time line and experiences of farmers on LK
	Scrutiny on the varietal properties of the high , medium and low seed and food security groups
	To look into details on how different groups live in the community especially on seed management and food security
M	Data Analysis and Report writing
	Data collection
	Group formation
	Organizing seed fairs
F	I was involved in guiding the research groups to respond to questions as per Research Guide provided which was followed / used
F	In the first phase (1998-2001), I was involved on the research project entitled: 'The Role of Medicinal Plants Use for Animal Health Care in a Dynamic Pastoral Production System in Tanzania' In the second phase (2002-2005), I was involved on research project 'An investigation into the dynamics of local knowledge among Maasai communities with a particular focus on preferences and criteria for livestock breeding and selection
F	I was involved in studying the local knowledge used by farmers to maintain aid sustain the neglected crops staple food crops ,and collect crops based on gender
F	Attend all the workshops organised by the project
	Do the survey
	Giving feedback to the farmers
	Holding meetings with the farmers
	I was involved in all activities of the project
	Report writing
	Seed fair
M	Livestock: Dynamics of Local knowledge in breeding and selection of livestock among pastoral Maasai

VEO M	The research activities involved were study of neglected crops, collected crops , food crops [staple food crops] and cash crops

	Swaziland
F	A case study on Local knowledge in sustainable Grain crops seed production in Swaziland
F	I was involve in propose writing analysis of the data and report writing
	I was the researcher in the study
F	Collection of data [field work]
	Conducting feed back to communities and writing reports
	Data processing and analysis
	Developing guideline questions for process group discussion
	Making appointments with community leaders
	Proposal writings
	Training of research assistants on PRA methodology
F	I conducted a study on the impact of sugarcane production and food security, targeting two major sites where farmers were already producing sugarcane and a site where sugarcane farming is still to be introduced. It became clear that there is a link between what farmers grow and dietary diversity. Some crop spieces have been lost and need to be re-introduced and some need to be collected and conserved

F	A case study on sustainable grain legume seed production in Swaziland

2.2 What impact did the research have on your understanding of local knowledge, biodiversity and gender?

	Tanzania
F	Local knowledge is useful as does not expire since grandfathers and mothers can survive using their local knowledge ,they get food ,medicines ,seeds and other uses to sustain their life
M	At present I understand more about the three aspects then I did before and their contribution in people's daily life
F	There is a lot of information in the field which has not been exploited enough because communities have not been give a platform to speak out
F	What impact did the research have on your understanding of local knowledge, biodiversity and gender? i) The research projects made me to understand better and have hand on experience on how to collect information related to local knowledge, biodiversity and local knowledge. ii) Enabled me understand the linkages between local knowledge, biodiversity and gender iii) The research made me to know the Maasai local knowledge on medicinal plants, management and breeding and selection of their animals. It also gave me an opportunity to learn the gender roles and other aspects in the Maasai community and how this community is keen in protecting biodiversity of animals, plants and other natural resources from the external pressures. iv) The research gave me experience which I am using it in doing other research activities
F	I has increased the understanding of local knowledge , biodiversity and gender .There is a strong linkage between the three LK ,biodiversity and gender
F	As a plant breeder I came to know that local knowledge plays a big role in ensuring food security at household. My aim is to involve more farmers in my research activities .
	I have also developed concept note on local seeds especially beans and submitted to different donors
M	The project gave me more opportunity to understand some of the methodological approaches in addressing gender and local knowledge and how they are linked to food security and biodiversity

VEO M	I have seen that all the crops which were involved in research activities there are others which were dealt with women only such as neglected crops and collected crops.

	Swaziland
F	I now know that indigenous knowledge, biodiversity and gender are very important.
	And that the farmers are experts and researchers in their own environment
F	Gender ,is very important in maintenance of LK both men/women should be aware of the LK and maintenance
	I have realised that when implementing our programmers we gave not accommodated /acknowledged LK .The study has highlighted some of the practices to be avoided that may stop sustainability of indigenous knowledge
F	I have learnt that these 3 concepts are important for a nation to achieve food security. The level of local knowledge is not the same for women, men and youth. So those with the knowledge should be made to distribute to the improvement of their communities. Biodiversity is about allowing continuous availability of local resources.
F	These three aspects are linked. Men and women play different roles in utilization of agro

	biodiversity. Hence LK will also differ. E.g. women are most users and owners of legumes. If you need information on legumes, you can not ask a man.
F	The farmers are researchers and implementers . They grow and produce different crops to meet their household needs .Yield is not the core thing, but LK, agro-biodiversity and gender to meet the socio – economic needs .

2.3 Did participation in the project change your approach to your work?

	Tanzania
F	Yes, I use the approach to my work when it meet farmers.
M	Yes because as a researcher I now understand more on contributions which LK biodiversity and gender have in day to day work
F	Yes indeed especially the approach of involving team members from different fields in Researchers Extensionists and other partners .You have opportunity to learn from one another
F	Yes. I am currently doing more research related to LK and gender than those of animal nutrition, which is my field of specialization. The project made me orient myself more to participatory approaches in doing research and outreach activities.
F	Yes, I have to use bottom up approach
F	Yes it did. I will consider gender more seriously in recommending technology I developed
M	**Yes:** Teaching: aspects of biodiversity that include local knowledge n management of farm animals Research: two MSc students have completed their thesis on characterization of indigenous pigs and Iringa red cattle where aspects of local knowledge, gender and biodiversity were included. Curriculum; A course (AS 311) on domestic animal biodiversity and conservation was adopted in year 2003 under semester system.

VEO M	Yes it has changed my approach for example how to involve all gender in my work such as forming groups of farmers and cattle keepers.

	Swaziland
F	Yes, it has changed my approach to my work e.g. everybody involved in study was a team member or partner and not considered as recorder, farmers and researchers
F	Yes, I have realised that this research has opened more ideas on which programmes could be implemented following the study
F	Yes. I have learnt that there so much indigenous knowledge in people which could used to reduce problems poverty, diseases if only researchers listen and use it together with the technical knowledge they have acquired in school. Personally, I feel there are some things that are useful and most myths and beliefs should be ignored if we have to reach food security
F	The approach has changed. If you need information, its better to let people participate than asking questions. Women talk less when mixed with men, they open up when grouped together
F	Yes, the co-researchers and co-workers were partners and formed a research team we were all equal when contacting the research data compiling analysis was with them. They are also owners of the project documents rather than enumerators as in other projects

3.Prospects for sustainability

3.1 Are you aware of any activities outside the project that have emerged as a result of this project? If so, please describe

	Tanzania
F	No. Research work was done by the researchers only we were not involved fully
M	The seed fair is one activity which came out as a result of our first work.
F	The seed fair and cultivation of some local varieties by farmers
F	i) Formulation of the Trust Fund on Local Knowledge launched in September 2005 ii) Trained staff from LinKS project are been requested to be resource persons in training people in other projects on LK and research interventions using livelihood approaches iii) Production of manuals which are being used as reference materials by several researchers and students
F	Yes, seed fair ,farmers training as local knowledge by model farmers , training of livelihood analysis
F	Yes launching the LinKS trust fund .The funds will be used to developed / create awareness of local knowledge to other stake holds
M	Yes : establishment of Trust Fund to oversee and coordinate aspect of local knowledge

VEO M	Yes I was aware that the activities outside the project have emerged such as seed fair which involved local seeds and Quality Declared Seeds [QDS] plus local medicines which used to keep seeds/crops not to be attacked by pests.

	Swaziland
F	The farmers are also taking part in selling legume seed at the seed fairs
F	Training of the grain legume farmers on the on-farm seed production
F	Traditional food campaigns. Food displays of traditional foods in communities. People who have prepared the food would describe the recipes and methods of cooking to increase production of legumes
F	The Crops production section is now promoting or encouraging farmers to grow some indigenous crops that have been disappearing . Senior government officers in the ministry are encouraging communities to go back to their traditional ways of production and eating
F	Not aware
F	Training of farmers on seed production by seed quality control and crop promotion sections .NGO[ACAT] identify farmers who had interest on seed production

3.2 Please make suggestions as to how the work of the LinKS project could be carried forward:

	Tanzania
F	Involve the District Agriculture and livestock officers and other participants from the district for implementation and fellow up
M	Documentation of the local knowledge funding , since the report have left some funding not included
	Seed fairs could be supported
	There is a need of taking a step further the use of ethno-botanicals. Documenting them with explanation about their from conservationr farmers
F	Team members be exposed to other countries experiences on LK Biodiversity through short courses ,study tours ,exchange visits
F	The work could be carried forward through the trust fund and involving all stakeholders dealing with LinKS issues to come up with what will be next through a planned workshop. The achievements and lessons learned through the project need also to be documented and made available to the stakeholders.
F	Set up communication –internet or at village level –support leaflets ,developing training materials
F	Multiplication of local seeds
	The work which was carried out in two could be duplicated to other villages in agro-ecological zone to get stronger data
	Try to ensure the endangered seeds
	Try to market the local seed within and outside the village
M	i) Incorporation of LinKS ideas in curriculum development at all levels

	ii)Incorporation of LinKs ideas in Research and teaching

VEO M	More time should be given for the farmers to learn in the way of participatory approach so that they may explore more from this project.
	Swaziland
F	Links should continue and facilitate the linkages between all sectors through training
F	Links concept should be introduced into other institutions eg universities and colleges and to schools.
F	Finding for approved project should be controlled in the country to enable the links coordinator to do her work according to plan
F	If Links can help implement some of the recommendations that were made from the studies that have already been conducted
F	Please make suggestions as to how the work of the LinKS project could be carried forward There is need for more workshops on awareness raising on the important link between gender, LK and biodiversity. The other area is that of PRA Tools, most people are not aware of them
F	FAO/LINKS to facilitate in strengthening linkages between stakeholders and partners through training, project formulation and implementation

4. **Other**

	Tanzania
F	Did the project influence policy? If so, how? The project has some influence on policy as follows: i) Contributed on the pressure to the government in implementing some of the international agreements in which the country has signed. For example gender equity and formulation and implementation of gender policy in the working places. ii) Mainstreaming LinKS issues in the teaching curricula at different levels of education. iii) Formulation of the trust fund of LK, in which some government ministries are involved and I presume will include budget lines for the trust activities
M	Did the project influence policy? If so, how? So far I have no adequate knowledge on how far the concepts have been incorporated in Policy. However, many stakeholders are likely to influence the policy makes given opportunity.
F	Information/ Communications What was the overall information/communications strategy? Who developed it? Who was responsible for it? How was it monitored? i. Communication strategy was through the developed networking email system (Directory) of people/institutions, which were dealing with LinKS issues. The directory included the contact addresses including emails and telephone numbers. This was possible to contact whoever you want to get quickly. ii. This networking system was developed in the first phase and kept on updated each time. The responsible person was the coordinator of the project in Tanzania in collaboration with other stakeholders. The management office in Dar es Salaam monitored the network.
M	Information/ Communications What was the overall information/communications strategy? Who developed it? Who was responsible for it? How was it monitored? Strategies involved 1.Updates within project members and the FAO offices (Dar and Romel) through letters, E-mails and phones 2.Feedback sessions between research groups and pastoral communities 3.Workshops for capacity building among researches 4.Involvement of various offices e.g. University authorities, Ministry offices in every stage of the project FAO office was the overall overseer of the activities and the project members planned for the activities. Monitoring were done by FAO office (Dar) and backstopping from FAO Rome.

	Swaziland
F	Did the project influence policy? If so, how? No
	Information/ Communications What was the overall information/communications strategy? Who developed it? Who was responsible for it? How was it monitored? Workshops

Annex 6: LinKS Project Log Frame

	Results, activities	Indicators	Sources of verification	Assumptions
Overall goal of the project	Enhance rural people's food security and promote sustainable management of agro-biodiversity by strengthening the capacity of institutions in the agricultural sector to apply approaches that recognize men and women farmer's knowledge in their programmes and policies.	• Increasing uptake and use of approaches and methods promoted by the project in research and development policies, programmes and projects • Increasing extent of integration of approaches and methods promoted by the project in training courses and curricula of learning institutions	• Reports from discussions and revisions of government policies, strategies and guidelines • Policies, guidelines and reports from research and development programmes and projects • Implemented training programmes and curricula, and number of people trained, by universities, training institutions and other learning institutions	• Project work not disrupted by majo political and economical problem or conflicts • Continued interest and commitmer from individuals and institutions t strengthen successful local an international partnerships fro Phase I
Immediate objectives				
Immediate Objective 1	Enhance the ability of researchers and development workers from key partner organizations to apply an understanding of gender, local knowledge, biodiversity and food security in their work by providing them with diverse learning opportunities as well as skills enhancement in gender-sensitive and participatory approaches.	• Demand of partner institutions for training workshops and courses in gender-sensitive and participatory approaches for researchers and development workers increases. • Researchers and development workers who participated in the training workshops and training courses apply gender-sensitive and participatory approaches in their daily work. • Number of training courses on LinKS issues offered by institutions, number of people trained	• Training programmes of partner institutions • Reports of researchers and development workers from their field activities	• Continued demand for trainin courses from partner institutions • Continued interest and ability learning institutions to includ LinKS issues in their curricula an training programmes
Immediate Objective 2	Increase the visibility of men and women's knowledge about the use and management of agro-biodiversity among key development workers and decision makers by supporting documentation of good practices, research and communication.	• Documentation material available at different levels (rural communities, national level, research institutions)	• Reports of researchers and development workers from their field activities • Media reports	• Continued interest of local an international research partners • Researchers use participator approaches enabling involvement farmers as research partners
Immediate Objective 3	Enable partner organizations and policy makers to network, develop guidelines and strategies, and take action to promote a greater recognition of rural people's knowledge, needs and perspectives by providing financial and technical support for partner's initiatives at all levels.	• partner institutions in all four LinKS countries take the initiative to develop strategies and take actions to promote LinKS issues. • National and international level guidelines on local knowledge are discussed and developed.	• Guidelines, strategies, workshop reports	• Favourable policy environment fo discussing LinKS issues and t follow-up on networks and othe activities.
Outputs				
1.				
1.1.	1.1. Researchers and development workers trained in concepts and methods	1.1. A significant share of the participants of training workshops apply gender-sensitive and participatory approaches in their research and development work	• Field reports by researchers and development workers.	• Researchers and developmer workers are interested in th concepts and methods taught

1.2.	1.2. Concepts and participatory methods introduced in the curricula of pilot universities	1.2. By the end of the second year of phase II the post graduate course on local knowledge and biodiversity management for food security is taught at Africa University. Other universities/learning institutions in the region are involved in development of courses at their respective institutions	• University curricula, training courses	• Continued interest and ability t include LinKS issues in th curriculum from Africa Universit and other universities/learnin institutions in the region
1.3.	1.3. Methodological material developed on participatory approaches to research, training and community based management of biodiversity, with particular emphasis on women as custodians of knowledge.	1.3. A training manual and several articles (such as the IK Notes of the World Bank IK Program) are developed and disseminated by the third year of phase II	• Training manual and IK-notes	• Continued collaboration wit international partners, such as th World Bank IK Program
2				
2.1.	2.1. Diverse research studies undertaken, analysing the role of local knowledge systems for biodiversity conservation and food security, with particular emphasis on women as custodians of knowledge.	2.1. At least eight research studies in all project countries are undertaken during the second phase of the project.	• Research reports	• Research of high internationa quality
2.2.	2.2. Good practices for community based management of biodiversity documented.	2.2. By the end of phase II of the project an anthology about the LinKS issues, a LinKS manual about its techniques and numerous case studies about good practises are published.	• Documentation material	• Good practices for communit based management of biodiversit can be identified.
2.3.	2.3. Heightened communication and understanding among communities and key development agents on the role of local knowledge systems for biodiversity conservation and food security, with particular emphasis on women as custodians of knowledge.	2.3. The number of feed-back workshops increases in all four countries. Communities ask for a feed-back from the researchers and the researchers give it to them.	• Field reports	• The communities can be provide with a feed-back that is interestin and useful for them.
3				
3.1.	3.1. Strengthened community based structures in pilot communities to recognize and promote local knowledge systems for biodiversity conservation and food security.	3.1. A significant increase in the pilot communities where the LinKS teams were working of locally organized seed fairs and improved conservation of local seed varieties can be observed	• Community feed-back	• Continued interest of partners fro Phase I
3.2.	3.2. National-level policy frameworks and strategies developed to facilitate recognition and promotion of local knowledge systems for biodiversity conservation and food security.	3.2. At the end of Phase II, active networks are running and a framework for a national local knowledge strategy is in place in at least two project countries.	• Debates on LinKS issues • Informal or formal network among stakeholders • Government lead agency for development of a national strategy framework	• Continued interest in LinKS issue from national institutions. • Commitment from a lea government institution to champio the process of developing a strateg for local knowledge
3.3.	3.3. Strengthened process of networking and sharing of information and experiences among the country teams and their partners in the project countries.	3.3. In at least two LinKS countries the country teams participate actively in concept development and policy discussions on national and sub-regional level.	• Country Reports	
3.4.	3.4.Strengthened process of networking, development and sharing of training material, guidelines and other methodological material within FAO and among other regional and international agencies.	3.4. At the end of phase II a symposium about indigenous knowledge is organized with participants from Asia and Latin America, and guidelines are developed.	• Symposium report, report about guidelines	