

a glance at LinkS

LinkS project case study
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Farmer seed experts and their knowledge on seeds: the case of Chiwonga, Tanzania

■ Background ■

THE SOUTHERN ZONE

The Southern Zone in Tanzania is made up of Mtwara and Lindi Regions and Tunduru District in Ruvuma Region (see BOX 1 and map). Agriculture plays a main role in securing people's livelihoods in the Southern Zone, both from a subsistence and commercial perspective.

Seed is probably the most important and cheapest input that farmers can afford. Those local people with knowledge about the qualities and application of local crop seed varieties are referred to as “experts” by the local farmers and are seen as valuable assets to their communities and beyond in terms of food and health security. They are also integral managers and conservers of agricultural biodiversity, or “agro-biodiversity” as they innovate and exchange seed and planting material with family, friends, other farmers and beyond.

Understanding how these experts are defined and assigned by their communities and how they exchange seed and knowledge can be of great use to researchers, extensionists, and decision-makers as they seek alternate means for addressing food security issues in rural areas.

SOUTHERN ZONE RURAL SEED FAIRS EXCHANGING SEED; EXCHANGING KNOWLEDGE

In order for seed to be a catalyst in agricultural production, seed supply must flow freely. In Tanzania's Southern Zone, an interesting initiative has developed over the past few years that acts as a forum for farmers in various villages to buy and exchange seeds; this is the rural seed fair.

The Southern Zone Rural Seed Fairs, supported by the District Councils, Naliendele Agricultural Research Institute, and the Rural Integrated Project Support (RIPS), began in 1997 and were designed with the long-term objectives of increasing agricultural productivity, food availability and income for rural people in Tanzania.

BOX 1 The Southern Zone

According to the 1988 Population Census, the total population for the Southern Zone is 1.7 million. The average population growth rate is 1.7% compared to the national average of 2.8%. The main ethnic groups are the Makonde, Mwera, Yao, Makua, Ngindo, Ngoni, Ndendule Matumbi and Mawia. The Makonde are the largest group followed by the Mwera.

The first rural seed fairs began in three villages -Kitangari in Newala District, Mbonde in Masasi District, and Marambo in Nachingwea District. The fairs have provided a forum for exchange and dialogue between seed expert farmers, researchers, extensionists and NGOs. They have offered a unique opportunity for raising community awareness of





commercial and farmer's varieties of seeds. Radio and video have been used to advertise and document the seed fairs.

In addition, the fairs have stimulated debate amongst decision-makers on seed issues, seed supply, participatory variety development and seed production. They have created interest not only within the zone, but also within the country where the Ministry of Agriculture is looking at prospects for replicating the seed fair model in other zones. Countries and organisations outside Tanzania have also shown an interest.

Rural seed fairs differ from conventional agricultural shows in the sense that the seed fairs adopt an open learning approach by bringing together farmers, researchers and extensions, to exchange and share experiences. Conventional agricultural shows are often much more top down oriented, i.e. often seen as a vehicle through which the government can present and introduce new and improved farming technologies (see also TABLE 1).

TABLE 1 DIFFERENCES BETWEEN AGRICULTURAL SHOWS AND RURAL SEED FAIRS

Agricultural shows	Rural Seed Fairs
• A main objective is to show formal scientific achievements • Extension staff influence what to display • Demonstrate achievements from formal research • Uniformity (crops, livestock) seems to be a major concern • Increased production seems to be a top priority • Encourage farmers to adopt best options • Display crops and livestock • May encourage mono-cropping • May neglect some minor crops • Conducted after crop harvest in August	• Focus is to improve seed supply bred from research and farmers' own seeds in rural areas. • Farmers decide what to bring for display • Promote local knowledge and traditional culture • Demonstrates achievements from research and farmers' own seed system • Diversity of crop plants is a major concern • Stress food security • Monitor availability of seeds of various types • The emphasis is on seed crops • Encourage farmers to grow many crops • Protect crops from genetic erosion • Display of minor crops which might have medicinal properties is encouraged • Promote soil fertility by growing many crops with different nutrient requirement, some of them improving soil fertility • Conducted at the on-set rainfall season

■ The study ■

IMPROVING FARMERS' ACCESS TO SEED; VITALISING FARMERS' KNOWLEDGE

During the third year of organizing seed fairs, researchers at Naliendele Agricultural Research Institute realised that they had little knowledge about the seed experts who participated in the fairs. Moreover, they

knew very little about the knowledge used and shared between "experts" and farmers. There was little documentation about varieties that experts sold or exchanged. Additionally, there also seemed to be gender imbalances in terms of the number of farmer experts participating in the seed fairs. Given women's large role in local seed selection and innovation, out of a total 92 farmer seed experts participating in the 1998 seed fairs, only 13 were women, and at four out of nine seed fair sites, no female seed experts participated.

CHIWONGA VILLAGE – PLATEAU ZONE

The selection of villages for the research was influenced by: i) zonal representation, and ii) participation in the Southern Zone Rural Seed Fairs. For this reason, Chiwonga, a village in Newala District (see map) was selected to represent the Plateau Zone while Nandagala and Nyengedi villages represented the Medium Plains and Coastal Zone respectively. Chiwonga village is in an agro-ecological zone characterised by a fairly high population density, high agricultural potential, and annual rainfall of 900-1000 mm. Maize and sesame are very important crops. In Chiwonga, the research team conducted an in-depth study from April to May 2000 and a follow-up visit in December 2000. The research team worked with a total of 40 farmers, of whom 18 male and 22 female farmers. The team used participatory rural appraisal tools, personal observation, field visits and plenary sessions to consolidate the results.

■ Identifying Chiwonga's Seeds Experts ■

The objective of the study was to develop an understanding of how the concept of seed “expert” was defined by Chiwonga villagers. Using participatory research tools, literate male villagers worked in pairs to write down their criteria for identifying specific individuals as experts for crop seed and planting materials. Female villagers did the same exercise through a focus group discussion. Local seed expertise is usually closely

associated with farming practices. Both men and women perceived a seed expert as a progressive, better off farmer who usually has a surplus production and is thus able to support both his/her own family and other households in terms of food, seed and planting materials. A seed expert cultivates a great diversity of crops and different varieties of the same crops and is also very knowledgeable about how to store and preserve seeds. Table 2 presents an overview of local criteria for crop seed experts, as identified by men and women.

SHARING LOCAL EXPERT KNOWLEDGE WITHIN AND BEYOND THE COMMUNITY

The farmers noted that their local knowledge on seeds for farming has increasingly become influenced and changed by experiences and knowledge from outside their farming community, for example from nearby farming communities, extension services and media.

In discussions about the pre-European contact period and “pre-formal” education, respondents observed that at that time farming on the plateau was everybody's occupation. The plateau was inhabited by one ethno-linguistic group, the Makonde. Agricultural knowledge and skills were passed on from one generation to the next; seed expertise typically followed the household, lineage and clan lines. Ecological differences also dictated the kind of knowledge that was

TABLE 2 CRITERIA FOR DEFINING A CROP “SEED EXPERT” AS EXPRESSED BY MEN AND WOMEN IN CHIWONGA VILLAGE

Male respondents	Female respondents
Has or plants many kinds of crops	Has many farms planted with different crops
Possesses and plants many varieties of same type of crop	A progressive person who has traveled a lot
Is never short of seeds even in bad years	Knowledgeable of seed preservation methods
Is ready or willing to give/sell seeds	Can help others by giving them work on farm in exchange for food or seeds or cash
Raises a big family	A rich person
His/her food store is always full	Works hard to produce food/has plenty of food
Knows how to store seeds so that they are protected	Has a good house/safe storage facilities
Many people depend on him/her for most seed supplies	Does not consume all the crop harvest
Old person	Has a good and cooperative spouse

developed by the inhabitants of a specific ecological zone. Similar ecological zones allowed for the propagation of similar seed types irrespective of the ethno-linguistic group clan or lineage living there.

Today seed experts are found throughout different clans, lineages and households. As younger generations move out of agriculture for one reason or another, local knowledge of

Building on local seed experts' knowledge and experience

The study of local seed experts in the Southern Zone suggests that:

Farmers identify and value certain community members as local seed "experts" who possess a great deal of useful seed and plant-related knowledge, skills, and experience.

Local knowledge and expertise on seeds is dynamic as it evolves over time through interactions with nearby farming communities, migration, extension services and the media. However, exchange and sharing of seeds and knowledge through family and community network remains a very important source of seed supply and advice.

Local experts are active in the recently developed Southern Zone Rural Seed Fairs – however, for unknown reasons, few women experts are involved. It could be that women seed experts face institutional barriers for participation at the seed fairs. For example, extension services are often dominated by men, who may more easily tap into 'male networks', i.e. approach male farmers and possibly local farmers' associations, which are often mainly attended by male farmers. Also it is unclear how many men and women farmers (the non-seed experts), can actually access the fairs and the products therein.

More than the conventional agricultural shows, the seed fairs, which bring together farmers from different communities extensionists and researchers at the same time, can provide a useful forum for sharing expert local seed varieties

and knowledge, in addition to already existing communication networks and local seed systems within communities and extended families.

These results may be useful in helping to:

- Re-define the contribution of local crop varieties and local knowledge systems to food security.
- Re-examine current agricultural extension services. Tanzania's extension services were inherited from a colonial system in which national research centers were sources of knowledge and the extension system was geared towards delivering extension messages to farmers.
- To ensure that also woman seed experts are encouraged to participate in local seed fairs, in particular given women's role, responsibilities and knowledge concerning food crops that are important for household food security.
- To ensure that rural seed fairs are open for all farmers to participate and attend to facilitate a wider process of sharing and exchange of seeds, experience and advice.
- Explore new dimensions in relations between farmers and researchers. There is increasing demand for researchers and farmers to work as partners while developing solutions.

► ► farming on the Plateau is not necessarily passed from one generation to the next. In addition, seeds that are now considered local were once introduced by agricultural extension officers.

In contrast to times past, today's seed experts in the Plateau Zone may derive their expertise from a variety of sources - learning from their elders in the household, lineage or clan, as well as from peers, agriculture extension services, through neighbours, books, magazines, radio, and television. Furthermore, while marriages were once localized, today spouses may come from another plateau zone or elsewhere. In such cases, spouses may bring their own expertise which cannot be characterized as derived from the household, lineage or clan.

Within the community, experts share their knowledge in many ways. They share seeds and the knowledge about their qualities and use with family, friends and neighbours. Both female and male farmers felt that these transactions were less "systematic" than exchanges between experts and their apprentices or between farmers and extensionists. One example given was that sometimes seed experts arrange work parties for community members to work on their farm in return for payment in kind (e.g. food or beer). On such occasions, if another farmer sees a different variety growing, he or she might ask for some seed and information about its use.

Nowadays local seed experts often work with formal researchers to explore and initiate the use of alternative varieties. Some of the farmers in the study (over 50% of the female farmers and 20% of the male farmers) warned that agricultural extension officers should not ignore local expert knowledge in agriculture – particularly in terms of seeds. They suggested that local expert knowledge should be documented, analyzed and where possible incorporated into extensionists' work.

This article is based on: Mponda, O.K.K. et al. (2001) "Farmer seed experts and their knowledge on seeds, forest food products and medicinal plants". Naliendele Agricultural Research Institute, Tanzania.

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**LinkS Project
Gender, biodiversity
and local knowledge
systems for food security**

The LinkS project works to improve rural people's food security and promote the sustainable management of agro-biodiversity by strengthening the capacity of institutions to use participatory approaches that recognise men and women farmer's knowledge in their programme and policies. The LinkS project has three main activity areas, which are capacity building and training, research and communication and advocacy. The project is funded by the Government of Norway.

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