

CASE STUDY 67

Linking research to producers. SNV-IITA partnership for cowpea seed testing and multiplication.

Agriculture in Niger

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Country & Sector: Niger, Agriculture (Fruits & Vegetables, cowpea value chain)

Context

The majority of farmers in Niger produce cowpeas, a tropical legume known for its drought resistance and nutritious value due to high contents in essential vitamins, micro-elements and proteins (23-25%) complementary to local cereals. Cowpeas are thus often called “the poor man’s meat”. It is estimated that up to 1.5 million tons are produced annually in Niger¹³.

Cowpeas also play a mayor role in exports: Niger is ranked top among the cowpea exporting countries with more than 50% of its production exported mainly to Nigeria, the world’s biggest cowpea market. After livestock and onions, cowpeas are the third most important agricultural export commodity.

Zinder and Maradi are major cowpea producing areas, where a number of local varieties adapted to different conditions and consumption patterns are grown.

Although well established, cowpea production faces numerous problems such as the lack of stakeholder organisation at all levels of the value chain, unreliable input supply services and vulnerability of local cowpea varieties to pests, parasites and drought. Regular supply of quality inputs and skilled labour is needed in order to make best use of cowpeas’ high yield potential (up to 1 ton per hectar).

With seed quality conditioning up to 40% of the production, quality seeds have been identified as one of the bottlenecks for increased and secured production. In view of this causality, it is remarkable that less than 5% of the need for quality seeds is satisfied.

Since government services are no longer running programmes in cowpea seed production or popularisation of improved varieties, and given that the private sector is practically inexistent, farmers rely heavily on their own seed production and additionally buy on local markets. In this way, seed quality is slowly degrading and decreasing production levels per hectar.

On the other hand, there is a remarkably well established cowpea research system in place: The International Institute of Tropical Agriculture (IITA) in Kano, Nigeria, is closely collaborating with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT, Niamey) and the Nigerien Institute for Agriculture Research (INRAN). The latter has a base in Maradi running trials on cowpeas and producing

foundation seeds¹⁴. These institutions run various projects in the cowpea sector but lack effective links to producers to disseminate their results.

As a response, IITA, in collaboration with other international research institutions, launched the multistakeholder “Tropical Legumes II” (TL II) project in drought-prone areas of sub-Saharan Africa and South Asia to enhance grain productivity, increase production and farmers’ incomes. The project covers major tropical

¹³ *INS Niger (2010)*

¹⁴ *Foundation seed is a seed quality used to produce seeds used for grain production.*

legume crops, runs under prime agreement with ICRISAT and is funded by the Bill and Melinda Gates Foundation (BMGF). Its cowpea component focuses on seed selection, production and marketing.

Clients and partners

SNV identified five municipal clients in Zinder, where representatives of ten user organisations participate in the cowpea variety testing programme and 26 seed multipliers and 31 producers participate in seed trials.

In Maradi, seven unions of four municipalities are participating with 76 individual farmers producing seeds and 24 producers involved in the seed trial programme. All in all, over 142 grassroots level cooperatives in Zinder and Maradi are part of the SNV client structure.

To enhance chances of achieving sustainable results, the regional and local offices of the Ministry of Agriculture and Livestock Production (DRA) are associated clients.

Intervention logic and methods

Following a period of informal collaboration, SNV Zinder and Maradi have signed a partnership agreement with IITA in 2009 running up to the end of 2010. The agreement aims at fulfilling the Tropical Legumes II programme objectives. The contract is fully in line with SNVs promotion of pro-poor value chain development.

As stipulated in the agreement, IITA provides some seed money and, most importantly, know-how and links to major players in the cowpea value chain development. SNV inputs range from technical expertise to strong ties with producer organisations. SNV also participates in regional planning and evaluation exercises with other TL II project associates. These meetings provide an excellent opportunity for feedback and network building. By not limiting our role to merely being an "executing agency", SNV has made significant inputs, which IITA was receptive of. For example the irrigated cowpea production scheme was an initiative of SNV finally endorsed by IITA.

Both the TL II Project and SNV are based on a participatory approach: Voluntary testers are involved in the evaluation process to give feedback to the research system. Multipliers produce certified / quality assured seeds of their own choice on 0.5–2 ha of land each and market them. Often they learn about the other varieties with farmers involved in the testing programme.

All producers involved in the programme get training in seed production and storage legislation, certification procedures, cost-benefit analysis and marketing. They are assisted and supervised by field staff of the DRA.

Through field days and radio broadcasting messages concerning programme results are shared with key actors and the greater public.

Outcome

2009 was a disastrous year for cowpea production: Due to droughts and epidemic aphids infestation only about 50 kg of seeds could be produced in Zinder (compared to a production potential of 5-10 tons).

In many areas producers did not produce enough grains to provide seeds for the next season. Thus, an irrigated seed production scheme was initiated in agreement with IITA. Producing seeds during the dry season was a novel technology in Zinder, and due to limited water resources and partial salinisation, only a little more than 2 ha succeeded. Still, about 100 farmers participated and many became enthusiastic about production potentials: Yields of up to 1.5 t/ha have been registered, while the average yield (in the Maradi region) is just around 400kg/ha. The quality of the seeds produced is very good, however.

The ongoing cost-benefit analysis will show if irrigated cowpea seed production is an economically feasible way to produce high quality seeds.

The participating farmers learned calculating prices, marketing and alternative ways of seed trading. Assisted by SNV and INRAN, farmers applied this knowledge in 2009 by packing and labelling high quality certified seeds. Seed sales were collectively organised and media used for promotion. Seeds could be sold for 500-900 FCFA/kg, i.e. twice the market price. In total, seeds worth FCFA 1,484,000 were sold.

Impact

SNV provides regular feedback to the IITA project management unit concerning field experience and grass-roots points of views, and thus contributes to the formulation of relevant project policies.

Through seed distribution and public awareness raising campaigns some new seed varieties have become established in the region and interest is rising at farmers' level to buy and multiply them. Thus slowly a market for improved varieties is in the making. Part taking in a research programme also stimulates interest for innovation: Farmers are not only reproducing the technology advised on, but are testing various cropping techniques, on their own initiative. Being proactive and inventive constitutes an evolution in attitude and will stimulate further improvement of farmers' production systems.

Successful marketing exercises have furthermore increased pride and self-confidence of seed producers, and their organisations are now looking forward to improving their positioning in the value chain.

Income has been generated for specialised seed producers, in particular. (One of the more successful producers could sell seeds for FCFA 150,000 produced on merely 0.5 ha (with the grain production standing at FCFA 50,000 at best).

The foundation of a sustainable link between research and producers being established, we have to continue and extend the partnership with public institutions and other actors involved (IITA, INRAN, ICRISAT, producer organisation, the Ministry of Agriculture...) and share the information with other partners such as the Chamber of Agriculture through the knowledge network and websites (SNV, RECA, Inter-réseaux, Agri Profocus...). Key elements of success are the availability of funds and the improvement of seed commercialisation.

In this case, IITA financed SNV's activities concerning the reinforcement of producer organisations capacities. With IITA or other partners, it will be possible to mobilise resources for SNV.

The experience has certainly helped SNV's successful bid for the cowpea value chain component of the World Bank sponsored "Projet de Développement des Exportations et des Marchés Agro Sylvopastoraux" (PRODEX).

Lessons learnt

Collaboration with the large scale IITA TL II program provides a unique opportunity for SNV to learn about cutting edge research results for developments in the agricultural sector. However, we noted that there are still deficits in communication notably between the research (dominating the project) and other sectors. Proposals to improve the situation have been made by SNV at the last project stakeholder planning/evaluation meeting and have to be followed up proactively.

With IITA financing a very ambitious second phase of the programme focusing on value chain development, the cooperation with SNV can improve and

complemented our own interventions and possibly stimulate self-sufficient seed production and seed marketing schemes by the private and cooperative sectors.

Photos and quotes

'We did not know that we can produce cowpea seeds in the dry season with irrigation. Now we have learned how to do it and are reaping the benefits of having an important quantity of good quality seed for selling and for our own use from a small plot. ... If I had known that it really works, I would have planted cowpeas for seed production on a bigger surface. For sure next year I will go for more.' Producer in Magaria, Zinder

'The collaboration with SNV and IITA has given us new ideas and we have learned many things. Good cowpea seed is now available with our union of cooperatives. We have exchanged a lot and worked together for this result and this has strengthened our organisation. Specialising in seed production has given me additional income and I hope that SNV and IITA will continue to support our efforts.' Producer in Bandé, Zinder.

