



Linking Legume Farmers to Markets

Milestone 4.3.3

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N2Africa

**Putting nitrogen fixation to work
for smallholder farmers in Africa**



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1 Milestone 4.3.3 By month 12 of year 2 at least half of the farming communities engaged in the project are actively linked to legume market outlets.

1.1 Background information

Linking farming communities involved in N2Africa's activities to markets for legumes and legume-products is one component of Activity 4.3, namely to engage with other legume seed production and marketing activities, farm input, commodity marketing and processing initiatives, and household and children's nutrition programs operating throughout the impact zones. As noted in the N2Africa project proposal, identification of the best market outlets for grain legumes in the early stages of the project is important to long term success in terms of farmers' adoption of legume technologies. Although there are examples of successful linkages between small scale legume farmers and formal markets (Rusike et al., 2009), in general it is usually only when grown on a large scale that traditional staple food crops (cereals and legumes) offer the potential for agro-enterprises to improve their market situation (Barham and Chitemi, 2009). Much of N2Africa's work towards developing legume market linkages for participating farming communities has built upon existing initiatives, as the most logical approach for a project whose primary goal is promotion of biological nitrogen fixation to improve soil fertility, along with livelihoods, household nutrition and food security. Working with non-governmental organizations (NGOs) and companies already involved in linking small scale farmers to formal markets builds upon the strengths of both sides of the equation: N2Africa offers improved technologies which can generate better quality legumes in larger volumes, and NGOs/companies provide the market requirements (quality and quantity specifications, packaging, price information) and in some cases assist with provision of inputs on credit. The large differences in the socio-economic as well as agro-ecological climates found across N2Africa project countries has resulted in a variety of different country approaches.

1.2 Kenya

A soybean processing company, Promasidor Ltd. of Nairobi, announced two tenders for Kenyan soybean in mid 2011. Plans were drawn for Smart Logistics, a local company contracted by Promasidor to provide quality inspection and transport services to work with N2Africa "node" organizations to arrange for collection points for soybean to be purchased. Later, attempts were made to link this to one of two micro-finance programs. Briefly, farmers that stockpile at least 10 kg of soybean seed intended for 0.2 ha become eligible for two different credit schemes, micro-financing or community-based marketing. The micro-financing option was designed by Smart Logistics (K) in cooperation with the AGRA's Kilimo Biashara Program, Equity Bank, The Syngenta Foundation and Promasidor. It is comprehensive, providing farm inputs, access to spraying and post-harvest facilities, bank accounts and crop insurance. Repayment of loans is deducted from soybean sales and the remainder deposited into participants' bank accounts. The complete micro-finance package was not completed in time for the 2011 short rains, so Promasidor underwrote the costs for 4712 farms but without crop insurance, access to fungicide and sprayers as well as other components of the micro-finance model intended to maximize yields. The community-based model establishes revolving funds extending credit for inoculant and fertilizer, and opportunity for fungicide application. To keep costs to the 1341 farmers participating in the community-based scheme low, inputs are provided at half the rate of the micro-finance model and participation in soybean rust spraying programs is optional. Repayment is made in soybeans at the local bulking points.



During Year 2, nine of 25 communities were linked to markets through either the micro-credit or community-based finance options. These communities did not meet the targeted 50% because at short notice Smart Logistics decided to address the announced Promasidor tender with only six of N2Africa's 25 Kenyan co-operators. Later in the 2011-12 Short Rains season, other buyers were found with N2Africa assistance¹ who offered higher prices for the soybean than Smart Logistics. By month 5 of Year 3, an estimated 64% of Kenyan N2Africa farming communities were linked to markets, as defined by having "received grain processing equipment, training in meeting grain quality standards" and "having sold grain to top-end buyers".

1.3 Rwanda

Most farming communities working with N2Africa in Rwanda are linked with markets, either for seed or grain. Farmers in northern Rwanda have sold seed of climbing bean to the Harvest Plus project (implemented by IFPRI and CIAT), with the remaining seed sold to other community members by informal channels. Bean farmers in Rwanda are also selling beans to a local company, Rwanda Agribusiness Enterprise (RABI, formerly called KUBUMWE), which sells processed beans to several markets in the country (prisons, hospitals, schools as well as supermarkets) as well as exporting small volumes of processed beans to South Sudan and Uganda. Discussions are underway between N2Africa and the USAID-Rwanda Post-Harvest Handling and Storage (PHHS) project for expansion of bean sales to the company from N2Africa farming communities.

Soybean farmers, especially those located in the south and south-central regions of Rwanda, sell to the cooperative COCOF, which produces soymilk, tofu and other soy-based products. COCOF also buys soybean and bush-bean seed from N2Africa farmers to distribute to new beneficiaries. Farmers in eastern Rwanda sell, via less formal linkages, to another soybean processing company, DUHAMIC-SOSOMA, a company based in Kigali which produces a soybean-maize-sorghum blend, used primarily to feed children at both the household and institutional levels.

1.4 DR Congo

N2Africa is partnering with the IFAD-funded Integrated Soil Fertility Management (ISFM) project (implemented by CIAT-TSBF) in DR Congo², which is training N2Africa farmers on nutrition, processing and formation of farmer-marketing groups to sell surplus grain. This collaboration also enables N2Africa to expand to new satellite sites where the ISFM project is working.

1.5 Ghana

Discussions were held between N2Africa and the Savannah Farmer Marketing Company regarding the possibility of N2Africa's farmers sale of grain to the company during the second (2011) growing season in Ghana; when farmers found the prices offered by the company to be lower than what they could get through other channels (and with a very high demand for soybean and groundnuts prevailing), grain was instead sold to other buyers. Of the 133 farmers (some with additional out-growers) who received soybean inoculants through a collaboration between N2Africa and ACDI/VOCA's ADVANCE project in northern Ghana, all were linked to output markets such as Vestor Oils, 3K&A, Ghana Nuts, Royal Danemark and SFMC. Plans are underway to link even more farmers to end markets through collaboration with ADVANCE and, in addition, IFDC's Farm2Markets initiative during the 2012 growing season.

¹ The steps undertaken to achieve this goal are provided in Appendix 1.

² N2Africa is partnering with this project in Malawi and Zimbabwe as well, as is reported later in this document.



1.6 Nigeria

Farmers in all the communities where N2Africa is working in northern Nigeria have access to local markets within 5 km distance, linked by generally good roads. Contacts have been made with several grain aggregators and processors regarding linking N2Africa farmers to these buyers, and all those contacted showed willingness to make bulk purchases from the project's farmers. Experience over the 2011 growing season, however, showed that farmers encounter no difficulties selling their legumes in local markets, and moreover that the prices offered on local markets are more competitive than those offered by the aggregators and processors. Contacts between N2Africa and the latter buyers are nonetheless being maintained.

A new soybean processing company with a capacity of 75,000 tonnes per year has opened in Abuja, and a memorandum of understanding between the company and N2Africa is presently under consideration for future sales of soybean produced by the project's farmers.

1.7 Zimbabwe

In Zimbabwe, as in DR Congo and Malawi, market linkages are established with the IFAD funded ISFM project. Moreover, there has been great interest from a wide variety of organisations and companies in Zimbabwe which will hopefully result in stable reliable input and output markets in the country. The partner organisations are also active in marketing activities, apart from the N2Africa project, and N2Africa is building upon these additional efforts.

The IFAD project officer began to organize farmers into collective marketing groups or Rural Group Enterprises (RGEs) in 2011, as well as facilitating trainings in two districts (Mudzi and Guruve). By the end of Year 2 of the N2Africa project, the farmers in Mudzi were linked to a major buyer of groundnuts who requires 2 tonnes of shelled groundnuts every day. In Guruve, Pro Brands has been identified as the major buyer for common beans (better known as sugar beans in Zimbabwe). Efforts are underway to cement a sustainable relationship with this company. Surface investments, Pro-feeds and Olivine Industries have also been identified as potential buyers for soybeans. Efforts are also underway to mobilise farmers to produce high volumes to meet the high tonnage required to start doing business with these enterprises. With more training in business the farmers can benefit from the market linkages.

In Guruve, N2Africa partner Clusa did training with their farmers on 'Farming as a business'. This included subjects such as basic business concepts, financial record keeping, enterprise risk management, marketing margins. The details of the trainings conducted so far under the above mentioned project can be found in the table below.

As the two projects have fully integrated their activities, all activities under the IFAD project are presented to partner organisations and farmer as part of the N2Africa project.



Table 1: Trainings under the N2Africa and IFAD funded project, Zimbabwe

District	Date	Training and content	Number of farmers trained		Trainers from:
			Female	Male	
Guruve	12 – 13 April 2011	Collective marketing - basic marketing skills - markets and commodity prices - negotiating with buyers - strategies for group sales - market information	70	45	CLUSA & N2Africa
Guruve	14 – 15 June, 2011	Record keeping and leadership for elected offices; double entry accounting registers; qualities of elected officers; role of elected officers	21	5	CLUSA & N2Africa
Mudzi	28 – 30 July 2011	Collective marketing - basic marketing skills - markets and commodity prices - negotiating with buyers - strategies for group sales - market information	21	14	N2Africa
Total no. of farmers trained			112	64	
			64%	36%	

1.8 Malawi

The Agricultural Commodity Exchange for Africa (ACE) is providing a space for farmers to interact with buyers of various commodities in Malawi. ACE is also providing market information to farmers through Esoko using the short message service. Some farmers from Lilongwe district have already been registered with Esoko, and plans are underway to link more farmers from Lilongwe as well as other districts where N2Africa is operational in Malawi to Esoko through ACE.

Also in an attempt to improve legume market linkages in Malawi, three trainings designed to improve farmers' marketing skills were conducted in the period between July and December 2011. The trainings were on writing business plans, budgeting and breakeven analysis, and record keeping (Table 2). Follow up trainings on marketing and farming as a business will be conducted around mid-season (March 2012) in Malawi.

Table 2: Type of Trainings Conducted and Number of Participants by Gender in Malawi between July and December 2011.

Dates	District	Type of Training	Number of participants
26 th Sept. to 4 th Nov. 2011	Dowa, Lilongwe, Mchinji, Salima	1. Writing business plans 2. Budgeting and breakeven analysis 3. Record keeping	264 (148 Males, 84 females, 32 extension staff)

1.9 Mozambique

In Mozambique, N2Africa collaborates with other projects and soybean processors who buy seeds and grains from farmers. For seeds, N2Africa partners IKURU, SARL and Technoserve



are the main organizations that purchase seeds for resale to farmers and projects. N2Africa and other IITA collaborating projects linked some seed producers to emerging seed companies such as MozSeeds and Lozane Farms. N2Africa and other IITA collaborating projects have also linked some soybean farmers to soybean processors such as Novos Horizontes (poultry farms) and Getty Lda (poultry feed manufacturers). Marketing of soybean grain is generally not a problem in Mozambique because domestic supply is less than 15% of the demand from soybean processors for poultry feed alone. The only challenge is getting all the small holder farmers to send their grains to a collection point for bulk purchase by processors on time. This is an advantage, however, for farmers who delay their soybean sales. There are small scale soybean traders who will purchase grain from farmers at higher prices after the major selling season (August-December) has ended.



2 Conclusions and recommendations

In an analysis of projects connecting small-scale farmers to formal markets, Seville et al. (2011) concluded that different products have different potential for benefitting poor farmers through linkages to formal markets, and that farmers with higher levels of assets (including access to road, motorized transport education and/or size of landholding) are more likely to benefit from participation in formal markets. Learning how to reach the less organized farmers and investing with those with fewer assets so that they too can benefit from formal market chains is challenging, and beyond the scope of a project such as N2Africa which has a duration of only four years, and in many project countries covering only three growing seasons.

Differences in marketing potential is seen both across legume crops and geographical regions. Cowpea is readily sold as a cash crop in West African countries versus Southern Africa where cowpea is grown primarily for household consumption (both of the leaves – as “relish” to accompany the staple maize meal – and of the grain). High market demand exists for soybean across all N2Africa countries, as well as for groundnut where it is being grown (West and Southern Africa). Common beans have a high market demand in Rwanda and DRC, and a medium demand in Zimbabwe and Malawi. Seed of climbing bean varieties is in high demand in Rwanda and Western Kenya, and considerable progress has been achieved in training farmers in Western Kenya in soybean seed multiplication and marketing which will hopefully provide a sustainable linkage to soybean seed buyers.

While yet to be confirmed by data, it appears that N2Africa farmers are benefitting from both formal and informal market linkages. In Nigeria, Ghana and Mozambique, farmers often preferred to sell to traders rather than formal markets due to higher prices they could get (in the case of Mozambique, after a period of storage when prices had risen). Farmers in Western Kenya appear to be benefitting from their linkage with the soybean processing company Promasidor, which purchased fertilizer and inoculants which were given to farmers on a credit basis. Since this crop is still being harvested, it remains to be seen whether or not the majority of farmers will respect the agreement and pay back the loan in kind. Kenyan fresh produce exporters frequently encounter difficulties recouping inputs provided on credit due to a high level of side-selling by small scale farmers to traders and other exporters; with a lower value, relatively non-perishable product such as soybean, the temptation for side-selling may not be so great. The provision of information on quality, grading, packaging to Kenya’s soybean farmers by N2Africa together with the facilitation of collection and transport of the produce may help to build this initiative into a sustainable market linkage.

N2Africa’s collaboration with the IFAD-funded ISFM project in three countries (DR Congo, Malawi and Zimbabwe) is still in the early stages and the impact of this initiative on linking legume farmers to market remains to be ascertained. Seville et al. (2011) recommended supporting business and farming professionalism among farming families as a way of helping to ensure their continued participation in the global food system. The training which is being provided by the ISFM project on “farming as a business” (record keeping, break-even analysis, marketing skills) as well as linking farmers to Market Information Services (MIS) such as Esoko may well endow at least some of the N2Africa legume farmers with the skills they need to profitably participate in sustainable market linkages.

A survey of N2Africa farmers should be conducted after the end of the 2011/12 growing season in southern Africa and following the Long Rain 2012 season in east and central Africa to assess which interventions and tools are more effective, and for which farmers and crops, at building market linkages for legume farmers. The lessons learned from such an exercise could then be applied to the West African project farmers over the 2012 rainy season, as well as the final year of project assistance to farmers in the two other hubs (east/central and southern Africa).



References

Barham, J., and Chitemi, C. 2009. Collective action initiatives to improve marketing performance: Lessons from farmer groups in Tanzania.' *Food Policy* 34: 53 – 59

Rusike J., Sukume C., Dorward A., Mpeperekwi S. and Giller K.E. 1999. The Economic Potential of Smallholder Soyabean Production in Zimbabwe. Soil Fertility Network for Maize-based Cropping Systems in Malawi and Zimbabwe/ CIMMYT-Zimbabwe, Harare, p. 64.

Seville, D., A. Buxton and B. Vorley, 2011. Under what conditions are value chains effective for pro-poor development? A paper produced for the Ford Foundation by the International Institute for Environment and Development and the Sustainable Food Lab. 52 pp.



Appendix 1: Steps taken to link N2Africa soybean farmers to markets in Western Kenya

In Kenya, the N2Africa D&D Team actively advanced grain legume marketing by

Provided training in industrial grain standards and post-harvest handling to 58 Master Farmers, extension agents, farm association officers and NGO leaders (May 2011).

Prepared a joint letter with AGRA to potential soybean buyers in Kenya to consider import substitution as a business strategy and asking what is their potential demand for locally-produced soybeans (Dashiell, Woomer and Mbaabu, June 2011)

Attended initial planning meetings that sought to bring N2Africa's Progressing Farmers into the Kilimo Biashara Program operated by Equity Band with partial funding of AGRA (Dashiell, Vanlauwe and Woomer, July 2011).

Organized and funded the four node-level meetings that brought together N2Africa farmer groups, soybean buyers (Promasidor and Bidco), logistics support (Smart Logistics), insurers (Syngenta Foundation), input suppliers (MEA Fertilizers and Syngenta) and credit agents (Equity Bank) (August 2011).

Jointly announced the 4000 t tender from Promasidor and guaranteed price of KSh 42 per kg (later raised to KSh 50). The Maseno station of TSBF subsequently provided Smart Logistics with transportation to individual N2Africa cooperators to inspect their facilities (August 2011).

Assembled and distributed 25 sets of post-harvest handling tools to cooperators intending to establish soybean collection points. These kits consisted of a grain moisture meter, 3 mm sieve frame, 8 tarpaulins, reference samples, weighing scale, seed germination test kit and post-harvest protocols (August and September 2011).

Printed woven polythene bags (6000) for marketing soybean seeds (10 kg) and grain (50 kg), branding N2Africa partner's produce. Smart Logistics, with funding from Promasidor, also printed thousands of bags bearing the N2Africa logo (September 2011 and January 2012).

Actively lobbied Smart Logistics management to reverse the decision to collect bulked soybeans from only the nine largest N2Africa groups (and stockpiles), leading to a change of more-inclusive policy and the resignation of their officer who bypassed our groups. Her replacement was recruited from one of our partners (Chris Onyango of Uiri Cooperative).

Provided guidance to members concerning their obligation to market to specific buyers based upon past agreements and incentives (including complicated situations where promises by Smart Logistics were not fulfilled and buyers offering higher prices emerged (December 2011 and January 2012). As a result, an unknown amount of grain were sold to the Lake Victoria Basin Authority and to area middlemen for KSh 60 per kg.

Liaised with UNIDO to provide soybeans to its new soybean processing facilities in west Kenya with potential demand of 16-25 tons per month when completed (February 2012), bringing the number of committed buyers to four.

These efforts led to 64% market participation among N2Africa groups by January 2012.



List of project reports

1. N2Africa Steering Committee Terms of Reference
2. Policy on advanced training grants
3. Rhizobia Strain Isolation and Characterisation Protocol
4. Detailed country-by-country access plan for P and other agro-minerals
5. Workshop Report: Training of Master Trainers on Legume and Inoculant Technologies (Kisumu Hotel, Kisumu, Kenya-24-28 May 2010)
6. Plans for interaction with the Tropical Legumes II project (TLII) and for seed increase on a country-by-country basis
7. Implementation Plan for collaboration between N2Africa and the Soil Health and Market Access Programs of the Alliance for a Green Revolution in Africa (AGRA) plan
8. General approaches and country specific dissemination plans
9. Selected soybeans, common beans, cowpeas and groundnuts varieties with proven high BNF potential and sufficient seed availability in target impact zones of N2Africa Project
10. Project launch and workshop report
11. Advancing technical skills in rhizobiology: training report
12. Characterisation of the impact zones and mandate areas in the N2Africa project
13. Production and use of Rhizobial inoculants in Africa
18. Adaptive research in N2Africa impact zones: Principles, guidelines and implemented research campaigns
19. Quality assurance (QA) protocols based on African capacities and international existing standards developed
20. Collection and maintenance of elite rhizobial strains
21. MSc and PhD status report
22. Production of seed for local distribution by farming communities engaged in the project
23. A report documenting the involvement of women in at least 50% of all farmer-related activities
24. Participatory development of indicators for monitoring and evaluating progress with project activities and their impact
25. Suitable multi-purpose forage and tree legumes for intensive smallholder meat and dairy industries in East and Central Africa N2Africa mandate areas
26. A revised manual for rhizobium methods and standard protocols available on the project website
27. Update on Inoculant production by cooperating laboratories
28. Legume Seed Acquired for Dissemination in the Project Impact Zones
29. Advanced technical skills in rhizobiology: East and Central African, West African and South African Hub
30. Memoranda of Understanding are formalized with key partners along the legume value chains in the impact zones
31. Existing rhizobiology laboratories upgraded
32. N2Africa Baseline report



33. N2Africa Annual country reports 2011
34. Facilitating large-scale dissemination of Biological Nitrogen Fixation
35. Dissemination tools produced
36. Linking legume farmers to markets



Partners involved in the N2Africa project



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