

N2Africa Podcaster no. 38

July and August 2016

Introduction

Earlier this month I had the privilege to visit N2Africa activities in the north of Uganda together with Peter Ebanyat (Uganda Country Coordinator), Aron Othieno (Field Liaison Officer) and Connetie Ayesiga (Business Development Officer). Together with World Vision Uganda, our major partner in the region, we visited a number of farmer groups and other stakeholders. N2Africa is working in this region with common beans, groundnut and soyabean. Farmers had a lot of common bean in their fields, largely as a food security crop. Currently there is a lot of excitement around soyabean due to demand from a number of large buyers and it is rapidly becoming a major crop in the region. Soyabean was being harvested, dried and threshed for sale – so as you can imagine much of the discussion revolved around marketing of the crop, processing and storage facilities and above all the price that farmers hoped to receive. The farmer groups are convinced of the value of the new varieties, of need for rhizobial inoculants and fertilizers to boost production. With each group we met the discussion returned to issues of buyers, the need for consolidation of produce, of storage to allow negotiation for better prices, and the cash flow problems the farmers face. The N2Africa partnership approach in which actors along the value chain commit to work together to address these issues is tackling these issues head on. Our partnership with World Vision Uganda extends the reach of N2Africa enormously in northern Uganda and I thank all of their staff for the enthusiastic engagement and the discussions with farmers. Many of the



Presentation of a gift to the N2Africa team from the youngest member of the Acinango Farmers' Group

farmer groups have only been established in the past few years through our work, and several are already registered as cooperatives. A very promising sign is that they are diversifying to include other income generating activities both within and beyond agriculture. Also promising is that as in many countries the farmers don't want more technology demonstrations as they are convinced of the need for the new varieties and inputs. What they do want is access to inputs and markets so that they can scale up the activities.

This Podcaster carries a number of news items and project updates. We were very sad to learn that David Icishahayo of the University of Zimbabwe had passed away. Many of the N2Africa team met in Harare in March and he was a well-respected member of the legume research community. We also have summaries and links to three important reports related to measuring the impact of N2Africa's work: a report on the Early Impact Assessment survey conducted towards the end of the first phase; a report on seed diffusion studies that indicates we may seriously underestimate the number of farmers reached by the project; and a report on the structure of N2Africa's current work and how this can support our learning on issues from performance of rhizobia strains to business models. If you have ideas and feedback please do not hesitate to get in touch!

Ken Giller



Members of the Acinango Farmers' Group, Apac, Uganda in their dazzling uniforms

Obituary

It is with regret that we announce the demise of Dr David Icishahayo, who was a Lecturer in the Crop Science Department at the University of Zimbabwe. He passed away on 20 July 2016 at St Giles Medical Rehabilitation in Harare, where he was recovering after he had suffered a stroke three weeks earlier. David joined the University of Zimbabwe as a Research Assistant in 1999, having arrived in the country from Rwanda/Burundi as a refugee. Before joining the University of Zimbabwe, he had worked as a plant breeder from 1984 to 1998 at Karama Research Station in Rwanda, mostly on bean programs. David was devoted to science and did not allow his involuntary displacement

from his country to be a permanent hurdle to his career. During his time at the University of Zimbabwe, he enrolled for a PhD program and graduated in 2014. At the time of his death, David was teaching statistics/biometry courses, and he was on the supervisor committee for N2Africa graduate students in Zimbabwe. May his soul rest in peace.



Regis Chikowo

Thanks from youth farmers Nigeria

Mr M.M. Onimago thanks Maleté Youth Integrated Agriculture Training Farm Centre, International Institute of Tropical Agriculture (N2Africa), 2SCALE and Hybrid Agro Business Consult HABC Kwara on behalf of the Kwara youth farmers in Nigeria.

The youth farmers are delighted for the support received. Last year, Kwara youth farmers produced 2.9 tons of soyabean ha⁻¹, using new technologies and knowledge. At the moment, farmers are planting 120 ha of soyabean and 120 ha of maize, groundnut, cowpea and cassava at the Oke-Oyi youth farm settlement.



N2Africa early impact survey across eight countries

Designing development-to-research approaches that support positive changes in livelihoods of farmers require actions that are based on solid project evaluations and impact studies. The N2Africa project evaluations are based on the results framework and distinguish results on activities, outputs and outcomes. This framework has been used on an annual basis to monitor and evaluate progress and foster learning ([Podcaster 36](#)). The baseline study (2011) and the early impact study (2013) were conducted to assess changes with regard to the expansion of legume enterprises, farmers' practices and what N2Africa had achieved during the first few years.

The [N2Africa early impact survey](#) report provides a comparison across eight N2Africa countries, that were involved in the first phase. The surveys were carried out DR Congo, Ghana, Kenya, Malawi, Mozambique, Nigeria, Rwanda, Zimbabwe. Results of the baseline survey (2011) and the early impact survey (2013) were both used to compare farmers' practices and to assess the impact of input packages delivered to N2Africa farmers. Each package contained legume seed (common bean, cowpea, soyabean, groundnut), mineral fertilizer and/or inoculants. The assessment consisted of a structured baseline and

early impact survey among randomly sampled households. According to the design of the baseline survey, a total of 400 households per country were interviewed. All households that were interviewed for the early impact survey (300 households in each country) had participated in N2Africa dissemination trials.

We first compared the results of the baseline survey with the results of what farmers reported to cultivate four years ago in the early impact survey (before they received a N2Africa input package). Secondly, we compared results of the early impact survey before households received an input package with the results of the early impact survey: How did farmers cultivate legumes before and after they received a legume input package? These comparisons provided insights in what has changed and the impact of N2Africa activities, reported by farmers who received input packages.

Results

Changes in legume area, production and amount sold

Farmers reported changes in legume area, yield and amounts sold. Overall, farmers reported an average increase in legume area per farm of 0.10 ha. Per country

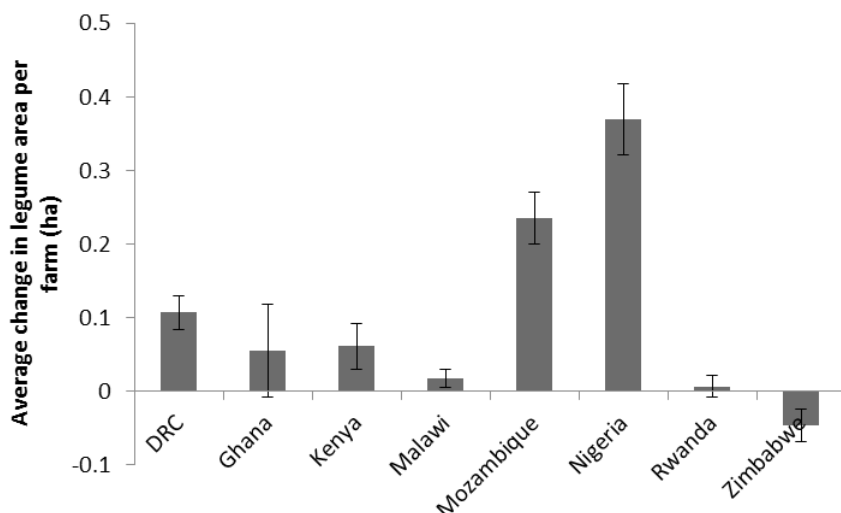


Figure 1. Average change in total legume (bean, cowpea, groundnut and soyabean) area per farm (ha) per country

the average change in legume area ranged from a 0.05 ha decrease in Zimbabwe to a 0.37 ha increase in Nigeria (Figure 1). The changes reflect the results of the early impact survey before households received an input package and compare it with results of the early impact survey after households received an input package. The average amount of legumes sold increased with 124 kg farm⁻¹. The change ranged from a 10 kg farm⁻¹ increase in Rwanda to a 739 kg farm⁻¹ increase in Nigeria.

Legume cultivation

The data suggests that impact survey farmers (before they received an input package) already cultivated legumes more often than baseline farmers. This is particularly the case in DR Congo, Nigeria and Mozambique. This suggests that N2Africa targeted farmers that already cultivated legumes in these countries, to ensure the successful use of legume input packages. In the other countries the difference between the baseline survey and what impact survey farmers did before they received an input package did not differ much. The proportion of farmers cultivating legumes increased by 4% (in Malawi, Rwanda) to 26% (in Kenya). The proportion of farmers cultivating legumes after they received a legume input package varied from 91% in Nigeria to 100% in DR Congo, Rwanda and Mozambique. Whereas farmers from Zimbabwe, Malawi, Kenya and Rwanda in the baseline survey usually cultivated legumes as intercroops, farmers of the early impact survey more often cultivated legumes as monocrops.

Use of inputs in legumes

The majority of impact survey farmers (in Ghana, Nigeria, Kenya, Malawi and Zimbabwe) obtained P-containing fertilizer, mostly in the form

of NPK/DAP/Compound D. In Nigeria and Kenya, farmers also obtained legume specific fertilizers, such as SSP, TSP or Sympal. Legume seed was obtained by a large proportion of farmers in Ghana, Nigeria, Kenya and Mozambique. Inoculants were obtained mostly in Nigeria and Kenya. In Ghana, Kenya, Malawi and Mozambique input use in all legumes (except for groundnut in Mozambique) increased after they received an input package.

Stratifying the results by the type of package received indicated that in all countries, except for DR Congo, the proportion of farmers that used P-fertilizer and/or inoculants increased after having received a package (as compared with farmers reported for 'four years before'). The use of P-fertilizer on groundnut increased after having received a groundnut package in Nigeria and Malawi. The use of P-fertilizer on cowpea increased after having received a cowpea package in Nigeria and Zimbabwe. In Rwanda the use of P-fertilizer and/or inoculants in both bush and climbing bean had increased. For the other legume-country combinations the use of inputs had not increased, as compared with what farmers did before they received an input package.

Sources of inputs

A relatively large part (50-78%) of the impact survey farmers obtained fertiliser (NPK, DAP or compound fertilizer) from agro-dealers or markets (except for DR Congo and Mozambique) (Figure 2). SSP, TSP and Sympal fertilizers, mainly used in Nigeria and Kenya, were usually obtained through NGOs or agricultural projects rather than bought on the market. Legume seed was supplied by projects and NGO's more often than it was bought on the market. In a few cases, neighbours or relatives provided farmers with legume seed. Only in Rwanda more than 60% of the farmers bought legume seed from the market (Figure 2). Ghana and Zimbabwe were the only two countries where part of the farmers bought inoculants from agro-dealers or the market. In Ghana, it is possible that inoculants appeared on the 'market' through IFDC or from Benin.

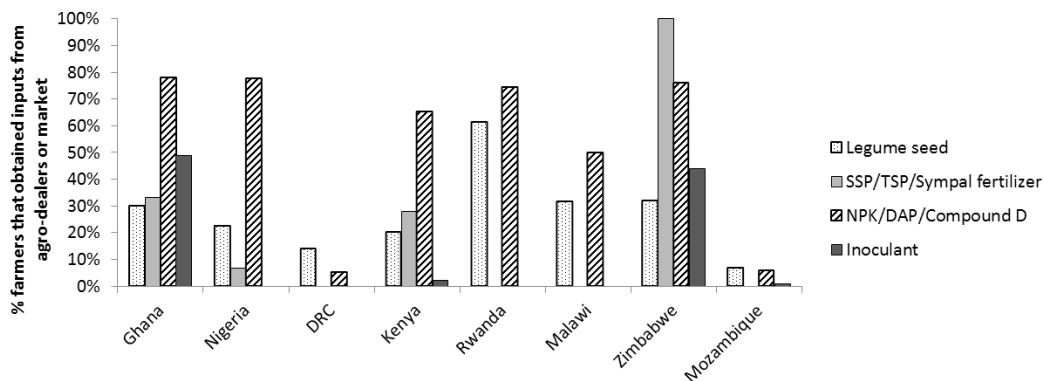


Figure 2. Proportion of early impact farmers who obtained inputs from agro-dealers or the market per country



In the other counties all the inoculants were supplied by projects and NGO's.

Lessons learned and suggestions for future impact studies

Farmers interviewed in the baseline survey were a random sample with the target areas, whereas farmers interviewed for the early impact survey were intentionally selected as a sample of farmers who had participated in N2Africa. The aim was to see whether the farmers who had received a demonstration package continued to use, or expanded the use of the N2Africa technology. Consequently, farmers who participated in N2Africa had a different background in legume cultivation than the random sample surveyed in the baseline. Therefore, farmers in the baseline survey cannot serve as counterfactuals for the farmers in the early impact survey and the results cannot be extrapolated to the wider population.

Suggestions for N2Africa impact studies

The aim of the N2Africa impact studies planned for the end of the project is to assess changes in living conditions of the target group, including intended and unintended social, economic and ecological outcomes. The impact studies will also consider changes in the role of farmers' organisations (collective marketing, farmer groups, amongst others), public-private partnerships and institutional arrangements. Furthermore, the studies will evaluate qualitatively the 'delivery and dissemination' strategy (D&D approach) and its learning aspects, since learning through research and dissemination activities are key to N2Africa's approach. Household surveys, case studies and project outcome data will be used to assess specific impacts at the end of the project.

N2Africa legume varieties spread through communities through farmer-to-farmer diffusion

At the end of N2Africa phase I, we looked at the 'early impact' of the project. Next to a number of surveys among farmers, agro-dealers, partners, we also carried out several case studies. One of these case studies involved an effort to explore to what extent the legume varieties disseminated by N2Africa through demonstration trials had spread beyond the farmers directly involved in the project. It is generally assumed that when varieties perform well, the seed will spread from farmer to farmer, through the community and, through links with relatives, friends and others, beyond the community. Little is known, however, about how seed (and related information on e.g. rhizobia or fertilizer) is actually shared. In a case study in Ghana, Kenya, Malawi and Zimbabwe, we therefore explored the diffusion of seed and information, through questions such as: How many farmers share their seeds with other farmers? What volumes are involved? What are the mechanisms through which such transactions occur? What is the impact of gender and other social boundaries? Do these boundaries represent any barriers to seed diffusion?

Data collected by household surveys and the standard difference-in-differences method (DiD) can be used to measure impact questions at household level. Due to the way that N2Africa has been implemented through partnerships, inevitably we have no experimental design with counterfactuals to measure the effectiveness of D&D approaches, business models and so on. In-depth case studies can be used to assess these approaches. Annually collected M&E data provide insights in changes in institutional, partners and individuals (farmers' capacity) capacity building and the sustainability of input supply and market systems (volume of seeds, fertilizers and inoculants used, % households using inputs and volume of input types sold by agro-dealers).

Exploring sample variations at spatial (at household, regional and country level) and temporal scales offer insights in the N2Africa impact with regard to legume and rhizobia genotypes ($G_L \times G_R$), environment (E) and/or management practices (M). Analysis of the N2Africa early impact survey has allowed us to explore the potential and limitations of these surveys within the constraints of project implementation. The final two years of the project will be used to design and implement a range of studies using quantitative and qualitative methods to examine the impact of N2Africa and maximise our learning.

Minke Stadler, Wageningen University, The Netherlands

References:

- Ampadu-Boakye, T., van Heerwaarden, J., Giller, K. and Stadler, M. (2016). *M&E and Data Management Master Plan*. Report N2Africa project, www.N2Africa.org, pp 69.
- Stadler, M., Van den Brand, G. and Ronner, E. (2016). *N2Africa Early Impact Survey, Phase I*, www.N2Africa.org, pp 61.

The study showed that 90% of the farmers that received a N2Africa package with 1 to 5 kg of seed had shared this seed two to three years later, on average with four other farmers. The farmers who received this seed (2nd, 3rd or 4th generation farmers) from the original farmers (1st generation farmers) shared their seed less frequently (Table 1). 80% of all the seed shares were of 1-2 kg of seed given as a gift; only 5% of the seed sharing involved a cash transaction. More than half of the seed sharings were with family members and around a third were between friends. Men shared at least as often as women and both men and women shared most with persons of their own sex, although men tended to share more frequently with persons of the opposite sex. Information about rhizobium as an associated input was shared by more than one third of farmers; in most cases this information was shared by the farmers who had participated in the demonstration trials.

The study also explored the use of soyabean seed introduced by N2Africa at sites at around 5 and 10-15 km



Table 1. The number of 1st, 2nd, 3rd and 4th generation farmers interviewed (#), the percentage of these farmers passing on seed to another farmer by country and the average % and number of 'sharings' by generation

Country	Ghana		Kenya		Malawi		Zimbabwe		Average % of farmers passing on seed*	Average # of seed samples passed on per farmer who shared
Generation	#	%	#	%	#	%	#	%		
1 st	11	100	15	93	19	100	31	87	95	4.0
2 nd	30	0	60	45	28	36	32	31	28	2.1
3 rd	n.a.	n.a.	20	40	14	36	6	17	31	1.8
4 th	n.a.	n.a.	4	25	n.a.	n.a.	n.a.	n.a.	25	2.0**

*Average of percentages over the 4 countries. **One person only.

distance from the original demonstration trial site. It showed that most farmers in these sites were familiar with soya-bean, although not all of them grew it. Half of the farmers had heard of rhizobium, but it is not clear if they understood how it worked and, in most cases, it was not readily available for purchase at the time of study.

Although the exploratory character of the study limits the validity of the data and the conclusions that can be drawn, the data provides a base for extrapolation. Prior to this study no figures concerning spontaneous seed diffusion

were available. Data from this study indicate that in addition to the 250,000 farmers who participated directly in the N2Africa demonstration trials, another 1,400,000 farmers may have received seed of a new legume crop or variety through diffusion by the original N2Africa farmers.

The full report can be downloaded here: [Tracing seed diffusion from introduced legume seeds through N2Africa demonstration trials and seed-input packages.](#)

Conny Almekinders and Esther Ronner, Wageningen University, The Netherlands

N2Africa research design to manage factors affecting adoption of grain legume technologies

N2Africa is scaling-out grain legume technologies, practices and models to benefit smallholder farmers in multiple, diverse and heterogeneous contexts of sub-Saharan Africa. This scaling-out process benefits from our understanding of the factors that affect adoption of grain legumes and how those factors vary across different contexts. Our understanding of how factors change in different contexts allows us to select the best bets for a particular context. These best bets are then tested and adapted and the best fit grain legume technologies and practices are adopted.

In N2Africa we manage adoption factors by: (i) mapping and characterizing the countries where we work to defined adoption domains; (ii) choosing Action Areas and activity sites that are representative of different adoption domains, and; (iii) testing and evaluating the performance of different grain legume technologies and practices in different domains.

We have recently evaluated the implementation of our design in all N2Africa countries. We saw that the selection of Action Areas and activity sites was partially influenced by the adoption domains, but that there were competing criteria – such as the location of partners, or new opportunities.

More specifically, we observed that grain legume species have been targeted for multiple biophysical environments in sub-Saharan Africa, and within countries. Rhizobium inoculant and legume specific fertilizer blends have also been targeted to specific contexts, although not in

Table 1. Operationalisation of N2Africa research design to manage factors affecting adoption of grain legume technologies and practices

Test best bet technologies and practices	Core Countries					Tier 1 countries					
	ET	GH	NG	TZ	UG	CD	KE	MW	MZ	RW	ZW
Legume varieties in different environments	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
Rhizobium inoculant products in different environments	☺	☹	☺	☺	☺	☺	☺	☺	☺	☺	☺
Fertilizer blends in different environments	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
Components of the ARD system in different Target Regions	☹	☹	☹	☹	☺	☺	☹	☹	☹	☹	☹
Test with households of different levels of resource endowment	☹	☺	☹	☹	☺	☺	☺	☺	☺	☺	☹
Seed production models in different Action Areas	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☹
Extension materials or media in different Target Regions	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
Test in Sites with different land tenure agreements or land endowment	☹	☹	☹	☺	☺	☺	☺	☹	☺	☹	☹
Test in Sites with different levels of access to output markets	☹	☺	☹	☹	☺	☹	☹	☹	☹	☹	☹
Output marketing models in Action Areas with different levels of access to output markets	☹	☹	☹	☺	☹	☹	☹	☹	☹	☹	☹
Test with households and in Sites with different population densities (or available agricultural workforce)	☺	☺	☹	☺	☺	☺	☺	☹	☹	☹	☹
Collective marketing models in different Sites or Action Areas	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
Test with households and in Sites with different gender dynamics	☺	☺	☺	☹	☺	☹	☹	☺	☺	☺	☺
Input marketing models in different Sites, Action Areas or Target Regions	☹	☺	☹	☺	☹	☹	☺	☹	☺	☺	☹
Test with households of different levels of education/ literacy	☺	☺	☺	☺	☺	☺	☹	☺	☺	☺	☺
Test with households of different levels of experience	☺	☺	☺	☺	☺	☺	☺	☹	☺	☹	☹

☺ = full testing, ☺ = partial testing, ☹ = no testing.

all countries. Relatively fewer input and output marketing models have been tested due to the public private partnerships, which are a key mechanism for dissemination in the N2Africa project (Table 1). Testing technologies among households with different resource endowments, gender dynamics, experience, and education levels has occurred, but this has tended to be serendipitous rather than targeted.

Assessing the impact of our targeting is difficult, because there are no obvious counterfactual cases with which to

compare the N2Africa countries, Action Areas, sites and households. Furthermore, in N2Africa we cannot claim adoption whilst the project is actively promoting the technology so we are currently unable to assess the impact of the targeting in terms of adoption. But the initial evaluation presented here is an important first step towards explaining how context affects best bets and leads to adoption of best fit technologies, practices and approaches.

Andrew Farrow, GeAgrofia, Wageningen

PROIntensAfrica stakeholder workshops to identify priority areas for research in Kenya and Ghana What role for legumes in sustainable agricultural intensification?

Last year, N2Africa was selected as one of the six in-depth case studies within the PROIntensAfrica Initiative (www.intensafrica.org). PROIntensAfrica aims to build a long-term research and innovation partnership between Africa and the European Union, focusing on the improvement of food and nutrition security through sustainable intensification. Since N2Africa's selection as case study, a literature study, stakeholder interviews and household level survey were held in the two countries involved in this study: Kenya and Ghana. As a final activity of the in-depth case study, stakeholder workshops were held in both countries (June 21st in Kisumu, western Kenya and June 23th in Tamale, northern Ghana).

The objectives of the workshops were to verify and deepen the results of the literature study, interviews and surveys in western Kenya and northern Ghana on drivers of change in agriculture. Building on this, priority areas for research on the role of legumes in sustainable intensification were identified in the second half of the workshop.

The workshops started by presenting and discussing the drivers of change that play a role in Kenya and Ghana. Feedback during the workshop clearly deepened mutual understanding of these drivers. For example in Ghana, improved education and low profitability (due to small farm size) was brought up as a reason why the youth has lost interest in farming. In both countries, government policies on agriculture, as a driver of change, were renamed to poor government policies for agricultural development. Poor policies and poor funding affect extension work in particular,



Figure 2. Lively discussions between farmers, researchers and NGO's in Tamale, northern Ghana making clear that further development of the seed and agri-input sector is still needed to make legume cultivation more profitable

resulting in fewer extension workers on the ground in both countries. Recently, however, a local government body in Kenya (Migori county) has adopted soyabean as alternative for traditional cash crop such as tea and tobacco. The local government body is promoting soyabean using N2Africa's advice on input use. A key issue remains the poor linkages between smallholder soyabean farmers and output markets. These poor linkages were further discussed as a priority area for research in the second half of the workshop. Ideas were discussed on how for instance a 'legume board' or legume stakeholder platform could be initiated on

local or national level that could facilitate improved linkages and also help to push for subsidies on legume inputs (e.g. inoculants, P-based fertilizers).

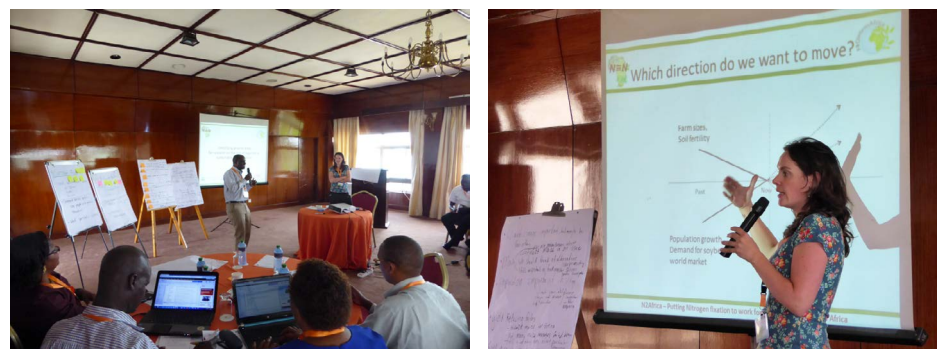


Figure 1. Identifying priority areas for research for the role of legumes in sustainable intensification in Kisumu, western Kenya (Fred Kanampiu and Esther Ronner presenting)

Developing farming as a business was identified as another priority area for research in both countries. Value addition to legumes through small to medium scale enterprises could for instance make farming more profitable and provide employment in the value chain for the youth, who do not

want to or cannot work in farming anymore. Finally, in both workshops, a clear priority area was identified for providing specific advice to farmers. ‘What legume (including currently less cultivated legumes, such as green gram or climbing bean) can be grown where?’, ‘With which inputs?’ and ‘What could be the expected yield and profit in farmers’ fields?’ were clear questions that came out in western Kenya. Making such information available for extension

workers and NGO’s on ICT platforms, such as mobile app’s, could increase the effectiveness of advice to farmers.

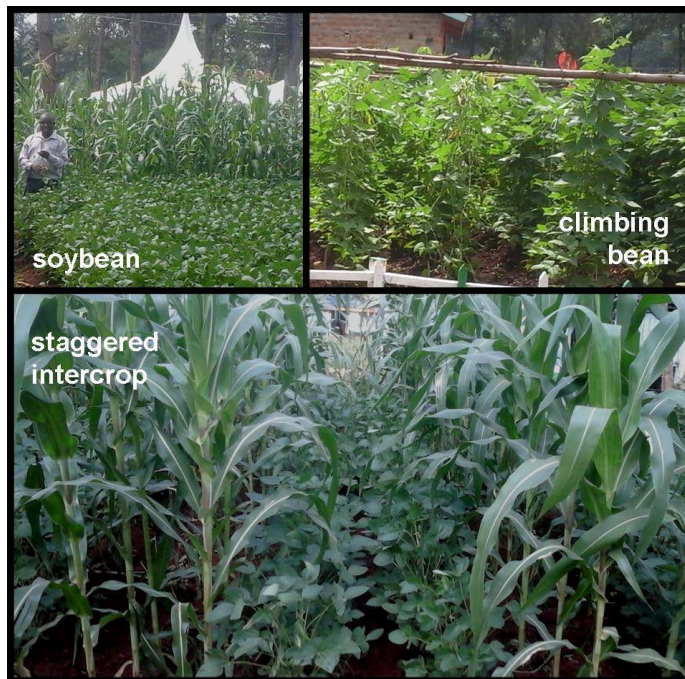
Once more, we want to thank all participants of the workshops for their contributions in these fruitful events! The workshop reports are online on the N2Africa website: see the links for [northern Ghana](#) and [western Kenya](#).

Wytze Marinus, Wageningen University, The Netherlands

First place prizes for WeRATE in Kenya Trophies for ‘Best agro-based processing’ and ‘Best NGO exhibit’

The Western Region Agriculture Technology Evaluation (WeRATE) is the main N2Africa outreach partner in Kenya and presented an award-winning exhibit at the recently concluded Agriculture Society of Kenya (ASK) Kakamega Show (June 16th-18th, 2016).

lant, Sympal fertilizer, and Dual Gold pre-emergent herbicide.



Picture 1. Recommended BNF technologies for soyabean, climbing bean and maize-legume intercropping in Kenya

WeRATE demonstrated its recommended BNF technologies for soyabean, climbing bean and maize-legume intercropping, as well as marketed inputs and displayed value addition products (Picture 1). These technologies included pest and disease resistant legume varieties, BIOFIX inocu-

Furthermore, WeRATE sponsored a mobile One Stop Shop that sold over 800 kg of legume seed, 1000 packets of BIOFIX inoculant, one ton of Sympal fertilizer and 10 large bags of improved cassava cuttings. It displayed and distributed several soya-based products including milk, yoghurt, snacks, fortified flour, cake and biscuits. Many of these products now hold Kenya Bureau of Standards certification. Many farmers visited our exhibit including dignitaries, event judges, media representatives, farmers and students. WeRATE was awarded two First Place prizes for the Best Agro-based Processing and Best NGO Exhibit. These trophies were presented by Busia Governor Sospeter Ojamong (Picture 2).



Picture 2. Trophies presented by Busia Governor Sospeter Ojamong

While participation in these shows requires careful advanced planning, effort and financial investments, it reaches huge numbers of participants and is extensively covered by the media.

Wycliffe Waswa (WeRATE) and Paul Woomer, Kenya

Recent publications from the Kenya action site

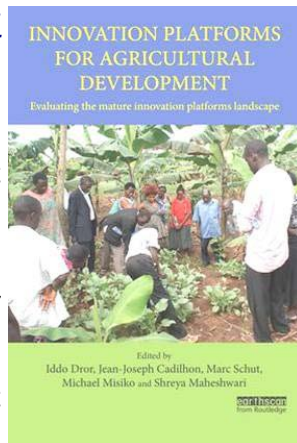
The country team in Kenya has produced three recent publications that may interest N2Africa partners in other countries. These publications include an article within an open access scientific journal, a book chapter on our Innovation Platform and a widely-distributed 48-page extension booklet covering our outreach operations.

[Characterization of Small-scale farming systems in West Kenya and Opportunities for their Improvement](#). This paper is based upon results obtained during the N2Africa Phase I Early Impact Assessment and other project M&E findings. It recognizes that designing agricultural transformation strategies that modernize small-scale farming in Africa require actions built upon solid, holistic baselines

and proven, affordable technical intervention. Information was collected among 291 farm households in western Kenya that participated in the dissemination of BNF technologies and improved soyabean and climbing bean varieties prior to survey. It contrasts farming practices among small-scale farmers across different agro-ecological zones and resource endowments, and between female- and male-headed households. This situation analysis leads to a consideration of what sort of farming systems studies are likely to assist in fuller understanding of entry point interventions, including BNF and legume technologies. It appears in the open-access *Universal Journal of Agricultural Research*, 4(4), pp.109-120.

Humidtropics Innovative Platform Case Study: WeRATE Operations in West Kenya.

This book chapter results from a call by the Humidtropics Program for recent information about “mature” Innovation Platforms. The Western Regional Agricultural Technology Evaluation (WeRATE) is a platform for testing pilot agricultural technologies and new input products within the N2Africa Project and Humidtropics Program. It is an open-membership umbrella

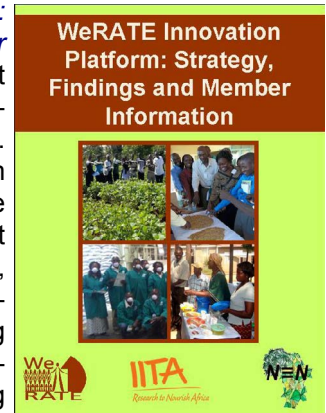


organization, with 24 dues-paying members; mostly local NGOs, farmer associations, input suppliers, and commodity distributors and buyers. In this way, WeRATE does not work directly with individual farmers, rather through their organizations and is able to reach over 79,000 households. WeRATE prefers to work with commercially available inputs so that the results of its technology tests can be quickly scaled up among its membership. The case

study documents WeRATE’s approaches, operations and achievements, and its example and experiences are useful to others seeking to establish effective Innovation Platforms. It appears as chapter 6 in *Innovation Platforms for Agricultural Development: Evaluating the mature innovation platforms landscape* (I. Dror *et al.*, eds.) Earthscan-Routledge, Oxford, UK, pp. 98-116.

WeRATE Innovation Platform: Strategy, Findings and Member Information.

This booklet provides a detailed description of the WeRATE Platform. It results in large part from grassroots demand that more information be provided about individual WeRATE members, rather than the umbrella organization as a whole, in reporting important project developments. WeRATE is a leading mechanism for farmer training and the evaluation, promotion and dissemination of agricultural technologies in Kenya. It currently works through three projects; N2Africa Project, the Humidtropics Program and the IFAD Root Crops Project. WeRATE is an open-membership umbrella organization that hosts the semi-annual Agricultural Technology Clearinghouse and works at the grassroots level through its Master Farmer Network. This booklet introduces the Innovation Platform as a whole, its individual subscribing members and the results of its on-farm technology tests during 2015. It is published by IITA-Kenya and WeRATE Platform, printed by Digital Hub, Nairobi, and may be reproduced for non-commercial application provided that its authors and organizations are acknowledged.



Paul Woomeer and Welissa Mulei

Reports and other output uploaded on the N2Africa website

The report “N2Africa rhizobial isolates in Kenya” giving details of research activities related to rhizobial isolates for *Pisum sativum* in Kenya.

Early Impact reports for the first two countries: [Rwanda](#) and [Ghana](#).

[N2Africa Seed diffusion study](#).

Synthesis report “[N2Africa Early Impact Survey](#)”.

Two reports produced in collaboration with PROIntensAfrica:

- “The role of legumes in sustainable intensification – priority areas for research in western Kenya”;
- “The role of legumes in sustainable intensification – priority areas for research in northern Ghana”.

Three MSc theses:

- “Understanding drivers behind the implementation and adaptation of improved climbing bean (*Phaseolus vulgaris* L.) technologies by smallholder farmers in Kapchorwa district, eastern Uganda” by Laurie van Reemst;
- “Response of three groundnut (*Arachis hypogaea* L.) genotypes to calcium and phosphatic fertilizers” by Henri Tamba Nyuma, a student supported by the Buffet Foundation (N2Africa Liberia);
- “Effect of rhizobia inoculation and phosphorus fertilizer on nodulation and yield of soyabean [*Glycine max* (L.) Merrill] in Dedza, Kasungu and Salima districts of Malawi” by Donald Siyeni.

MSc internship report “Evaluating farmers’ decision making on choosing technologies and practices in adaptation trials” by Kohji Nakasaka.



Related publications

Soyabean booklet in Afan Oromo (among the widely spoken languages in Ethiopia), produced in collaboration with project partners (OARI, 2SCALE, and Guts Agro).

Related newsletters

- IITA Bulletin no. 2336;
- IITA Bulletin no. 2337;
- IITA Youth Agripreneurs, Issue 19;
- CIAT blog [Eating high-iron beans reduces iron deficiency in just a few months](#) (Georgina Smith, 2016).

Announcements

The 2016 Brian Chambers award is open to researchers in crop nutrition: £2,000 in prizes!

The International Fertiliser Society is again running the Brian Chambers award. Researchers working in both academic and extension organisations are encouraged to take part. The 2016 award is now open for submissions, and will remain open until September 15th, 2016.

Detailed information can be found at <http://fertiliser-society.org/about-us/brianchambersaward>.

7th International Nitrogen Conference (INI 2016), Victoria, Australia. 04 – 08 December 2016

The conference's over-arching theme – *Solutions to improve nitrogen use efficiency for the world* – aims to address “The Nutrient Nexus” of reducing nutrient losses while producing food and energy for all of our human family.

For more information see <http://www.ini2016.com>.

The Podcaster is published six to eight times per year – we look forward to receiving news and contributions – particularly from partners. Please send in contributions well in time. Contact address for this newsletter is: N2Africa.office@wur.nl

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