



Launch N2Africa Phase II – Report Uganda

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N2Africa

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



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Summary

- The N2Africa project was officially launched in Uganda on the 16th of January 2014
- Many activities have already been done in a bridging phase in 2013 with key partners Makerere University, World Vision, VECO and Africa 2000 Network.
- Key words for Phase II are institutionalisation and sustainability. N2Africa needs to work with government and private sector to achieve this.
- Important points to consider in the planning for 2014:
 - Multistakeholder platforms: we need to tap into existing networks
 - Inoculant supply: Cooperation with MAAIF and COMPRO project started for registration of inoculants. Peter Ebanyat and JB Tumuhairwe will become accredited scientists for testing. We need to import inoculants in the first years while we build capacity at Makerere University for production of quality inoculants and for quality control.
 - Agronomy: need to be more strategic on where we set up the agronomy trials. Need for closer monitoring of farmers how test technologies on their fields.
 - Dissemination: In demonstration gardens it is important to involve agro-dealers, so that farmers have the possibility to purchase demonstrated products afterwards.
- Masterplans for each of the objectives (e.g. Agronomy, Dissemination, Monitoring & Evaluation, etc.) will be developed.

Action Points

- Make policy brief + attachment about N2Africa for the Director Crop Resources (Peter Ebanyat)
- Develop a Special Issue of the Podcaster on Uganda (coordination: Peter Ebanyat)
- Develop Masterplans (coordination: Ken Giller, Bernard Vanlauwe)



1 N2Africa Project - INTRODUCTION

The main objective of N2Africa project is to **increase biological nitrogen fixation and productivity of grain legumes** among African smallholder farmers, contributing to enhanced soil fertility, improved household nutrition and increased cash income.

N2Africa is putting nitrogen fixation to work for smallholder farmers in Africa through enhancing the yield of grain legumes (common bean, cowpea, groundnut and soyabean) and expanding the farm area cropped with legumes to improve incomes and food and nutrition security. N2Africa's Vision of Success is to build sustainable, long-term partnerships to enable African smallholder farmers to benefit from symbiotic N₂-fixation by grain legumes through effective production technologies including inoculants and fertilizers.

The legacy will be strong national expertise in grain legume production and N₂-fixation research and development. The capacity built will sustain the pipeline and delivery of continuous improvement in legume production technologies tailored to local settings. Activities will focus on cowpea, groundnut and soyabean in Ghana and Nigeria, on common bean, cowpea, groundnut and soyabean in Tanzania and Uganda, and on common bean, soyabean, chickpea and faba bean in Ethiopia.

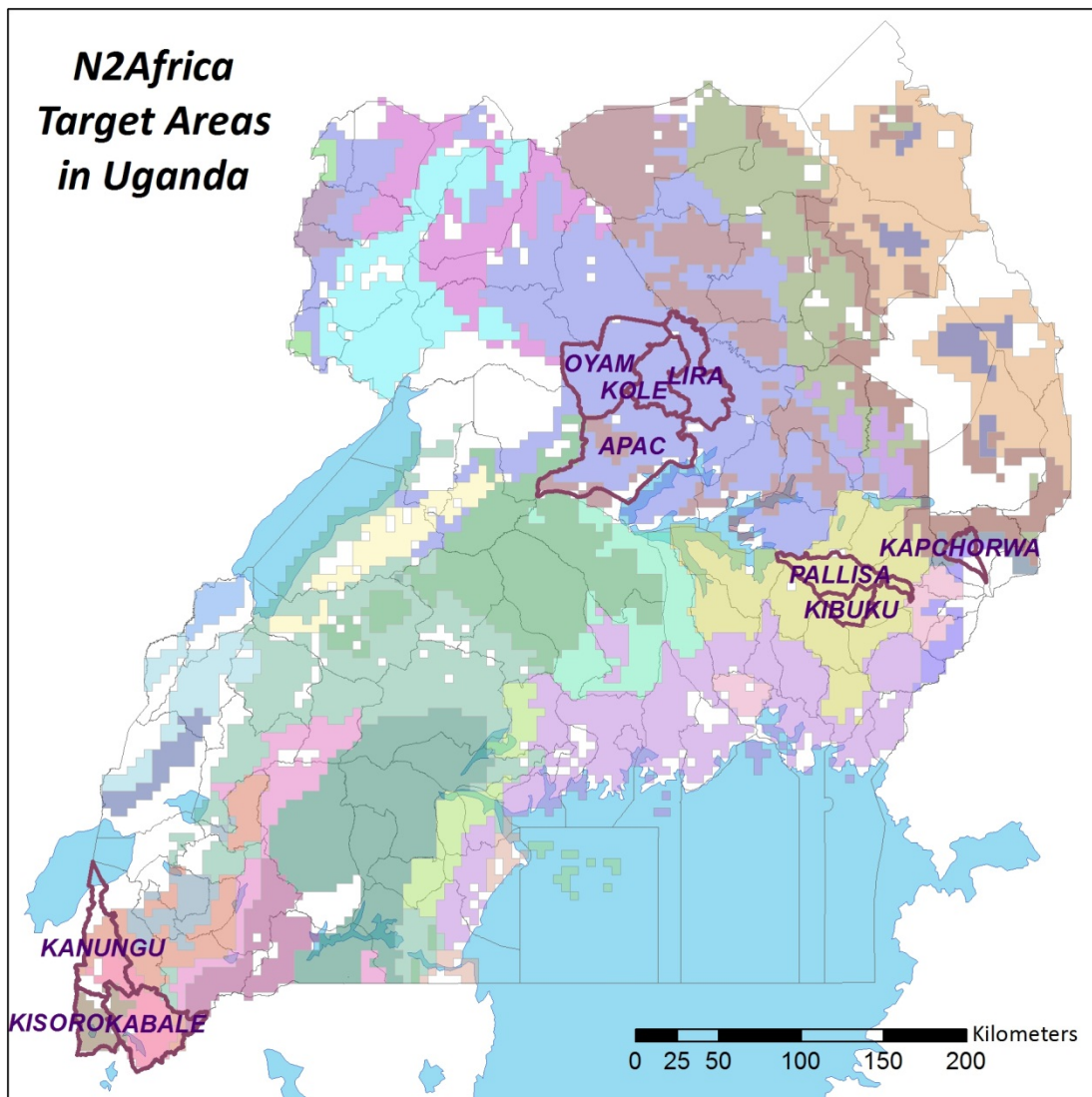


Figure 1.1: N2Africa Target Areas in Uganda



Phase II was officially launched on the 16th of January 2014 in Kampala, Uganda. N2Africa Phase II will use the experience gained to expand activities to reach many more farmers in Ghana and Nigeria, and extend the project to Ethiopia, Tanzania and Uganda (the five Core Countries) in the next 5 years.

In DRC, Kenya, Rwanda, Malawi, Mozambique and Zimbabwe (Tier 1 Countries), N2Africa will focus on disseminating outcomes from Phase I at scale, institutionalizing legume expertise within national systems and will shift activities to other donors through co-funding.

The complete document about N2Africa Phase II project can be found in the following link: <https://www.dropbox.com/s/jxecngvkbns2a0d/N2Africa%20Phase%20II%20Final%20Approved.pdf>



2 N2Africa Phase II Launch Workshop

2.1 Overview of N2Africa Phase II

By Ken Giller

Presentation: https://www.dropbox.com/s/69k8m1oid1zlv4o/0_Introduction%20N2Africa%20Ken%20Giller.pdf

Questions & comments:

- Government structures are important for the sustainability of the project, for the strategic development plan and to improve policies. It is important to find a way to relate the project with strategy and investment plans of respective governments of each country and with the value chain. The private sector is needed for inoculant production and fertilizer supply. N2Africa will help to create demand, which allows businesses to come in and address that demand. Policy key issue are important in any project.
- It seems that there is a focus only on food crops, is there any role for legume forages? The emphasis is on use of crop residues as livestock feed, but not on forages. With animal (dairy) enterprises there is potential for forages, but this is only a small proportion of the farming community and N2Africa needs to address a broader community.
- We know that inputs will improve and enhance productivity. Problem: Limited knowledge on inputs. How to convince farmers about them with the existing problems:
 - Inoculation: always economic – costs are very small compared to benefits. Problems are more on the supply side.
 - Phosphorus fertilizer: expensive, is beneficial but not with low yields (need to plant in time, weed, etc.) Farmers sometimes use smaller amounts which are still beneficial. With soyabean in Kenya the biggest problem was price. Now price is better, so soyabean is moving and economics are right. In DRC use of small packs of seed, fertilizer and inoculant sold by One Acre Fund. Costs: 7 USD per pack and even in poor areas people bought it. What can we learn from people engaged in dissemination for phase II?
- Business part: key weakness of soyabean has been market. There are opportunities in the poultry and dairy feed sector (to replace fish). For farmers we need to increase productivity to make soyabean profitable – what do we need to do? Will it be possible to sell both inoculants and P-fertilizer, or should we focus on one? Need for cost-benefit analyses.

2.2 Project Implementation arrangements

By Bernard Vanlauwe

Presentation: https://www.dropbox.com/s/vvagh18vww2gazt/1_Implementation_Bernard%20Vanlauwe.pdf (All the blue letter from the presentation can be found in the document of interest)

Document of interest: Implementation, Intended Results and Results Measurements: <https://www.dropbox.com/s/f8h6qbyewroxq86/N2Africa%20Phase%20II%20Final%20Approved%20Results%20Framework.pdf>

PHASE II – Key words

- Institutionalization
- Sustainability

The WUR (Wageningen University) – IITA (International Institute of Tropical Agriculture) – ILRI (International Livestock Research Institute) – AGRA (Growing Africa's Agriculture) Consortium will provide oversight to the various country teams and ensure consistency in terms of research and dissemination approaches, research-to-development learning loops, and capacity building.

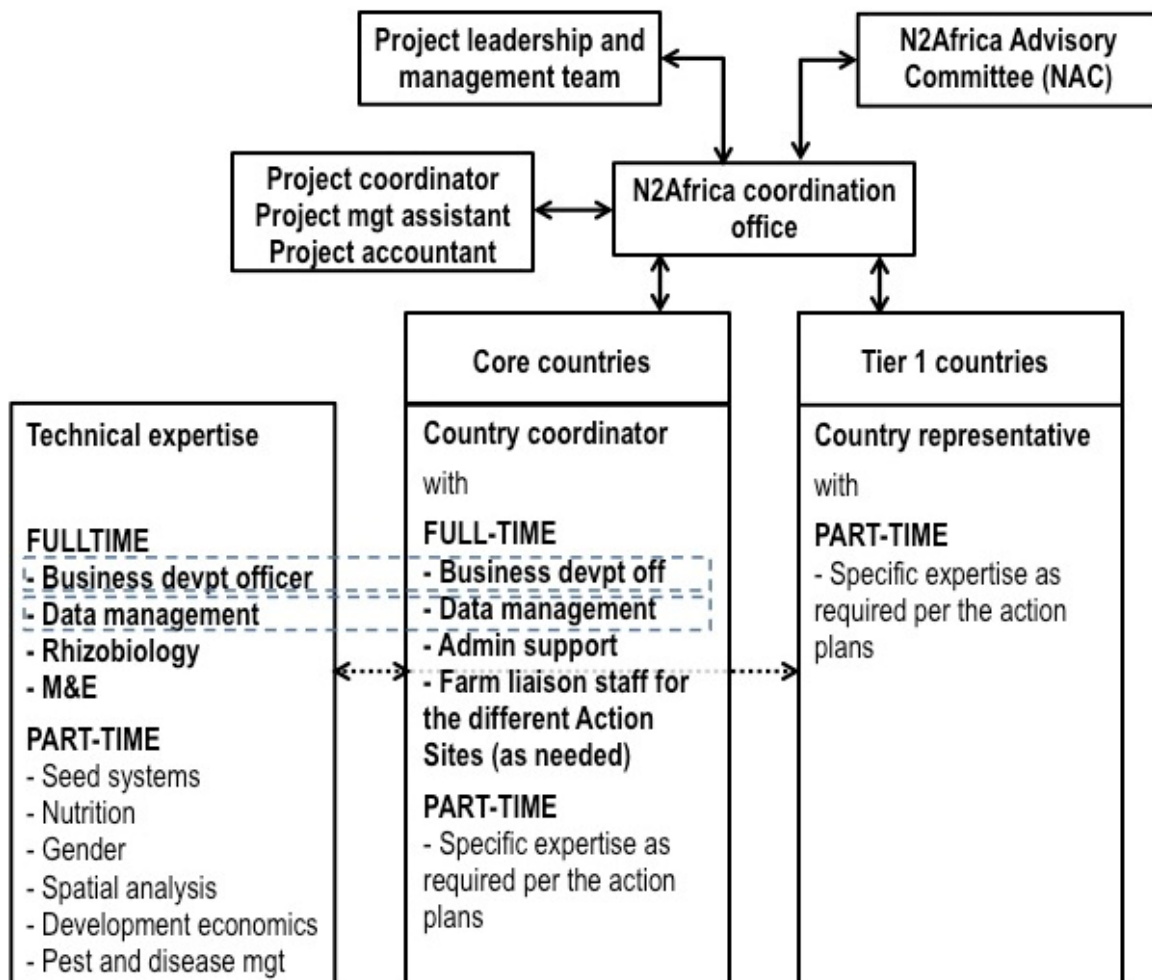


Figure 2.1: Project organisation

Questions & comments:

- Women empowerment: If you want to have sustainable impact we need to work with women and men together. Do not forget men in this process. Amare Tegbaru (IITA) will support here; he is the gender specialist in the project.
- Use of chemicals reduces the workload for women. Is it possible to get recommendations for chemicals to be used, in different agro-ecological zones? N2Africa will not conduct research on herbicides, chemicals, etc. but will apply the best practices available.
- Men are typically more involved in soyabean. People often don't know what to do with it so they sell it. Important to teach women how to use soyabean – it will improve nutrition and enhance women's benefits from the crop.
- Does cowpea need inoculants? There is a difference between promiscuous and specific legumes. Cowpea and groundnut are promiscuous, soyabean specific. In sandy soils there is a small population of bacteria, so in these soils even promiscuous legumes may respond to inoculants.



2.3 Presentations from different partners

2.3.1 Bridge Phase progress by Peter Ebanyat

Presentation: https://www.dropbox.com/s/rkcujuoyizzjpb/2_BridgePhaseProgress_Peter%20Ebanyat.pdf

BRIDGE Phase activities: Connecting phase I to phase II.

Establish partnerships and extend the activities of N2Africa to Uganda, where three main partners started: World Vision, VECO and A2000N. Important to see how they can implement these technologies within their programs.

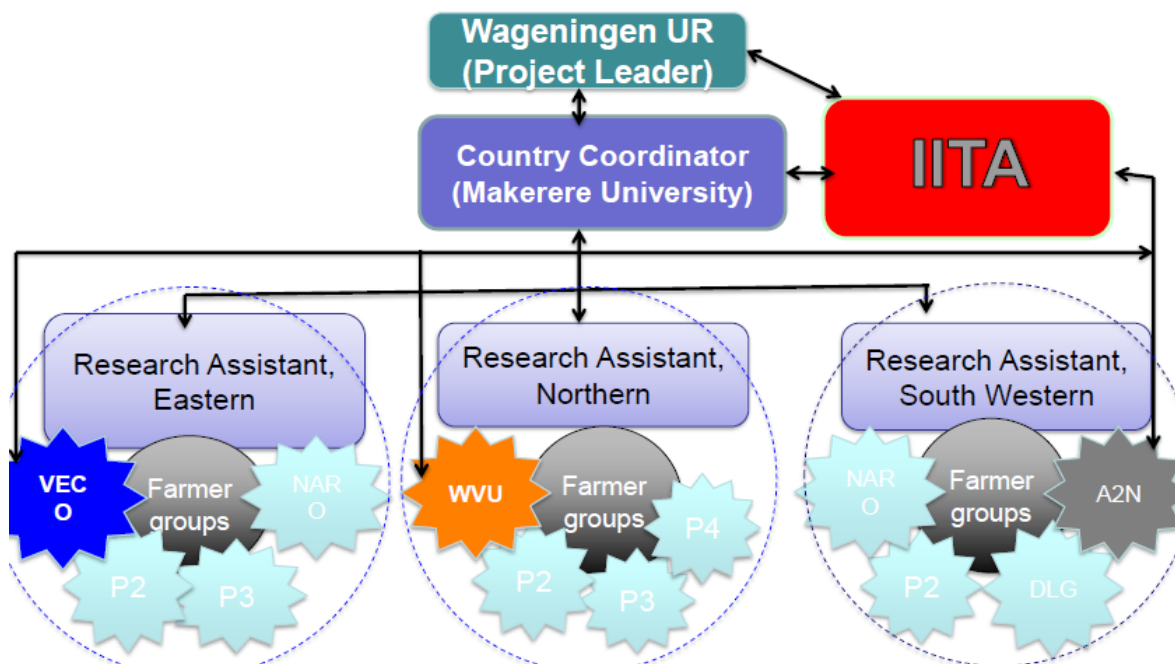


Figure 2.2: Structure and partners in implementation

Questions & Comments:

- Comments related with the problem to get stakes for the climbing beans: CIAT in Rwanda has done studies that can be useful for Uganda. They have been doing experiments using ropes, plastic stakes. When the report is finished this will be shared.

2.3.2 WVU by George Ebulu

Presentation: https://www.dropbox.com/s/pkwn15e3ezadbvs/3_N2Africa%20-%20WVU%20Bridge%20phase_George%20Ebulu.pdf

2.3.3 A2N by Tryphosa Muyunga

Presentation: https://www.dropbox.com/s/0olq6tv4pn0mz99/4_AFRICA%202000%20NETWORK-N2Africa_Tryphosa_Muyunga.pdf



Questions & Comments:

- Again, the difficulty to get stakes at good prices brought more comments. From private sector a small explanation was done to share their experience selling a specific variety of maize so later on the maize stake is used for the climbing beans. The maize needs to be a specific variety and needs good soil fertility.

2.3.4 VECO – East Africa by Immaculate Sekitto

Presentation: https://www.dropbox.com/s/oy6spxk7qjnvqc/5_VECO%20presentation_Immaculate_Sekitto.pdf

Questions & comments:

- Are farmers able to understand the outcome of the soil fertility tests? Soil fertility tests were done and developed by Makerere. Scientists came to show how they work and how to interpret them.
- Sasakawa Global 2000 – Daniel Olof explained that they have just imported a mobile soil testing laboratory. He is inviting partners to come and see how to use it and make the best of it.

2.4 Official Launching

By Ken Giller:

Ken was impressed by all the activities that the partners have brought in place in few months. Great speed and collaboration. Important to choose the right varieties not only for the best performance but also for the highest market demand.

Podcaster – mailing list – He proposed to have a special podcaster on Uganda, there are so many stories and activities that will be great to share.

There are high expectations for the next five years as a great job has already been done.

By Bernard Vanlauwe:

Importance of soil science in the agriculture field. This project is the biggest in the IITA soil department, and we need to deliver as the Bill & Melinda Gates Foundation has given us their trust. In the past there were similar projects but there wasn't real impact. Different tree legumes and other crops were tried. After all the research projects done it seems that the grain legumes are a success.

By Stephen Byantwale Assistant Commissioner

Apologies from their colleagues and superiors, on behalf of the Director Crop Resources:

- As government there are structures in place to support these projects and ensure their sustainability in time. There is the need to explore those together.
- 4 key investment areas by the government:
 - Enhancing production and productivity
 - Improving access to market and value addition
 - Creating an enabling environment
 - Institutional strength – Capacity building – Implementing this strategy through a commodity (food security: maize, beans, rice, bananas, cassava, cattle, meat and fish) approach. Prioritize: maize, beans, cassava, rice, coffee, tea, fish and fruit and vegetable (in the marketing).
- This project has good timing with the government plans. Requested a small brief to be attached to the report so can be passed to their superiors.
- Thanks for the effort of the partners and the activities already implemented.



Awareness Creation

The press were invited and attended the workshop in force - Peter Ebanyat and Ken Giller were interviewed by journalists from the "Africa News Group", from newspapers "New Vision" and "Monitor Publications Ltd" (Lominda Afedraru), from NBS Television.

2.5 Work plan

There are 5 objectives:

- Obj1: Project Strategy, coordination and implementation and capacity strengthening
- Obj2: Delivery and dissemination, sustainable input supply and market access
 - Input – Output delivering system
 - Multistakeholder platform
- Obj3: Empower women to increase benefits from legume production
- Obj4: Tailor and adapt legume technologies to close yield gaps and expand the area of legume production within the farm (Agronomy)
- Obj5: Enable learning and assess impacts at scale through strategic M&E
-

2.6 Group Works:

1) Input and output delivery system (Obj2)
2) Multistakeholder platform (Obj2)
3) Women empowerment (Obj3)
4) Agronomy (Obj4)

Assignment for group work: Look for activities for each theme, thinking about Uganda and the timing for year 1. How will those take place in the 3 regions? (Consider the steps/process needed for each activity and the timing for each step).

2.6.1 Feedback on group Activities

2.6.1.1 Input and output delivery system

Group Presentation +

comments: https://www.dropbox.com/s/49y34asgb70zdoq/Obj2_1%20%281%29.pdf

Questions & comments:

- You are not allowed to import inoculants if they are not registered. There are laws and procedures to follow. However you can ask MAAIF to import research material and then you can ask MAAIF to evaluate that product to be able to register and disseminate it. Important to work with government, partners and private sector.
- Distributors: People dealing with chemicals need to have knowledge and be a registered distributor. There are associations with qualified members in the sale and use of these products.
- Is there any setup in the East-Africa Community to accept products that are already registered within the East-African Community?
 - There are discussions and work done together to harmonize standards and procedures, however products still need to go through this procedure in each country.
- Important to work with the government if there is the need to register new products.
- Peter (could be an accredited scientist) can do the applications to register inoculants through the official process and then involve the private sector.
- Inoculant production unit established at Makerere University (MU). Need for investment in training and improvement of the quality of the inoculants to come back to the quality that is required. Before quality is improved we can make use of other products, while working on improved quality



at MU. Also important that the producer does not do the quality control, this could be the role of MU.

- N2Africa can help to bring in the very best product (seed, chemicals, inoculants...) but needs commitment from the government to help bring them in. Researchers and governments need to work together. Capacity building is also needed.
- Interaction with farmers' forums and NAADS and the field level to bring sustainability in the project.
- N2Africa will not bring new varieties, only released varieties. Improve yields and production through better quality.
- Lots of projects and organizations work on seed systems and quality. So be careful not to duplicate. There is an existing bean stakeholder platform, N2Africa could tap into that.
 - The N2Africa Phase II proposal is very generic, it needs to be adapted to the local situation. Supporting/ joining local platforms is a priority, not setting up new platforms.
- Low amount of seeds available is a real problem.
- How do we assist MAAIF or the government to be able to fulfil the capacity to register having low funds?
 - Advocacy needed, but N2Africa does not have funding to improve capacity.

2.6.1.2 Multistakeholder platform

Presentations and comments: https://www.dropbox.com/s/gzxqhzu6yqc4aji/Obj2_2.pdf

Some related comments:

- When existing platforms functioning, even though not for exactly same purpose, they can be used.
- Demonstration gardens: Important to involve agro-dealers so after the demonstration farmers have the possibility to purchase those products. Important to increase the links to get good inputs.
- Important to encourage farmers to pass the message to others, as well as moving around and see other farms and different crops.
- Partner-led dissemination: this may be through partners working in different areas of the country who are interested in legumes. What would be steps, targets, guidelines for working with these partners? For example ZOA, World Vision – could expand technologies to other areas.

2.6.1.3 Women empowerment

Presentation and comments: <https://www.dropbox.com/s/em2mba60t9hf3i5/Obj3.pdf>

- Train also male change agents, not only female
- Recipes: through N2Africa recipes are already developed. Revise existing materials
- Instead of designing new equipment for labour saving N2Africa will use what is on the shelf. What could replace the work that women do (e.g. herbicides, shelling/ de-hulling)? Be sensitive on how to introduce technologies and where they have impact on.

2.6.1.4 Agronomy: Tailor & Adapt legume technologies

Presentation and comments: <https://www.dropbox.com/s/djwu8h1ouvo74cb/Obj4.pdf>

2.7 Demonstrations and experience in trials by Ken Giller

Points to consider:

- Choose correct place where to set up trials.
- Usually you get "bad/poor" soils from farmers.
- Important to analysis climate and ecological zones to learn more about the selected location.
- Important access to markets



More information on this presentation following this link: <https://www.dropbox.com/s/34twf1oem11pxox/N2Africa%20Nigeria%20explaining%20inoculant%20responses.pdf>

2.8 Masterplan Agronomy

By Bernard Vanlauwe

PHASE I:

Step 1: Agronomy Trials

- Management: research
- Few Duplications (around 5)

Step 2: Demonstrations – co-managed by researchers and farmers, designed by researchers: Included intercropping, new technologies. High number of duplications (around 20)

Step 3: Packages or adaptation packs: 2 or 3 different packages. Designed together with the communities. But 100% managed by individuals on their own farm. Around 5,000 trials. Packages along with training.

Step 5: Impact study to check what actually happened.

PHASE II - What next?

Gaps to be filled up in the Agronomy Master Plan for Phase II.

Step 4: What happened in between step 3 and 5 in phase I? Monitor what happens on farmer's field. What have farmers learned through packages? Observe if there were problems. See if there is anything people changed, or did they expand in their land from what they got in their packages.

To add **Step 0:** diagnostic on other facts or issues that were left out in beginning. Why is legume yield low? For example missing micronutrients.

Step 6: Look at long term benefits of legume crops.

Other details can be decided in each location, for example the size of the plot, number of trials, etc. The masterplan is a guideline.

Comments:

- Step 2: Choose within the community
- Maybe the packages can be rethought – business model for the packages.
- Number of trials, demos or packages to be decided by the partners on the ground.
- Where to start in year 1? Maybe Step 3 is a bottleneck and maybe is better to start on step 1 and 2. In Phase I season I only step 1 was done.
- Commitment with the real disposability and possibility to delivery.
- Where do we capture value chain within the master plan?
 - This is only the agronomy master plan but other master plans need to be there for dissemination, etc.
 - Value chain maybe doesn't need a master plan, more opportunistic as it is very different in each country.



3 Annex

3.1 List of participants

Name	Position	Organization	Type of Organization
Cliff Richard Masagasi	Managing Director	Pearl Seeds	Private Sector
Zephas Kisubi	Marketing Manager	Pearl Seeds	Private Sector
Samuel Okurut	Research Officer	AEATRI, NARO	Public
Nicolai Rodeyns	Managing Director	NASECO	Private sector (seed Company)
Julian Barungi	International Strength Advisor	ISSD	
David Lukungu	National Agronomist	IFDC	International NGO
Moses Biruma	Research Officer, Groundnut research programme	NaSAARI	Public
Robert Amayo	Research Officer	NaSAARI	Public
Immaculate Sekkito	Country Contact Person	VECO	Partner
Tryphosa Muyunga	Ag. Programmes Director	A2N	NGO
Agong Ray Bruno	Project Manager	UOSPA	Farmer organisation
Phinehas Tukamuhabwa	Soyabean breeding and seed systems	Makerere University	Public
J.B. Tumuhairwe	Lecturer, COMPRO II Project	Makerere University	Public
Ibrah Wanyama	PhD Fellow	IITA	International Research Organisation
Laurence Jassogne	Project leader	IITA	International Research Organisation
Anna Sole Amat	Consultant	IITA	International Research Organisation
Peter Ebanyat	Coordinator	Makerere University	Public
Ken Giller	Professor	WUR	Research
Esther Ronner	Researcher/ Data analyst	WUR	Research
Bernard Vanlauwe	Director	IITA	International Research Organisation
Daniel Olol	Program Officer Crop Productivity	Sasakawa Africa Association, Uganda	Private Fertiliser company



Patience Byaruhanga	Programme Director	UNADA	PrivateS sector (Agro-input dealer network)
Mercy Apio Lilian	Information officer	WOUGNET/APAC	Women empowerment and advocacy
Stephen Byantwale	Assistant Commissioner	MAAIF	Public
Noah Owomugisha	Program Officer	CIAT	International Research Organization
George Willian Ebulu	Director Quality Assessment	World Vision Uganda	International NGO, Dissemination partner
Mary P. Sozi	Ag.Executive Director	A2N	NGO
Martin Ssali	Chief Executive	National Soybean Network	Network
Taruvinga Badza	Intern Student	WUR	Research
Paul Kiwuwa	Reporter	NEW VISION	MEDIA PUBLICATION
Charles Kazooba	Reporter	Africa News Group	MEDIA AGENCY
Luminda Afedraru	Correspondent	Monitor	MEDIA AGENCY
Raymond Agwanya	Commercial Officer	Soroti DLG	Local Government
Tyaba S Abubakar	Journalist	NBS TV	MEDIA

3.2 3.2 Websites of interest:

- N2 AFRICA: www.N2Africa.org
www.N2Africa.tv
- WUR: <https://www.wageningenur.nl/>
- IITA: <http://www.iita.org>
- ILRI: <http://www.ilri.org>
- AGRA: <http://www.agra.org/>



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 soyabeans, 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
37. The role of AGRA and other partners in the project defined and co-funding/financing options for scale-up of inoculum (banks, AGRA, industry) identified
38. Progress Towards Achieving the Vision of Success of N2Africa
39. Quantifying the impact of the N2Africa project on Biological Nitrogen Fixation
40. Training agro-dealers in accessing, managing and distributing information on inoculant use
41. Opportunities for N2Africa in Ethiopia
42. N2Africa Project Progress Report Month 30
43. Review & Planning meeting Zimbabwe
44. Howard G. Buffett Foundation – N2Africa June 2012 Interim Report
45. Number of Extension Events Organized per Season per Country
46. N2Africa narrative reports Month 30
47. Background information on agronomy, farming systems and ongoing projects on grain legumes in Uganda
48. Opportunities for N2Africa in Tanzania
49. Background information on agronomy, farming systems and ongoing projects on grain legumes in Ethiopia
50. Special Events on the Role of Legumes in Household Nutrition and Value-Added Processing
51. Value chain analyses of grain legumes in N2Africa: Kenya, Rwanda, eastern DRC, Ghana, Nigeria, Mozambique, Malawi and Zimbabwe
52. Background information on agronomy, farming systems and ongoing projects on grain legumes in Tanzania
53. Nutritional benefits of legume consumption at household level in rural sub-Saharan Africa: Literature study
54. N2Africa Project Progress Report Month 42
55. Market Analysis of Inoculant Production and Use
56. Identified soyabean, common bean, cowpea and groundnut varieties with high Biological Nitrogen Fixation potential identified in N2Africa impact zones
57. A N2Africa universal logo representing inoculant quality assurance
58. M&E Workstream report
59. Improving legume inoculants and developing strategic alliances for their advancement
60. Rhizobium collection, testing and the identification of candidate elite strains
61. Evaluation of the progress made towards achieving the Vision of Success in N2Africa
62. Policy recommendation related to inoculant regulation and cross border trade
63. Satellite sites and activities in the impact zones of the N2Africa project
64. Linking communities to legume processing initiatives
65. Special events on the role of legumes in household nutrition and value-added processing
66. Media Events in the N2Africa project
67. Launch N2Africa Phase II – Report Uganda



Partners involved in the N2Africa project



Bayero University Kano (BUK)



Caritas Rwanda



Diobass



Eglise Presbyterienne Rwanda



Resource Projects-Kenya



Sasakawa Global: 2000



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