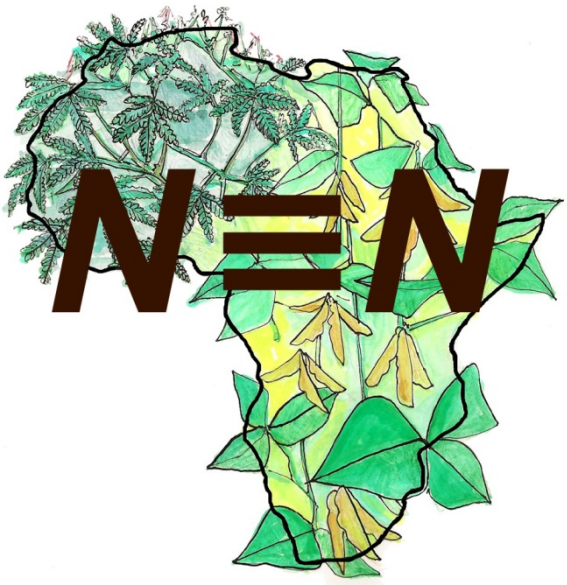

N2Africa Project Mozambique Exit Strategy

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November 2017

N2Africa

Putting nitrogen fixation to work for smallholder farmers in Africa

N2Africa is a project funded by The Bill & Melinda Gates Foundation by a grant to Plant Production Systems, Wageningen University who lead the project together with IITA, ILRI, AGRA and many partners in Ghana, Nigeria, Tanzania, Uganda, Ethiopia, the Democratic Republic of Congo, Rwanda, Kenya, Malawi, Mozambique and Zimbabwe.

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1. Project Background

Project focus
The N2Africa is a large scale, science-based "research-in-development" project focused on putting nitrogen fixation to work for smallholder farmers growing legume crops in Africa. The project aims to enhance legume yields and yields of sequential crops, and to diversify cropping patterns from mono-cropping of cereals to rotation or intercropping with legumes. Moving on from a "proof-of-concept" during Phase I of the N2Africa approach at scale, Phase II was designed to scale out the proven legume technologies using a "business-led" approach. In particular case of Mozambique, the focus was to engage government, development organizations and private sector, creating awareness on N2Africa technologies and approaches, facilitating dissemination campaigns and related feedback loops.

Development context:
Mozambique is widely recognized as a country with abundant land, ample water sources and good agro-ecological conditions for crop production. Yet it remains one of the poorest countries in the world, ranking 184 out of 187 in the 2011 UN Human Development Index (UNDP 2011). Agriculture is considered a backbone of Mozambique economy contributing more than 24% of GDP. It is the main source of food and income for nearly 70% of the Mozambican population who live in rural areas. Smallholdings account for 96% of the 5.6 million hectares of the total cultivated area. Since the agricultural sector is dominated by smallholder farmers (1.4 ha on average), its development holds the potential to rapidly improve the economic condition of smallholder farmers, in particular women who are the major labour force. Productivity of smallholder farmers remains low due to multiple constraints such as little or no input use (improved seed, inoculants and fertilizers) relevant to the agro-ecological conditions, use of low-yielding varieties, inadequate and irregular input supply systems, insufficient extension support due to limited national capacity.

Vision
Our vision of success is to build sustainable, long-term public-private partnerships to enable African smallholder farmers to benefit from symbiotic N2-fixation by soyabean and cowpeas through local adapted production technologies, including inoculants and fertilizers.
To achieve our vision and increase the likelihood that the results and impacts of our intervention will continue in long term sustainability, N2Africa Mozambique strategy was to support local communities, farmers' associations, government's extension officers. The National Research Institute and NGOs through capacity building, facilitate input supply systems for production of soyabean and cowpeas. The support was crucial so that these value chain players can operate independently after the end of N2Africa project.

2. Purpose of Documenting the Exit Strategies

The N2Africa exit strategy document describes in broader terms how the project will exit and still sustain its impacts, i.e., the exit strategy is to ensure the sustainability of N2Africa impacts after it ends. More specifically the strategy describes the current status and how the project is working to ensure that partners will continue to disseminate N2Africa technologies after project withdrawn its resources while ensuring that achievement of the project objectives is not risked and that progress towards the vision of success will continue.
Based on the reality of Mozambique the key focal areas of N2Africa exit strategy include:

a) assurance that government and development organizations are mastered in legume production using good agricultural practices
b) availability of seed and inoculants (in particular) to farmers through commercial channels including "last mile" delivery channels
c) the continuation of efforts to ensure that the laboratory is operational for at least perform quality control of inoculants sold in the country

3. Objective of Documenting Exit Strategies

The objective of this document is to indicate to what extend the above exit strategy drivers have been pursued and the remaining gaps to be addressed. Specifically to:

1. Ascertain what has been done regarding exit strategies:
   a) To fully integrate activities into national (Private, NGO, Government) structures;
   b) To ensure sustainable input supply; (this can have different pathways i.e. CBO, ICT-Platform based, outgrower to information brokering, market-research with feedback loops, etc.);and
2. To support information and knowledge sharing platform among partners
3. To know where we are in terms of exiting and what are the exit strategy scenarios for gaps identified

4. Assumptions and risks associated with N2Africa sustainability and scale

The main assumption of the second phase of N2Africa activities in Mozambique was that farmers and partners have mastered in N2Africa technologies for soyabean and cowpeas production, and that awareness and demand creation activities will lead to adoption by farmers. Another assumption was that, last mile providers already exist and developed to take up the opportunity from demand creation on soyabean and cowpea. Thus, N2Africa would play more of a facilitation role in these two legume value chains. it was also assumed that the laboratory equipment donated by N2Africa to Mozambican Agriculture Research Institute (IIAM) for inoculant production and quality control during Phase I will be operational to provide services to legume value chain players, in particular soyabean.

5. Description of exit strategy Status

5.1. Exit Strategy: to ensure that activities to enhance production and productivity of legume crops are fully integrated into the national structures

Despite the remarkable achievements from N2Africa Phase I, significant effort was still needed for smallholder farmers to effectively benefit from legume technologies (See Sustainability matrix in Section 5). For instance, inputs sector is undeveloped. A significant percentage of smallholder farmers who live in sparsely populated rural areas do not have access to inputs from the market; hence they relied on NGOs interventions to access improved seeds, or even inoculants. We should mention that in the context of Mozambique much of the initiatives to increase smallholder farmers productivity as well as to link farmers to input-output markets are based on short-time projects (maximum 5 years) implemented mainly by international NGOs. Therefore farmers are highly dependent on NGO-led technical assistance projects. This is major limitation to long term sustainability.

Notwithstanding the initial training done by N2Africa to IIAM´s technician, unfortunately the laboratory for inoculant production and quality control is not yet functioning. Though farmers in Mozambique are using inoculants, there is no local authority/body to ensure that inoculants being sold are of good quality.

To address the above bottlenecks and to ensure long terms the sustainability of N2Africa Project impacts in Mozambique when it ends, N2Africa approach focused on establishment of partnerships with existing key players in the soyabean and cowpeas value chains. The mutual recognition of complementarities and synergies to achieve N2Africa and partner´s objectives was the key for partnerships development. As results partnerships focused on 1) building national/local organization and human capacities; 2) awareness and demand creation; 3) linkages to sustain input supply.

Build national/local organization and human capacities
Capacity building activities on soyabean and cowpea agronomy (appropriate sowing time, optimal planting density, advantage of improved seed over traditional varieties, the benefits of using inoculants and P fertilizer, post-harvesting handling, rotation sequence, intercropping patterns etc.) were implemented targeting farmers associations, government extension officers, NGO's and other community-based organizations in Manica, Tete and Zambezia provinces. Though not a focus of N2Africa, agro-dealers were trained on maize-pigeonpea as per their request. The knowledge and skills gained through the project will go a long way to enhance adoption, increase productivity and the sustainability of the project results

Parallel to the above activities, the N2Africa country coordinator together with former N2Africa PhD´s student (Amaral Chibeba) have elaborated an inventory of the main needs (reagents and accessories/materials) for the laboratory to be operational for inoculant quality control before the end of N2Africa project. Two technicians in the Laboratory are preparing to travel to Nodumax, Ibadan, Nigeria for two weeks training to enable them carry out inoculant quality control activities in Mozambique.

Awareness and demand creation
Dissemination activities focused on the importance of improved seed, P-fertilizers and inoculants which were implemented in each cropping season on farmers´ fields. Simultaneously dissemination materials on soyabean production were produced in collaboration with Africa Soil Health Consortium and CLUSA-PROMAC and shared with all soyabean value chain partners. Through field days and visits, all value chain actors gathered to discuss and identify knowledge gaps as well as missing links. Partners such as CLUSA-PROMAC, ACOF and agro-dealers are now engaged and scaling up the technologies related to soyabean and cowpea production through demonstration plots with minimal and in some case without intervention of N2Africa.

5.2. Exit Strategy: to ensure sustainable input supply

Linkages to sustain input supply

Mozambique lacks a reliable input production and distribution network, which limits commercial distribution of improved seed, inoculants and fertilizers. Furthermore, credit acquisition is hardly feasible due to high interest rates, sometimes exceeding 40 %. Therefore, N2Africa placed emphasis on establishing partnerships with key players in the soyabean and cowpea value chain to ensure availability of enough and good quality seed. Working closely with SEMEAR Project - USAID funded Project - pre-basic seeds are sold to seed companies such as Oruwera, Phoenix and others, and some supplied to IIAM seed production unit to produce basic seed. The basic seeds are also sold to seed companies, farmers organizations and individual community seeds producers who have the abilities and the resources to produce certified seeds. Currently, farmers can access seed of good quality from seed companies, local agro-dealers and community seed producers.

N2Africa together with PROMAC are working with two Hub agro-dealers (Agrifocus and Savon) for sustainable supply of Legumefix inoculant in the country. Agrifocus Company has shown interest in registering the Legumefix for further commercialization in Mozambique. This is still an activity in progress.

5.3. Status of exit strategies

Sustainability matrix for Mozambique
This matrix provides a summary of the status of the 2 main exit strategy drives and in relation to now and post project/sustainability. Complete the matrix using current available information. Key: 1= present/achieved; 0= not present/achieved; - not applicable

Item	Partner[1] Name													
	IIAM	Farmers associations	CLUSA PROMAC	ACOF	SDAE	DNER	Community seed producers	Oruwera	Phoenix Seed	SEMEAR project	Ms Brigida	Agrimerc	Agrifuturo	IFDC
Project time														
Dissemination of technologies: Use of packaged information (tools, guidelines, technical briefs) on legume best practices promoted by N2Africa	-	1	1	1	1	1	1	1	-	1	1	1	1	1
Dissemination of technologies: Use of knowledge (direct capacity building) on legume best practices promoted by N2Africa	1	1	1	1	1	1	1	1	-	1	1	1	1	1
Inoculant availability[2]	-	-	-	-	-	-	-	-	1	-	-	-	1	-
Seed availability	-	1	-	1	-	-	1	1	1	1	1	-	-	-
Fertilizer availability	-	-	-	-	-	-	-	-	-	-	-		-	1
Inoculant Usage	1	1	1	1	1	1	1	1	1	1	1	-	1	1
Seed Usage	1	1	-	-	-	-	1	1	-	1	1	-	-	-
Fertilizer Usage									1	1			1	1

[1] Partners include those who play key role in partnerships but are not signatories

[2] Availability means registered and sold

Item	Partner[1] Name													
	IIAM	Farmers associations	CLUSA PROMAC	ACOF	SDAE	DNER	Community seed producers	Oruwera	Phoenix Seed	SEMEAR project	Ms Brigida	Agrimerc	Agrifuturo	IFDC
Inoculant Supply (supply chain Champion)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Seed Supply (supply chain Champion)	-	-	-	-	-	-	1	1	1	1	1	-	-	-
Fertilizer Supply (supply chain Champion)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Input Supply Info	-	1-	-1	-1	-	-	-1	-1	-1	-1	-	-1	-	-
Output Supply Info	-	-1	-1	-1	-	-	-1	-1	-1	1-	-	-1	-	-
Inoculant Quality control	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inoculant R4D/Research to adapt	1	1	1	1	-	-	1	-	1	1	1	-	1	1
Sustainability / post project														
Dissemination of technologies: Use of packaged information (tools, guidelines, technical briefs) on legume best practices promoted by N2Africa	-	1	1	1	1	1	1	1	1	1	1	1	1	1
Dissemination of technologies: Use of knowledge (direct capacity building) on legume best practices promoted by N2Africa	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Inoculant availability[3]	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Seed availability	-	1	-	1	-	-	1	1	1	1	1	-	-	-
Fertilizer availability	-	-	-	--	-	-	-	-	-	-	-	-	-	-
Inoculant Usage	-	1	1	1	-	-	1	1	1	1	-	-	1	1
Seed Usage	-	1	1	1	-	-	1	1	1	1	1	1	1	1

[3] Availability means registered and sold

Item	Partner[1] Name													
	IIAM	Farmers associations	CLUSA PROMAC	ACOF	SDAE	DNER	Community seed producers	Oruwera	Phoenix Seed	SEMEAR project	Ms Brigida	Agrimerc	Agrifuturo	IFDC
Fertilizer Usage	-	1	1	1	1	-	1	1	1	1	1	1	1	1
Inoculant Supply (supply chain Champion)	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Seed Supply (supply chain Champion)	-	-	-	1	-	-	1	1	1	1	1	-	-	-
Fertilizer Supply (supply chain Champion)	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Input Supply Info	-	1-	-1	-1	-	-	-1	-1	-1	-1	-	-1	-	-
Output Supply Info	-	-1	-1	-1	-	-	-1	-1	-1	1-	-	-1	-	-
Inoculant Quality control	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Inoculant R4D/Research to adapt	1	1	1	1	-	-	1	-	1	1	1	-	1	1

6. Way forward: Strategic scenarios to close the gaps identified

N2Africa and partners agreed on the need to further upscale the legume technologies in the coming cropping season with direct involvement of agro-dealers, with minimum assistance from N2Africa. Thus, agro-dealers will establish on-farm demonstrations trials with technical backstopping from CLUSA-PROMAC. Simultaneously PROMAC will extend the dissemination activities on soyabean and Legumefix to more areas. The Hub agrodelears will engage in awareness and demand creation campaigns through field days and visits and establish linkages for inoculant supply to farmers through their farmers' associations.

To address the issue of inoculant quality control, N2Africa has provided the reagents and other materials for the rhizobiology laboratory. Two newly recruited IIAM technicians will be trained and supported by Dr. Amaral Chibeba at IITA-Mozambique on basic aspects of inoculant control. The IIAM technicians will also be trained in Ibadan on rhizobiology with main focus on inoculant quality control and production. This training is planned for the month of December.

7. List and addresses of key contact persons continuing project activities

Specific e-mail addresses and phone numbers can be obtained via n2africa.office@wur.nl as publishing privacy sensitive contact information in a public report is forbidden by law.

Agro-Comercial Olinda Fondo (ACOF). Contact person: Ms Olinda Fondo

Phoenix Seed Company. Contact person: Mr George

NCBA - CLUSA - The National Cooperative Business Association. Contact person: Sergio Ye

AGRIMERC. Contact person: Gil Mucave

International Fertilizer Development Center (IFDC). Landline: +258-21-462914 / Fax: +258-21-462915

Oruwera Lda. Contact person: Mr Amilcar Sanete

SEMEAR Project. Contact person: Mr Carlos Malita

IIAM, Institute of Agrarian Research of Mozambique.

Mrs Brigida: Entrepreneur in Angonia district

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

68. Review of conditioning factors and constraints to legume adoption and their management in Phase II of N2Africa
69. Report on the milestones in the Supplementary N2Africa grant
70. N2Africa Phase II Launch in Tanzania
71. N2Africa Phase II 6 months report
72. Involvement of women in at least 50% of all farmer related activities
73. N2Africa Final Report of the First Phase: 2009-2013
74. Managing factors that affect the adoption of grain legumes in Uganda in the N2Africa project
75. Managing factors that affect the adoption of grain legumes in Ethiopia in the N2Africa project
76. Managing factors that affect the adoption of grain legumes in Tanzania in the N2Africa project
77. N2Africa Action Areas in Ethiopia, Ghana, Nigeria, Tanzania and Uganda in 2014
78. N2Africa Annual Report Phase II Year 1
79. N2Africa: Taking Stock and Moving Forward. Workshop report
80. N2Africa Kenya Country Report 2015
81. N2Africa Annual Report 2015
82. Value Chain Analysis of Grain Legumes in Borno State, Nigeria
83. Baseline report Borno State
84. N2Africa Annual Report 2015 DR Congo
85. N2Africa Annual Report 2015 Rwanda
86. N2Africa Annual Report 2015 Malawi
87. Contract Sprayer in Borno State, Nigeria
88. N2Africa Baseline Report II Ethiopia, Tanzania, Uganda, version 2.1
89. N2Africa rhizobial isolates in Kenya
90. N2Africa Early Impact Survey, Rwanda
91. N2Africa Early Impact Survey, Ghana
92. Tracing seed diffusion from introduced legume seeds through N2Africa demonstration trials and seed-input packages
93. The role of legumes in sustainable intensification – priority areas for research in northern Ghana
94. The role of legumes in sustainable intensification – priority areas for research in western Kenya
95. N2Africa Early Impact Survey, Phase I
96. Legumes in sustainable intensification – case study report PROIntensAfrica
97. N2Africa Annual Report 2016
98. OSSOM Launch and Planning Meeting for the west Kenya Long Rains 2017
99. Tailoring and adaptation in N2Africa demonstration trials
100. N2Africa Project DR Congo Exit Strategy
101. N2Africa Project Kenya Exit Strategy
102. N2Africa Project Malawi Exit Strategy

103. N2Africa Project Malawi Exit Strategy

Partners involved in the N2Africa project

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Diobass

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