



N2Africa

Putting Nitrogen Fixation to Work for Smallholder Farmers in Africa Project

Final Report

Reporting Period: 1st May 2016 to 31st March 2017

Partner: URBANET

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Introduction

The 2016 cropping season has been very exciting and interesting to farmers in the Savelugu/Nanton district of Northern Region of Ghana where URBANET is leading the implementation of the N2Africa project technology dissemination work. This year's rains have been good and adequate for most farmers especially those who participated in the N2Africa project. Unlike the 2015 season where most soybean farmers had losses because of the early stopping of the rains. This year, farmers have witnessed not only good vegetation but good yield as well.

This year's N2Africa project activities started in May and the report covers the period of 1st May 2016 to 31st March 2017. A number of new communities expressed interest in the N2Africa project technologies and were brought onboard to learn these technologies. The participating communities include: Savelugu town, Bunglung, Kpachelo, Botingli and Tumahi. Others are Yilkpani, Langa, and Behinaayili. The rest are Challam, Nyatua and Nyerigiyili.

A number of activities were agreed upon and captured by the contract. These activities have all been implemented and captured in the table below:

Activity	Sub-Activity
Introduction of new technologies	Mobilization of 15 communities and 450 households for demonstrations
	Setting up and maintenance of 15 Demonstration Plots
	Setting up and maintenance of 150 adaptation plots
	Organization of 15 Field Days
	Communication to Farming Communities (Radio Discussions)
	Communication to Farming Communities (Video Shows)
Ensure access to inputs and last mile delivery	Facilitate community seed production by linking farmers to Heritage seed company as seed out-growers
	Facilitate linkage between farmers and input distributors for improved access to legume inputs
Ensure access to market output	Train 20 leaders of producer groups on grain quality and market standard
	Facilitate marketing of farmer produce through collective marketing by 600 farmers by linking farmers to specific

	buyers/processors
Value Addition and Nutrition	Train women on soybean recipes to enhance household nutrition
Monitoring and Evaluation	Collect and Monitor progress of activities undertaken

Table (1) Activities implemented in the season

Mobilization of 15 communities and 450 households for demonstrations

Per the Grant Agreement and work plan, URBANET was tasked to mobilize 450 farmers to participate in the N2Africa technologies dissemination. The 450 farmers were supposed to be achieved through setting up of 15 demonstration plots for two crops, thus groundnuts and soybeans. By the 31st of October, 435 farmers were mobilized and participated in the N2Africa technologies dissemination in the Savelugu/Nanto district. The 435 farmers mobilized are captured in terms of three crops and women participation in the project in table (1) and (2) below.

Activity	Sub-Activity	Target	Achievement	Variance	Reasons
Introduction of new technologies	Community mobilization	450	435	15	Many farmers were quite busy on the own fields during the time of farmer registration for technology dissemination and could not availed themselves to the project

Table (3)Farmer mobilization

Several strategies employed supported our work in mobilization committed farmers who had greater interest in the N2Africa technologies. These strategies are captured below:

- ✓ Extension of technologies to new communities in the municipality
- ✓ Use of existing farmer groups mobilized around legumes
- ✓ Identification of legume farmers and mobilized around crops
- ✓ The use of both small and large farmer group meetings in mobilizing farmers

The total number of farmers mobilized is also categorized into male and female and is captured in table 4 below:

Table (4) Gender segregation of farmers' reached

Operational Area	Farmers reached		Total
	Male	Female	
Moglaa	101	49	150
Sundu	93	41	134
Bunglung	72	79	151
% of women farmers mobilized		38.85%	

URBANET also put in place a strategy that got many women to participate in the project activities. During the process of community mobilization, priority was given initially to groups built around women. The strategy actually worked and resulted in the achievement of 38.85% women participation in the project.

**Figure (1) Farmer mobilization through group interactions**

Setting up and maintenance of 15 demonstration and 150 adaptation plots

The contract also mandated URBANET to set up 15 Demonstrations consisting of 10 soybean and 5 groundnut demonstrations. In addition, 150 farmers also received various inputs for trial on their own fields; 100 farmers for soybean and 50 farmers for groundnut.

Total number of demonstrations established and adaptation farmers reached with inputs for adaptation are captured in table 5 below:

Table (5) Number of demonstrations and adaptation plots

Crop	Total No of demos	Target	Variance
Soybeans	10	10	0
Groundnut	5	5	0
Total	15	15	0
Number of adaptation farms established			
Soybeans	100	100	0
Groundnut	50	50	0
Total	150	150	0
Focal Adaptation			
Soybeans	20	20	0
Groundnuts	10	10	0

All the farmers who participated in the demonstrations established were taken through the right management practices such as the recommended spacing by the protocol, fertilizer application, weeding and spraying.

**Groundnut demonstration plot at Kpachelo****Soybeans demonstration plot at Challam**

Organization of Field Days

The Grant Agreement mandated URBANET to organize a minimum of 15 Field Days with a minimum target of 50 farmers (comprising of the 30 members participating in the Demo plus 20 new farmers) per field day. At the moment all 15 field days have been organized at planting, vegetative/green state and harvesting/technology evaluation sessions.

The 15 farmer field days organized are categorized as follow: Five at planting, five at the vegetative stage and five during harvesting or technology evaluation sessions. Number of farmers reached through field days is captured in table 6 below:

Table (6) Participants at farmer field days

Total Participants at planting/early season field days					
Communities	Male	Female	Total	Target	Variance
Yilkpani	27	16	43	50	(13)
Botingli	25	31	56	50	6
Kpachelo	5	59	64	50	14
Challam	18	34	52	50	2
Nyatua	55	7	62	50	12
Sub Totals	130	147	277	250	21
Total Participants at green field days					
Behinaayili	13	25	38	50	(12)
Botingli	27	19	46	50	(4)
Kpachelo	14	19	33	50	(17)
Challam	23	14	37	50	(13)
Nyerigiyili	17	33	50	50	0
Sub Totals	94	110	204	250	(46)
Total Participants during harvest/technology evaluation					
Nyerigiyili	21	28	49	50	19
Challam	29	39	68	50	38
Botingli	21	26	47	50	(3)
Kpachelo	1	53	54	50	4
Nyatua	52	7	59	50	9
Sub Totals	124	153	277	250	67
Ground Total	348	410	758	750	42
% of women farmers		54.18%			

Special attention was given to the selection of women for the three levels of field days. This has resulted in the achievement of 54.18% women participation in the field days.

Media house such as Television Africa, North Television, and MIGHT FM from Savelugu covered one of the green field days organized at Challam. Opportunity was offered to the media to interact with farmers and URBANET staff. The event became news for both MIGHT FM and North Television.



Farmers at a planting field day at Kpachelo



Farmer field day at Challam



Farmers interacting with media at a media field day at Challam



AEA answering questions from farmers during a field day at Behinaayili

Communication to Farming Communities (Radio Discussions)

As part of this year's dissemination strategy, URBANET organized four radio programmes to communicate N2Africa technologies to farming communities within the Savelugu municipality. The four programmes attracted a lot of listeners and callers who asked varied questions about soybeans and groundnut production. Many other listeners also asked questions about inoculants and its application.

The first two programmes were dedicated to soybean production and best agricultural practices, inoculants technology and TSP fertilizer. The two other programmes were dedicated to groundnut production, best agricultural practices and TSP fertilizer application. A number of people phoned in to ask questions, 1st programme, 16, 2nd programme, 16, 3rd programme, 14, 4th programme, 18 people. Calls came from Tamale, Savelugu, Tolon, Karaga, Yendi, Kumbungu and Yapei. Each programme was dedicated to different issues/topic with target farmers of 2000. The team that handled the programme comprised of URBANET N2Africa schedule officer, farm liaison officer of N2Africa in charge of the Northern Region of Ghana, Phillip Dramani Allasan, formally with the department of agriculture and staff of Green-eff. An opportunity was extended to Green-eff to be part of the discussions to tell farmer where they could get inoculants to buy. An estimated 8000 farmers tuned in and listened to the four programmes. Breakdown of estimated listeners who tuned into the programmes are captured in table 7 below:

Table (7) Farmers Reached through radio programmes

Type of media event	Media outlet /community	participants		total
		Male	Female	
Radio discussions	MIGHT FM, Savelugu	4100	3900	8000



N2Africa team in the studios of MIGHT FM, Savelugu

Communication to Farming Communities (Video shows)

One other effective communication tool used by URBANET to disseminate the N2Africa technologies to farmers was video shows. The tool was very effective because of its ability to draw large crowds for programme work. Three strategically located communities were selected for the video shows. These communities have large numbers and are also close to others where demonstration plots were set up. The three communities which participated in the video shows and number of farmers are captured in table 8 below:

Table 8. Gender segregation of number of farmers reached through video show

Community	Male	Female	Total	Target	variance
Zaazi	38	76	114	100	+14
NantonKurugu	23	78	101	100	+1
Savelugu	14	43	57	100	-43
Total	75	197	272	300	28
% of wf		72.42%			

URBANET could not meet the target of 300 farmers under the video show because rain disrupted the Savelugu programme.

Facilitate community seed production by linking farmers to Heritage Seed Company as seed out-growers

Development of sustainable input supply systems is an integral part of the N2Africa project with a milestone that envisioned the availability of inputs to farmers. As part of the efforts in ensuring sustainable inputs supply especially improved seeds for farmers, URBANET identified a number of farmers interested in seed production as out-growers and linked them to Heritage Seed Company for seed production. In all 40 farmers made up of 20 women and 20 men multiplied SAMNUT 22 on 21 acres, Chinese on 3 acres and Afayak on 14 acres in the Savelugu/Nanton district on the N2Africa project, Heritage Seed collaboration.



Woman seed out grower weeding her seed farm at Zaazi



Seed out grower admiring his seed farm at Langa



Seed inspector from the seed unit inspecting one of the seed farms



Farmers supporting Heritage seeds to measure their produce at Langa

The seed inspection unit of the department of agriculture inspected all the 40 seed farms to ensure that they all meet the necessary requirements to be processed as seed. They were very satisfied with the work of the farmers.

URBANET supported Heritage Seed Company to mobilize and pay for all seeds produced by the farmers. Total quantity of seeds mobilized and the amount of money paid to farmers are captured in the table below:

Number	Type of Seed	Variety	Quantity Mobilized	Amount paid GHc
1	Groundnut	SAMNUT 22	3.17 tons	6,353.00
2	Groundnut	CHINESE	236kg	581.00
3	Soybean	AFAYAK	3.759 tons	6014.4

Every woman who has been part of the seed production expressed happiness for the great opportunity offered them by the project.



Women expressed happiness for the new incomes from seed production at Zaazi

Facilitate linkage between farmers and input distributors for improved access to legume inputs

URBANET provided an opportunity to Green-eff to participate in radio discussions to market the inoculants and also teach farmers how these inoculants are used. The radio discussions were very useful because many farmers got better understanding about the inoculants and where to get them to buy in the district and Tamale. Many other input dealers were afforded opportunity to interact with farmers during community meetings organized by URBANET and at farmer field days. Hadiola Agro Chemicals is based in Tamale but with an agent in Savelugu. During two of the community meetings he sold agro-chemicals to farmers. At the first meeting he GHc68.00 and at the second meeting he sold products to an amount of GHc143.00.



Hadiola Agro-Chemical Marketing products to farmers during planting field at Yilkpani

Train 20 leaders of producer groups on grain quality and market standard

One of the challenges faced by soybean producers in the Savelugu/Nanton Municipality is marketing. After the hard work and struggle to cart produce home, farmers are not able to find prices that can compensate for the efforts they put in their farms. They often struggle from one market to the other looking for buyers for their soybean produce. They sometimes settle on soybean aggregators who use quality as an excuse to offer low prices. To address the quality issues, URBANET as part of the activities for the season organized a training for 20 leaders of the producer groups on quality grain and market standard. The training brought together 14 male and 6 female farmers from different communities of the Savelugu municipality. The training which was facilitated by the Savanna Farmers Marketing Company Ltd touched on key areas including: Signs of maturity of soybean farm, importance of timely harvest of soybean, materials needed and methods of threshing of soybean, soybean cleaning, storage and quality and market standard sought by Savanna Farmers Marketing Company Ltd.

Immediate outcome of the training included: Fourteen (14) male and six (6) female farmers increased knowledge on soybean grain quality and market standard, Fourteen (14) male and six (6) female farmers familiarized with Savanna Farmers Marketing Company Ltd soybean quality and market standard.



Picture taken during the training

Facilitate marketing of farmer produce through collective marketing by 600 farmers by linking farmers to specific buyers/processors

URBANET has again in the 2016 season facilitated marketing of farmers' produce through collective marketing. The 2016 activity was done along the processes used in the 2015 cropping year. The 2016 activity witnessed some series of meetings facilitated by URBANET between soybean aggregators and some selected communities of the Savelugu Municipality including: Bunglung, Kpachelo and some parts of the Savelugu township. In all 83 farmers made up of 65 male and 18 female participated those series of meetings with three soybean aggregators.

Outcomes of the meetings included the following:

- Farmers received contacts of aggregators willing to buy soybean
- Farmers expressed willingness to sale produce to aggregators
- Borimaakosu aggregated 3 tons of soybean from farmers in Bunglung and Kpachelo



Staff of URBANET and Borimaakosu at a meeting with farmers at Bunglung

Train women on soybean recipes to enhance household nutrition

The cultivation of grain legumes, particularly common bean, cowpea, groundnut and soybean, has many benefits. These legumes can fix nitrogen from the air and improve soil fertility. Most importantly, grain legumes are high in protein and may be processed into a wide range of nutritious foods that greatly complement cereals and tubers.

Soybean is of particular importance because of its high protein content, balanced nutritional composition and opportunities for value-added processing. Soybeans are rich in omega fatty acids, iron, magnesium, potassium and contain no cholesterol. Soybeans are particularly important in child nutrition as it prevents stunting due to protein deficiency, supports neurological development, builds stronger bones and strengthens the immune system.

The high protein content, balanced nutritional composition and opportunities for value-added processing of soybean motivated URBANET to organize a step down training in three communities to train women soybean farmers on soybean value addition. The trainings which were done at Zaazi, Challam and Savelugu received a total of 231 female and 11 male farmers as participants.

Seven soybean recipes were prepared for the women to see by a facilitator from the Regional Women in Agriculture unit of the department of agriculture, Tamale. The recipes prepared included: Soybean milk, Kebab, Koshe, Tubaani, T.Z, Rice and porridge.

The participants were excited because of the importance of soybeans in child nutrition and as it prevents stunting due to protein deficiency, supports neurological development, builds stronger bones and strengthens the immune system.



Pictures taken during soybean recipe training at Zaazi

Collect and Monitor progress of activities undertaken

Field monitoring plan was drawn together with the AEAs to facilitate regular visits to the fields for mentoring and coaching and also to ensure adherence to the protocol and to ensure that farmers were mobilized for events or activities that benefited them at all stages of the demonstrations. The AEAs visited the fields once every week to support the lead farmers address issues emerging from their farms. UrbANet project team leader also visited the field every fortnight to ensure that AEAs are in the field supporting the farmers.

Data tools and tablets were distributed to AEAs to facilitate data collection. This activity went on well.

Lessons Learnt

What went well?

- The rains were good this year
- Women participation in the project has been very good and captured below:
 1. 38.85% of farmers mobilized
 2. 54.18% of all farmers who participated in field days
 3. 72.42% of farmers who participated in video shows
 4. 50% of farmers who produced seeds
- The early planning and release of funds also facilitated our work very well
- 20 women had improved incomes from seed production

What did not go so well?

- Poor planning of community seed production leading to lack of consensus on the price Heritage seed will pay for farmers produce.
- Poor planning on the part of Heritage seeds led to the delay in mobilizing and payment for the seed.

Challenges encountered in activity implementation

A number of challenges have been encountered during the season. These challenges are enumerated below:

- Some diseases were observed at the groundnut demonstration plots and seed farms



Diseases observed at groundnut fields

- Many farmers also offered themselves to participate in seed production but there were not enough seed for them

Opportunities identified

A number of women farmers expressed interest in taking up seed production. Twenty (20) of these farmers produced seeds for Heritage Seed Company and are willing to continue this venture. They need additional training in production and business.

Conclusion

This year's project implementation started very well when the rains started coming and many of the targets set for URBANET were achieved. Women farmers were targeted for this year's activities given as an impressive result on some of the activities. Video show for instance gave us 72.42% women participation in the activity. Farmer field day also recorded 54.18% women participation in the activity.

Farmers who went into community seed production got good yields and also received improved incomes from the seed production.