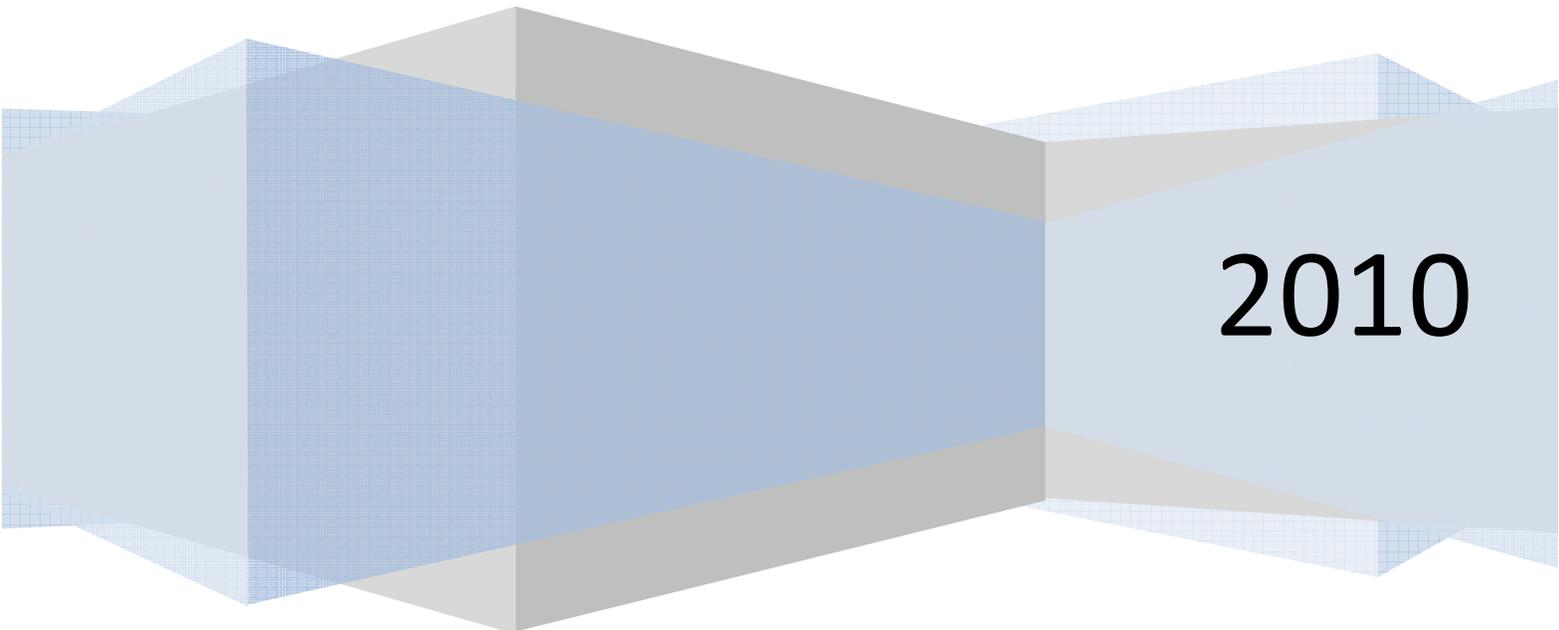


URBAN AGRICULTURE NETWORK-NORTHERN  
GHANA (UrbANet)

# Annual Report



2010

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## **1.0 Development Context**

The northern region is the fourth largest region in the country with a population of 1,854,994 people, 933,866 females and 921,138 male (Population & Housing Census, 2000). Regrettably, the region is the third most impoverished region in the country in terms of access to socio-economic infrastructure and general wellbeing of its population. Poverty is wide spread with majority of women and children being the most affected. The Ghana Living Standards Survey 4 revealed that, 69.2% of the people in the area live below US\$ 100 a year against the national average of 39.5%. 7 out of 10 people live below the poverty line (GPRS, 2002). The region is characterized by high illiteracy rate, high unemployment and underemployment, and limited employment opportunities. The main occupation in the region is agriculture employing about 70% of the population. The rainfall pattern is erratic with a single rainy season. Irrigation facilities are lacking and farmers therefore crop once a year. The crops grown widely include: maize, groundnuts, rice, millet, yam, sorghum, soybean, cotton and cowpea among others. Animal husbandry is also widely practiced and animals like cattle, sheep, goats and fowls are reared mainly on subsistence basis.

Urban centers are also rapidly emerging in the north. Rapid urbanization in many developing countries including Ghana comes with serious development challenges for many urban dwellers; particularly the indigenous people. The Tamale Metropolitan assembly is the capital city of the northern region and is rapidly growing in lips and bounds as one of the emerging urban centers in Ghana. As residential and urban development encroaches on agricultural land due to rapid urbanization, there is a consequent decline in the farmed area and an increasingly limited access to the natural resources on which the livelihoods of the poorest depend. Even though decentralization requires that municipalities are more and more dependent on their municipal territory as a principal source of employment creation and wealth, urban agriculture has not been as much an integral part of urban planning as would be necessary to ensure food security and employment avenue for the poor whose main source of livelihood remains agriculture. The government has also not provided policy guidelines on urban agriculture due to the low appreciation of the contribution of urban agriculture to national food security and development.

Aside the challenges brought about by urbanization women and girls who constitute about 95% labour force in the small scale agro-processing industry in the area are still faced with gender, political and socio-economic discrimination resulting in the violations of their right to food, socio-economic and political rights both at the household and community levels. Even though there is growing demand for women's contribution in the maintenance of the family, there is no corresponding shift in the traditional practices to open opportunities for their economic empowerment. This has placed extra burden on women. Thus central to the challenges of women as people with equal human rights in the region are poverty, gender discrimination and economic disempowerment. Other key challenges of area include the following:

- Changes in land use pattern from agriculture to residential and industrial uses, gradually crowding out the poor farmers in urban and peri-urban Tamale and fast eroding their rights to access land, a key productive resource for their means of livelihood.

- Lack of effective farmer based groups and networks to confront the challenges faced by smallholder farmers
- Livelihood diversification due to gradual reduction in farming
- Inadequate access to credit for women entrepreneurs and small scale farmers
- Inadequate access to extension services for farmers
- Limited knowledge and understanding of agricultural extension policies and programmes by smallholder farmers
- Inadequate access to markets especially for women agro-processors
- Gender base and socio-economic and political discriminations resulting in the violation of the rights of women and girls

The situation discussed herein forms the bases for the programme and project development and implementations in the area by the Urban Agriculture Network (UrbANet)..

## **2.0 Background to UrbANet**

The Urban Agriculture Network-Northern Ghana (UrbANet) started as a loose platform known as Tamale Urban Agriculture Working Group (TUAWG) by key stakeholders interested in promoting sustainable agriculture practices in the urban environment. These stakeholders organized annual platform sessions which discussed mainly issues arising from researches and best practices on urban agriculture and how to set out a model for promoting urban agriculture and food security in urban centers in the north. The platform went on for three years from 2000 to 2003 which saw the mobilization of smallholder farmers into associations and groups. The platform in 2003 then took a decision to formalize the structure to operate fully as a farmer's network. The decision gave birth to UrbANet which was duly registered with the Registrar General Department in 2005 as a network of farmer based associations/organization. Key players in the development processes of the network include: ActionAid Ghana, Ministry of Food and Agriculture (Tamale), University for Development Studies, Town and Country Planning Department, Water Research Institute, Savannah Agriculture Research Institute (SARI), Animal Research Institute, CAPSARD, Environmental Protection Agency (EPA), CARE International, World Vision International, Northern Region Poultry and Livestock Farmers Associations, Vegetable farmers and women agro-processing groups.

UrbANet focused mainly in promoting urban agriculture in its formative years (2000-2006). Following the trends of development challenges in the operational areas however, the organization broaden its mandate to incorporate micro-finance for smallholder farmers and rural agriculture programming that has forward and backwards linkages to urban agriculture and food security in general. For example due to rapid decline in farmlands majority of the poor in urban centers now move out to the urban fringes and to nearby districts to farm. Again a greater proposition of farm produce whether from rural or urban farmers are processed in urban centers hence the need to look at agriculture holistically (rural and urban)

## ***2.1 ORGANIZATIONAL STRUCTURE OF UrbANet***

As a network of farmer based organizations, UrbANet has three-tier management structure which includes:

1. The General Assembly- this is the highest decision making body of the organization and it is made of representatives of the farmer groups/associations that formed the network. Currently UrbANet has a total membership of 41 Farmer Based Groups. The General Assembly meets once a year to deliberate on broad organizational policy issues and make major decisions regarding the growth of the network
2. The Executive Board- the organization has seven member executive board (3 female and 4 male) elected from among the General Assembly for a term of two years for two turns possible. The board plays an advisory role and its responsible to the General Assembly
3. The Secretariat-this is the administrative body of the network responsible for the day-to-day administration and execution of decisions of the General Assembly.

## ***2.2 VISION STATEMENT***

To have a society in which the poor and vulnerable are food secured in a sustainable environment.

## ***2.3 MISSION STATEMENT***

To create a vibrant network of small scale farmer organizations through capacity development and networking as a means of ensuring access to productive resources for food security and sustainable livelihoods

## ***2.4 BROAD OBJECTIVES***

1. Establish an effective network of small scale farmer organizations in northern Ghana
2. Improved Food Security and income through development and dissemination of appropriate sustainable agricultural technologies
3. Build the capacities of small scale farmer organizations for effective participation in agricultural policy discourse
4. Advocate for the integration of urban agriculture into policy planning processes as a means of ensuring urban food security
5. Create and share knowledge on proper agronomic practices for improve productivity among small scale farmers in northern Ghana
6. Promote gender mainstreaming in agriculture
7. Provide sustainable micro-finance for small scale farmers

8. To facilitate the promotion and protection of the rights of women and girls

### **3.0 PROGRAMME OF ACTIVITIES FOR THE YEAR 2010**

The Urban Agriculture Network focuses its work in three broad areas; food security projects, micro-finance and women's rights projects to address the different challenges discussed in the background to this report

#### ***3.1 FOOD SECURITY PROJECTS***

The year 2010 saw a significant progress in terms of the projects implemented in our effort at ensuring food security in the northern region. The projects range from mass mobilization and capacity development of smallholder farmers for policy dialogue; extension technology dissemination, input credit support to farmers and mobilization for participation in national and international campaigns on the rights of the poor and vulnerable populations to food.

##### **3.1.1 Mobilization and Capacity Development of Smallholder Farmers**

The development of farmer based groups and agro-based entrepreneurial groups into effective farmer associations and networks have become a key development strategy to addressing the challenges confronting small scale farmers. This will not only allow for easy delivery of extension but also will facilitate the access of these groups to other forms of services as well as external development assistance. Again there are existing government initiatives such as the Youth in Agriculture projects, Northern Rural Growth Programme (NRGP), Block Farm Projects under MoFA and the Savanna Accelerated Development Authority (SADA) which is all government initiatives targeted at farmers to address food insecurity, poverty and hunger situations in the region. Unfortunately, however, most of the farmers particularly, the smallholder farmers have not been able to place themselves well enough to take advantage of these initiatives and to advocate for accountable governance and implementation of these wonderful policies and programmes to benefit them. To address this situation UrbANet initiated the following projects in 2010.

###### **3.1.1.1 Capacity Development of Vegetable Farmers Union**

Figure 1 training session with farmers

Vegetable production continues to emerge as one of the critical livelihood strategies for the poor and vulnerable groups particularly in urban communities of the Tamale metropolis. Indeed, it is becoming more profitable for poor farmers in the urban Tamale to engage in vegetable production than travel for long distances to farm. Farmers do not need to bother themselves with transport cost, tractor services and fertilizers in



the case of vegetables production. Demand for vegetable is ever growing as a result of changing urbanization and the ever growing of the hospitality industry of the region. However, farmers are yet to understand the forward and backward linkages in the production chain and how to take advantage of it. Developing very strong farmers association and assisting farmers to develop business plans to enable them operate professionally and to be able to raise the needed capital to finance their production processes was also critical. Three different workshops were therefore held during the year: training workshop on leadership and basics of advocacy and negotiation, training workshop on value chain development and strategic and business plan development for the vegetable farmers union in the region.

35 participants (15 women and 20 men) representing seven different vegetable farmers societies constituting Northern Region Vegetable Producers and Marketers Union which was formed the previous year acquired knowledge on strategy and business plan development and value chain concept. All the seven vegetable farmer societies that make up the union have acquired certificates from the Corporative Department which has boosted their credibility. The union also attracted the services of USA based consultant with the support of ACDI/VOCA who supported the union to develop a business plan and currently marketing it for funding opportunity.

“We are very grateful to UrbANet and ActionAid for the support they have offered us over the years and continue to support us without getting tired. I am confident that we will soon retire UrbANet and stand on our feet. I am totally amazed at the growth of our union. Not too long ago we could not even meet as smaller groups in our communities to do little things for ourselves. Today we have not only come together as farmer groups but a union of all the groups. We have even become so important that somebody came from the USA to work with us. What more can we ask for from UrbANet than to proof that we can stand on our feet. This am sure we can because we now have a business plan and we will not sit until we get funding for it to support our course”. This was the sentiment shared by Chief Malgu Naa an executive committee member of the NRVFU in a business plan development workshop



### 3.1.1.2 Sensitization of Smallholder Farmers on Agriculture Policies (FASDEP)



Figure 2 Sensitization session with farmers on FASDEP

Knowledge they say is power. One of the significant achievements of the year has been the depth of knowledge acquired by poor farmers and the demonstration of it subsequently in their dialogue with stakeholders. A total of 40 farmers (15 women and 25 men) and through them hundreds of other farmers increased their knowledge and understanding of the Food and Agriculture Sector Development Policy (FASDEPII)

and are showing high degree of confidence in the way they approach, interact with MoFA in general and AEAs in particularly. Most of the farmers are now able to walk to MoFA offices to ask questions and to engage Extension Agents on very important issues affecting them. This came as a result of two day sensitization workshop held with representatives of farmer groups in the region.

according to Alhassan Musah a farmer from Gbambaya “I was amaze at the turn of events at the meeting, my knowledge has improved and I can now say that I know what MoFA is supposed to be doing for farmers. I will tell my colleague group members who I represented here what I have learnt and I am sure our group stands to benefit a lot from the knowledge. Our problem is always that we don’t get agric officers, we don’t even know them and we do not



know that it is by-force for them to help educate us on our farming. Now that we know this we will always call on them to support us when the season starts and we need their help. Indeed the meeting was an eye opener for me and am sure for many of my colleagues who are attendance.”

### 3.1.1.3 Promoting Networking to Improve Food Security

One of the serious challenges to food security in the region and Tamale is the absence of effective collaboration and networking among institutions working in the area of food security. Therefore any effort at addressing this challenge is considered very important and worth considering. 20 district directors of Ministry of Food and Agriculture as well as 15 CSOs in agriculture in the region had an opportunity this year to discuss the issues of networking and collaboration and resolved with renewed commitment to initiate and invigorate district food security networks to ensure that efforts at ensuring food security in the region are coordinated and integrated to avoid duplications and to maximize the benefits. The stakeholders for the first time also had an opportunity to discuss together urban

agriculture as it relates to rural agriculture and as an important strategy in our march towards food security in the region and in Tamale Metropolis in particular.



#### **3.1.1.4 Stakeholders' forum on networking and collaboration in food security**



“I think that this meeting offers us the greatest opportunity to make things right. We have all been doing our small bits without much reference to what others do and so can only achieve little results. We sometimes even duplicate our efforts. What happens to the district food security networks is nothing but our inability to forge collaboration and networking resulting in it not functioning in almost all the districts. Let us resolve here and now to reinvigorate the networks, come back next year in this same venue to say we are achieving results with our efforts in networking. Again

let us as district directors consider seriously the issue of urban agriculture in our planning and budgeting because a city that cannot feed itself is a dead city. The efforts put in by UrbANet and ActionAid in funding and organizing this important meeting should be appreciated by making the networking and collaboration work”. The Tamale Metropolitan Director of Agriculture, Mr. Kwamena Arkorful in a closing remark as chairman of a stakeholder forum in Tamale.

### ***3.2 Extension Technology Dissemination***

Poor yields and low productivity in general are the main characteristics of poor farmers in the region. These features results from decline in soil fertility, inability of poor farmers to procure farm inputs in

their right quantities but even more serious is lack of knowledge of proper agronomic practices to facilitate efficient application of the little inputs available to them. Therefore prominent this year was the issues of transfer of technology to poor farmers to improve on production in the field.

### **3.2.1 Promoting Long Hoe Usage and Agronomic Practices**

UrbANet in collaboration with TNO a Dutch Development Organization, University for Development Studies and the Platform on Ghana School Feeding Programme piloted a new technology; LONG HOE in four selected communities in two districts (Savelugu/Nanton and Tolon/Kumbungu) of the region. The project also incorporated training in best agronomic practices to encourage farmer adaptation and subsequent increases in farm yields. A total of 58 farmers (23 women and 35 men) participated in the pilot project. Four acres of land was acquired for the cultivation of maize and the farmers supplied with all the required inputs. They were then trained in basic agronomic practices by way of demonstration in the field in various planting methods, input application methods and farm management. The farmers were supplied with the Long Hoes for demonstrations in comparison with the short hoes. A number of open days were held in the field to discuss their experiences with the participation of other community farmers that are not directly enrolled on the pilot project but interested in the project.



The pilot project was successfully concluded with mix reactions and responses especially regarding the use of the long hoe by local farmers. Interestingly, the local farmers showed keen interest and participated effectively in the demonstrations. Change there say is difficult and this was not different in the reactions by farmers comparing the long hoe and the traditional short hoe. They made different proposals for the adjustment of the hoe from its current make to make it more acceptable to them. The demonstrations however, especially regarding the agronomic practices clearly showed wonderful results in terms of crop yields. The farmers attested to the fact that following strictly proper agronomic practices as they saw in the demonstrations is the surest way to achieve greatest results. Crops yields were fantastic. “We made almost three times the yield of our two acre of maize farm compared to just an acre of land of the demonstration field”, hinted by one of the farmers Zing Naa Imoro



*Farmers harvesting demonstration fields in Tuunayili in the Tolon/Kumbungu district*

### **3.3 Promoting School Gardens in Ghana School Feeding Schools**

In order to contribute to the effort at sustaining the Ghana School Feeding Programme (GSFP) in general and in particular to promote community participation and local farmer linkages with the GSFP, SNV in collaboration with UrbANet and the GSFP secretariat developed the project dubbed: establishment of school gardens in GSFP schools/communities. The pilot project sought to establish school gardens in six communities in the Savelugu/Nanton, Tolon/Kumbungu district and Tamale Metropolis to serve as learning centres for pupils and to provide their kitchens with vegetables and grains that are staples in the specific localities. Again the school gardens were also intended to serve as community demonstration centers for the promotion of appropriate extension technology dissemination for increased local production and for farmer group mobilization and development. In order to ensure effective implementation of the project activities, a Memorandum of Understanding (MOU) was signed detailing out the parties involved in the project and the roles and responsibilities of each party. In particular SNV served as the main facilitator of the processes while UrbANet and GSFP secretariat served as the executor of the activities and the monitor of the project respectively. To achieve the objectives set out, a variety of innovative activities including the following were carried out.

- a) Community stakeholder sensitization forums were conducted in the selected communities. The issues deliberated on at the forums were basically to understand the GSFP, roles and responsibilities of various stakeholders, ensuring the sustainability of the school feeding in order to increase community level stakeholder participation and collaboration. The key participating stakeholders were chiefs, assemblypersons, representatives of PTAs/SMCs, teachers, SIC members, farmers and youth groups among others.
- b) School gardens were set up in the selected GSFP schools. This came after series of discussions with school authorities, chiefs and land owners, caterers, SICs and PTA/SMC representatives on the modalities for setting up the gardens, management of the gardens and the eventual utilization of the proceeds from the gardens. The purpose of setting up the gardens was to produce vegetables/grains to supplement the school kitchens and to serve as learning centers

for school children and farmers, and to facilitate farmer group mobilization and development. A management committee was put in place to ensure support in the management of the gardens

- c) UrbANet collaborated with Agric Extension Agents of the Ministry of Food and Agriculture responsible for providing extension education in the selected communities and organized training sessions for farmers in the school gardens in appropriate agronomic practices (planting, input application and farm management in general). School children also had the benefit of taking their practical lessons with their teachers in the gardens.
- d) Sensitization sessions were held with farmers in the project communities on the need to form farmer groups to support each other and to be able to take advantage of the marketing opportunities presented by the school feeding programme. The sensitization sessions were followed by series of learning sessions on group formation and development with selected farmers in the communities.
- e) One open day each were organized in the gardens in all the selected communities when the crops were half way matured. This was an event open to all farmers in the communities to learn and share the agronomic technologies exhibited in the gardens to enhance the knowledge of farmers and to demonstrate that the gardens were feasible options for contributing to sustaining the feeding programme.
- f) Meetings were held with district level stakeholders such as MoFA, district assemblies, district coordinators of GSFP, and representatives of the District Implementation Committees. The meetings sought to solicit support and commitment for the project and establish bases for monitoring of progress and learning on the project for possible replication and expansion into many more schools in the districts.

The projects generated very important outcomes and to a larger extent contributing to the achievements of the objective of ensuring sustainability of GSFP.

- A. Knowledge is important for effective participation in any decision making process. Getting communities to understand and to appreciate what the GSFP stands for and so increasing knowledge among communities was critical to the project. Today many individuals and groups in the selected communities have acquired increased knowledge and understanding of the GSFP and are beginning to appreciate and show commitment to the activities of the feeding programme.
- B. School Implementation Committees have improved upon their knowledge and understanding of their roles and responsibilities and are gradually and actively supporting and working in harmony with caterers and head teachers.
- C. The project also offered small holder farmers an opportunity to learn more about agronomic farming practices and to subsequently increase their productivity. The farmers had hand-on

demonstrations and observed progress of the crops in the gardens till harvest. The demonstrations built farmers confidence in the technologies introduced leading to renewed commitment for adaptation by farmers of the agronomic practices in the coming season.



D. The target schools for the first time have harvested food stuff from their own gardens to supplement the feeding programme. A total of 2150Kg worth of food stuff (maize and soybeans) was harvested and delivered to the 5 pilot schools from the gardens. In fact the produce generated from the gardens and its subsequent delivery to the schools gave

courage and motivation to the entire communities that they could support on their own to sustain the feeding programme.

E. Farmer groups are emerging in the target communities as a result of the project. The project communities received education on the benefits of mobilizing themselves as smallholder farmers into groups and have started the processes of joining hands to form groups. Five farmer groups have received training in group development and leadership and have begun discussions with the caterers of their respective communities to market their produce to them after harvest.

“I am glad I could support on the school farm. So many projects have come and gone in this community. This is one of the best projects in this community because the harvest is going to be used to feed our own children and so I can go on and on working without getting tired because in the end it is only going to be our children who will benefit. It is my prayer that the way people have shown interest in the garden this year it will continue like that so that the school will continue to feed our children with or without supply of food from elsewhere”. Said by Sanaatu Alhassan, **Gbumbum**



### ***3.4 COLLABORATION WITH WORLD FOOD PROGRAMME (WFP)***

As part of efforts to encourage community participation in the promotion of community school gardens and the sustainability of the Ghana School Feeding Programme (GSFP), UrbANet in collaboration with the Civil Society Platform on the GSFP and the WFP incorporated into the School Garden project

discussed above food for work component of the WFP for community volunteers who took management responsibilities (weeding, input application and harvesting) of the school gardens. A total of 26 volunteers worked in the gardens in four communities and were provided food in exchange for their labour.

### ***3.5 Collaboration with the International Institute for Tropical Agriculture***

The dry land of the northern region of Ghana occupies 40% of the country's agricultural land comprising sub-humid to semi-arid guinea and Sudan savannah with great potentials for legumes (groundnuts, cowpea and soybean) production. In spite of this huge potential, legumes productivity and growth continues to reduce due to such factors as: low input conditions, degraded and infertile soils, illiterate and non-organized smallholder farmers, use of unimproved crop varieties and poor agronomic practices

As part of efforts to increase agriculture production especially among small holder farmers, UrbANet in collaboration with IITA started a four year project dubbed: ***Putting Nitrogen Fixation to Work for Smallholder Farmers in Africa (N2Africa)***. Karaga district is one of the districts of the northern region with great potentials for legumes production and marketing. The district was therefore chosen due to this great potential to pilot the project to take advantage of the potentials for farmer adaptations and for increased production and productivity. The Urban Agriculture Network (UrbANet) therefore partnered with the International Institute for Tropical Agriculture (IITA) which partnership, fostered around legume and inoculants technology delivery to farmers in the district. The key components of the project that were implemented during the year include:

#### **3.5.1 Training of Agriculture Extension Agents (AEAs) and Master Farmers**

Figure 3 training session with lead farmers and AEAs

A training of trainer's workshop was held AEAs and selected master farmers. The training was held in Tamale at the Christian Council Guest House on the 24<sup>th</sup> June 2010 where the two participating districts were represented. The trainees from the Karaga district were mobilized by UrbANet and the training was conducted by Dr. Abdulai Bala. Three AEAs and three master farmers from Karaga with two UrbANet staff took part in the training. The AEAs and the master farmers after the training went back to their respective communities and trained the other farmers to kick-start of the project. The training focused on the following topics:



- Slurry inoculation
- Two-step seed inoculation

- Seed coating technologies
  - Pellets and other techniques
  - Inoculation strategy
  - Assessing root nodulation
  - Assessing response to inoculation
  - The role of available nitrogen
  - The role of native rhizobia
1. Economic gains through BNF

### 3.5.2 Farmer mobilization

Smallholder farmers both male and female were mobilized to participate in the demonstrations. The table below details out the communities where the demonstrations were staged and the total number of farmers that were involved:

**Table 2.0 Participating Farmers on N2 Africa Project**

Communities	Number of demos	Male farmers	Female farmers	Total
Shiellanyili	7	43	18	61
Sung	6	49	50	99
Pishegu	10	86	29	114
<b>Total</b>	<b>23</b>	<b>170</b>	<b>97</b>	<b>276</b>

### 3.5.3 Establishment and Management of Demonstration

A total of 23 demonstrations made up of 11 Soybean, 4 Cowpea and 8 Groundnut demonstrations were established at the Karaga district and the details are shown on the table below

**Number of demonstrations & Lead farmers**

No	Name of lead farmer	Sex	Community	Type of demonstration	Planting Date	Remarks/Observation
1	Sule Allassan	M	Sheillanyili	Soya.P.fert.and Inoculant demo	28/07/10	Very good and interesting to farmers

2	Issahaku Bawa	M	Nyengbolo	Soya.Var.& Inoculant demo	23/07/10	Very good and interesting to farmer
3	Zakaria Sayibu	M	Shebo	Soya.Var.& Inoculant demo	15/07/10	Very good and interesting to farmer
4	Ibrahim Mahama	M	Sung	Soya.P.fert.and Inoculant demo	14/07/10	Very good
5	Mahama Salifu	M	Sung	Soya.Var.& Inoculant demo	14/07/10	Very good
6	Abdulia Zuberu	M	Pishegu	Soya.P.fert.and Inoculant demo	16/07/10	Very good and interesting to farmers
7	Mansuru Abu	F	Pishegu	Soya.Var.& Inoculant demo	16/07/10	Very good and interesting to farmers
8	Abdulia Mahama	M	Pishegu	Soya.P.fert.and Inoculant demo	17/07/10	Not very good due to poor germination
9	Sulemena Iddi	M	Pishegu	Soya.Var.& Inoculant demo	17/07/10	Very good and interesting to farmers
10	Ibrahim Allasan	M	Kpataribogu	Soya.Var.& Inoculant demo	24/07/10	Poor germination
11	Inusah Imoro	M	Kpataribogu	Soya.Var.& Inoculant demo	26/07/10	Very good and interesting to farmers
12	Fulera Mohammed	F	Kpataribogu	Soya.P.fert.and Inoculant demo	26/07/10	Very good and interesting to farmers
13	Issahaku Haruna	M	Pishegu	Cereal Cowpea Cropping Systems	19/07/10	Very good and interesting to farmers
14	Sanatu Ibrahim	F	Sung	Cereal cowpea system demo	14/07/10	Very good
15	Barkisu Salifu	F	Nyengbolo	Cereal cowpea system demo	17/07/10	Very good
16	Alhassan Salamatu	F	Shellanyili	Cowpea varietal demo	23/07/10	Very good
17	Issah Issifu	M	Gbutugu	Groundnuts	16/07/10	Very good

				cropping system demo.		
18	Ayi Adam	F	Langogu	Groundnut variety demo.	16/07/10	Not very encouraging because of lackadaisical attitude of the farmers towards the demo
19	Salamatu Haruna	F	Langogu	Groundnuts cropping system	16/07/10	Not very encouraging because of lackadaisical attitude of the farmers towards the demo
20	Abukari Dokurugu	M	Shellanyili	Groundnut varietal demo	12/07/10	Very good
21	Saibu Zakria	F	Shebo	Cereal groundnut demo.	15/07/10	Good groundnuts harvested.
22	Ziblim Alaru	M	Tugini	Groundnuts cropping system	21/07/10	Good groundnuts harvested.
23	Zakia Mohammed	F	Tugini	Groundnuts cropping system	21/07/10	Good groundnuts harvested

Management of the demonstrations was entirely done by the master farmers with technical advice and support by the AEAs on regular basis. To control weeds all demonstrations were sprayed with weedicide. Further weeding was done twice on every demonstration. To control cowpea pests at vegetative, pre-flowering and flowering stages, the fields were sprayed with Kombat on every two weeks.



+ P + Inoculant Soybean demo at Pishegu



+P – Inoculant Soybean demo at Pishegu



-P +Inoculant Demo at Pishegu



-P –Inoculants Demo at Pishegu

