

REPORT ON ESTABLISHMENT OF CLIMATE SMART AGRICULTURE LEARNING SITES

COMMUNITY LEVEL PLANNING SESSION

22ND JUNE -7TH JULY, 2014

Introduction

The WAAPP is the major programme for the development of the food and agriculture sector in Ghana with a focus on small scale farmers who are most vulnerable to climate change effects. It is therefore imperative that, in implementing WAAPP, addressing climate change effects and impacts must be made an integral part of the process.

Based on this reason, WAAPP – Ghana has developed an action plan that seeks to mainstream climate change adaptation (with co-benefit for mitigation where possible) into the implementation of its activities at all levels. The action takes into consideration, action areas of the national strategies and the West Africa Climate Change Strategy developed by CORAF/WECARD.

In Ghana, following series of meetings with research, policy makers and implementers, the idea of establishing climate smart agriculture learning sites have been welcomed. Four districts covering different agroecologies are selected to pilot various technologies in these districts with respect to their farming activities considering the R&T crops among others.

1. Ho West District (Saviefe)

The team had an initial meeting with the main agriculture staff of the District which bordered on the selection of the community and any issues which led to the choice of commodity for the selected community.

Discussions were also held separately for the farmers group to ascertain their level of understanding with respect to Climate Change. 15 farmers out of the registered farmers were present at the meeting.

The following among others were the responses from the farmers present at the meeting:

- Xeyixi-totro was given as the local name
- The period of time of changes in the weather
- Changes in rainfall patterns. Farmers explained that in the 70s, the community had rains as early as February through to December. The trend ceased until just this year.

Causes

- Rainfall intensity (low or high)
- Sunshine

- Forest (good forest results in good rainfall)
- Drought
- Indiscriminate bush burning
- Human activities (80%)
 - Bush burning
 - Deforestation

Negative Impact of Climate Change

- Insufficient rainfall
- High sunshine
- Severe storms
- Hunger
- Low yields
- Cassava rot as a result of heat and erratic rainfall
- Poverty
- Drying up of water bodies (rivers)
- Extinction of food and forest products
- Prolong drought
- Increased insect infestation

Positive Impact

None

Determination of Rainfall Pattern (Weather Forecast)

- Special noise made by frogs
- Blowing of cold wind
- Manifestation or appearance of black ants
- Movement of butterfly westwards predicts the preparation of lands and their return the beginning of rains.

Consequences of Climate Change on livelihood

- Ill-health
- Poor yields
- Sleepless night as a result of long periods of heat
- Low interest in farming as a result of erratic rainfall
- Poor soils
- Poor planning with respect to planting

- Destruction of foodstuff by wildlife
- Sickesses (eg. Headache)
- Extinction of some common crops (eg. Millet and broad beans)
- Poor quality of harvested sweetpotato (cracks on roots)
- Poor bunch formation in bananas/plantain
- Late planting results in incidence of pests build up

The farmers gave some solutions adopted or to be adopted to address these problems as indicated below:

Problems	Solutions
Poor soils	Practice shifting cultivation
Poor yields	Application of fertilizer Note: - Improper fertilizer - Poverty
Extinction of some indigenous crops	Introduce extinct crop varieties into the cropping system
Ill-health	Introduce nutritious crops into the cropping system Note: Poor nutrition
Unprofitable farming	Linkages to markets
Late planting/planning	Weather forecasting

Top Agreed 4 Priorities constraints identified

1. Poor soils
2. Poor yield (quality)
3. Weather forecast
4. Extinction of some common crops

Recommendations and Plan of Action

s/n	Activity	Action	Time/Period
1.	Introduce mucuna into cropping system	Research/DAES	
2.	Cocoyam Rapid Multiplication	Research	
3.	GAPs on Plantain	DCS	
4.	Demons on Fertilizer Application	DADU/DAES	
5.	Training in weather forecasting	Regional Gmet	
6.	Demonstration on Sweetpotato	Research/DAES	
7.	Identification of Meteorological officer for sensitization and training	DCS	

	<i>(a local team comprising of 4 members from the group set to understudy the weather begin collation of data on pattern and changes in weather conditions)</i>		
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Other Matters

The team paid a courtesy call on the District Chief Executive (DCE) who was enthusiastic and welcomed the concept of establishing a CSA learning site in the district. He also recommended for support to include cassava into their block farm activities.

2. Abura Asebu Kwamankese District

The team first and foremost paid a courtesy call on the District Director of Agriculture and his extension team to share a few thoughts on Climate Change and further the establishment on a learning site to help farmers adapt to the changes and also increase productivity in a sustainable manner. In the short brief discussion, it was highly recommended for the procurement of simple rainfall measuring kits to support the study of the weather thus aid farmers in planning well towards production.

Meeting with Farmers (Asebu Ekroful Community)

A total number of 21 farmers (19 males and 2 females) were present at the meeting for discussions. The discussions begun with farmers' level of understanding in respect of climate change.

Responses

- Changes in rainfall patterns. There is reduction in amount.
- High and long periods of sunshine.
- High use of fertilizer
- Farmers predict the weather their cropping activities
- Destruction of forest reserves
- Over population

Impact of Climate Change

- Loss of crops/extinction of crop through disease infestation. Eg. Coconut
- Low productivity/yields
- Reduction in the number of cropping times for sweetpotato. Used to crop thrice in the year but not same any longer. This has led to reduced incomes.

- Floods
- Droughts
- Destruction of property
- Rotten crops (eg. Cassava, plantain)

Determination of Rainfall Pattern (Weather Forecast)

- The cry of a bird (Twah) determines the level and intensity of rainfall within a particular year. This happens once every 4 years.
- The appearance of rainbow over the sea.
- The appearance of earthworms during the start of rains determines short periods of rainfall.

Effect of Climate Change on Livelihood

- Poverty
- Low incomes/funds
- Poor management
- Poor marketing
- Poor living standards
- Poor nutrition

The farmers gave some solutions adopted to address problems as indicated below:

Problems	Solutions
Loss of crops/extinction of crop through disease infestation. Eg. Coconut	Growing of resistant varieties
Low productivity/yields	Irrigation (digging of wells/boreholes)

Top Agreed 4 Priorities constraints identified

1. Extinction of crops
2. Good Agricultural Practices (GAPs)
 - a. Soil/Nutrition Management
 - b. Reduced number of planting per year

3. Weather forecasting
4. Low yields

NB: a 4-member weather forecasting committee was set to take records of the trends in the weather conditions with the locality. They are also to receive training to help the community in weather prediction and cropping.

Recommendations and Plan of Action

s/n	Activity	Action	Time
1.	Sweetpotato Rapid Multiplication	Research	
2.	Sensitization on GAPs	DCS/DADU	
3.	Demons on Fertilizer Application	DADU/DAES	
4.	Demons on effective usage of agrochemicals	PPRSD/DAES	
5.	Training in weather forecasting	Regional Gmet	
6.	Identification of Meteorological officer for sensitization and training	DCS/DADU	

3. Birim South District (Kokobeng)

The team in correspondence with the district agricultural staff moved directly to the farming community to meet and have dialogue with the farmers. As usual, the discussions commenced with farmers understanding of climate change.

Responses

- Rainfall and sunshine over or within a particular period
- Changes in the pattern of rainfall and sunshine
- Human activities bring about changes in the weather
 - Farming activities around water bodies thus drying up the water bodies
 - Felling of trees
 - Bush burning
 - Animal hunting
 - Use of old vehicles and machines (release of SO₂ and CO into the atmosphere)
- Heat
- Erratic rainfall
- Storms

Consequence/Impact of Climate Change

- Loss of produce / farms eg. plantain
- Low yields
- Loss of water bodies
- Increased spread of diseases in livestock and crops (eg. Cocoa and orange)
- Spread of pests
- Continuous use of herbicides

Effect on Livelihood

- Unpredictable weather
- Increased spread of diseases
- Demotivation to pursue farming

Local Weather Forecast

- After Christmas, land preparation begins
- The appearance of rainbow around the sun
- Appearance of black ants in the 3-4 month signifies massive rainfall
- The movement of particular birds
- The movement of butterfly (kobonsor) to and from the east signifies the presence of rains
- Reading of stars

Top Agreed 4 Priorities constraints identified

1. Weather failure and forecasting
2. Poor soils
3. Loss of crops/low yields
4. Human diseases (malaria, typhoid, diarrhoea)

Recommendations and Plan of Action

- Formation of a 5-member farmer team to read the weather using the indigenous knowledge
- Sinking of borehole to support irrigation
- Sensitize farmers on effect of bush burning and mulching
- Sensitization on soil and water conservation
- Video coverage on all meetings and field activities

s/n	Activity	Action	Time/Period
1.	Sensitization on Soil and Water conservation	DCS/Research/DADU	
2.	Demons on Fertilizer Application	DADU/DAES	
3.	Sensitization on GAPs	DCS/DADU	
4.	Sensitization on nutrition	WIAD/DADU	
5.	Identification of Meteorological officer for sensitization and training	DCS/DADU	
6.	Training in weather forecasting	Regional Gmet	

4. Tain District

Tainso – Community Planning Session (04/7/14)

No. of farmers: 14 (10 group members) F-4; M-10

Present: District DA; AEA (Mr. Lawrence Akorli)

Team members: Dr. Francis Tetteh, Dr. Regina Sagoe and Delali Nutsukpo

Objective of the group – Cultivation of vegetables and maize. Planning to cultivate cassava this year.

Objective of team is to establish a social learning centre with a focus on climate change. To also establish a network of climate change learners.

Knowledge of community/group on Climate Change

The following were given by members of the group present:

- ewiemu ensakyreaye
- Rainfall has changed (irregular/unpredictable) e.g. formally able to predict rain even from rising of the sun.
- Sunshine has also changed (hotter/longer)
- Heat in the wind
- Changes in nature

Effects/consequences

- Affecting farming activities – dependence on interaction of rainfall and sunshine
- Loss of crops
- Increase in pests especially of vegetables
- Loss favourite / nutritive fodder – loss animal productivity
- Increasing animal diseases – high dependence on conventional drugs
- Loss of soil fauna – poor soil (increasing soil temperature)
- Wildfires
- Quality of food (crops and animal) declined

Causes

- Precipitated by human activity and attitudes
- Wildfire
- Indiscriminate tree felling
- Release of bad gases into atmosphere

Indigenous Knowledge

- Use of indicator plants for site selection e.g.
- Indicator birds
- Wind direction
- Moon and stars (rainfall and planting)
- Butterfly – time for mounding
- Most of these indications are no longer working

Priority Problem

- Land degradation problems – loss of fertility mainly, (fallowing, (rotation) droughty (due to high clay content); - cassava suitable (organic matter, application of animal manure
- Soil borne diseases
- Soil erosion – mulching, drainage
- Bush burning – stop burning

Main Crops

- Cassava
- Maize
- Vegetable (tomato, pepper)

Main Animals

- Sheep and goats – diseases is a major problem (mange, PPR,)
- Local chicken – increased cases of diseases (fofo-akan) resulting reduction of numbers (mango back into water)

Major Problems

- Market – Losses due to glut at times of harvest, cassava, tomato etc.
- High cost of inputs
- High labour cost
- High land rent

s/n	Activity	Action	Time/Period
1.	Sensitization on Soil and Water conservation	DCS/Research/DADU	
2.	Demons on Fertilizer Application	DADU/DAES	
3.	Sensitization on GAPs	DCS/DADU	
4.	Sensitization on Animal Health and Nutrition	APD/DADU	
5.	Sensitization on marketing	DCS/DAES/DADU	
6.	Training in weather forecasting	Regional Gmet	