



**CassavaGmarkets: Improving the livelihoods of smallholder cassava farmers through  
better access to growth markets**

# **WP1: Assessing the impact of climate change on cassava flour value chains**

**Tagged Meeting related to C: AVA  
Chatham, UK, 30 January 2013**



# Description of work

1.Review a) data from IPCC of likely climatic changes in different regions of Africa. Use these outcomes to determine the range of climatic variation, (specifically rainfall and temperature) in cassava growing areas of Africa; b) CIAT predictions of the impact of climate change on cassava production.

Note: Uncertainty of CC projections . Which specific areas to focus on?

2. Assessment of impacts on cassava post-harvest systems focusing specifically on suitability for drying of different kinds, potential impact on cyanogens, impact on storage pests, impact on susceptibility to mycotoxin formation during storage.

Note: Is focus on HQCF and /or other cassava flour value chains?

3.Recommendations to guide a) other work package activities and b) possible adaption strategies – specifically with a view to more eco-friendly processing.

4. Publications and made available on the project web-site.

## **Expected results**

Publications on the impact of climate change on cassava value chains and possible adaptation strategies and research requirements by Month 18.



# Objectives

## **1. Work Package 1: Assessing the impact of climate change on cassava flour value chains**

- The overall objective of this WP is to assess the impact of climate change on cassava flour value chains.

### **Specific project objectives:**

- 1. Establish the likely climatic changes that will occur in cassava growing communities (focus on C:AVA geographical areas, but with provision for one other area; share ideas and info with India site. Characterise the current C:AVA areas)
- 2. Establish the likely implications of the changes in climatic conditions on post-harvest and marketing of cassava flour based on existing knowledge of cassava post-harvest systems (Cassava value chain, but emphasis on post harvest systems)
- 3. Develop recommendations for adaption of systems to climate change and/or establish research needs
- 4. Disseminate the outcome from the review



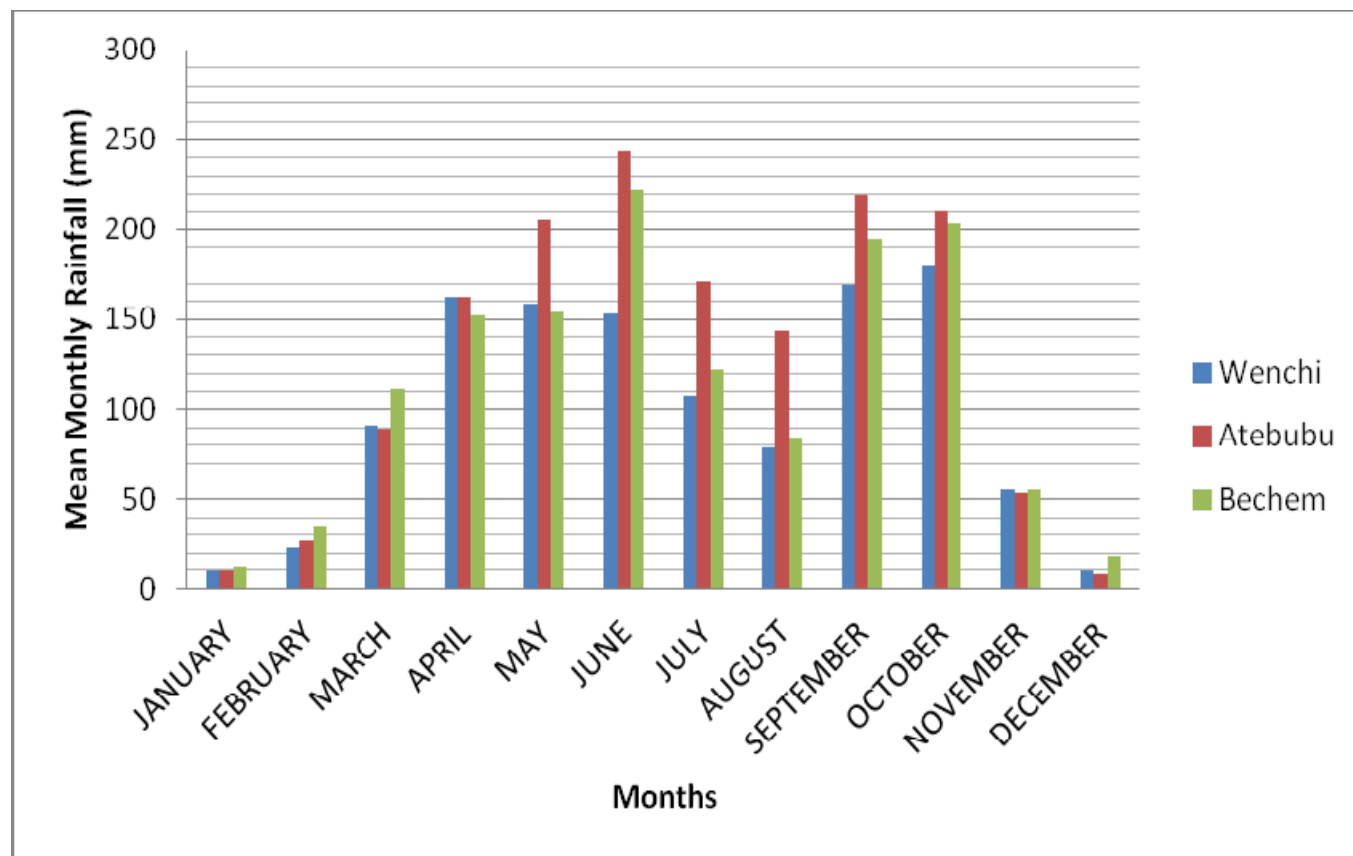
# Progress to date

## **i)Review of climate change projection models**

- UoG-NRI, AfrII
- Two main sub-activities are planned under this activity
- ia) Documenting current climate variability at C:AVA project sites - current variability provides a good entry point for understanding and responding to climate change with project stakeholders
- ib) Review climate change projections relevant to C:AVA project sites - there is a great deal of uncertainty and often lack of agreement amongst climate projection models. An emphasis on C:AVA project sites will provide focus for this activity.
- Climate variability data and climate change projection information for Brong Ahafo region, Ghana has been collated and partially analyzed as part of an MSc study. Plans are being made to identify all sources of climate data at the C:AVA project sites .

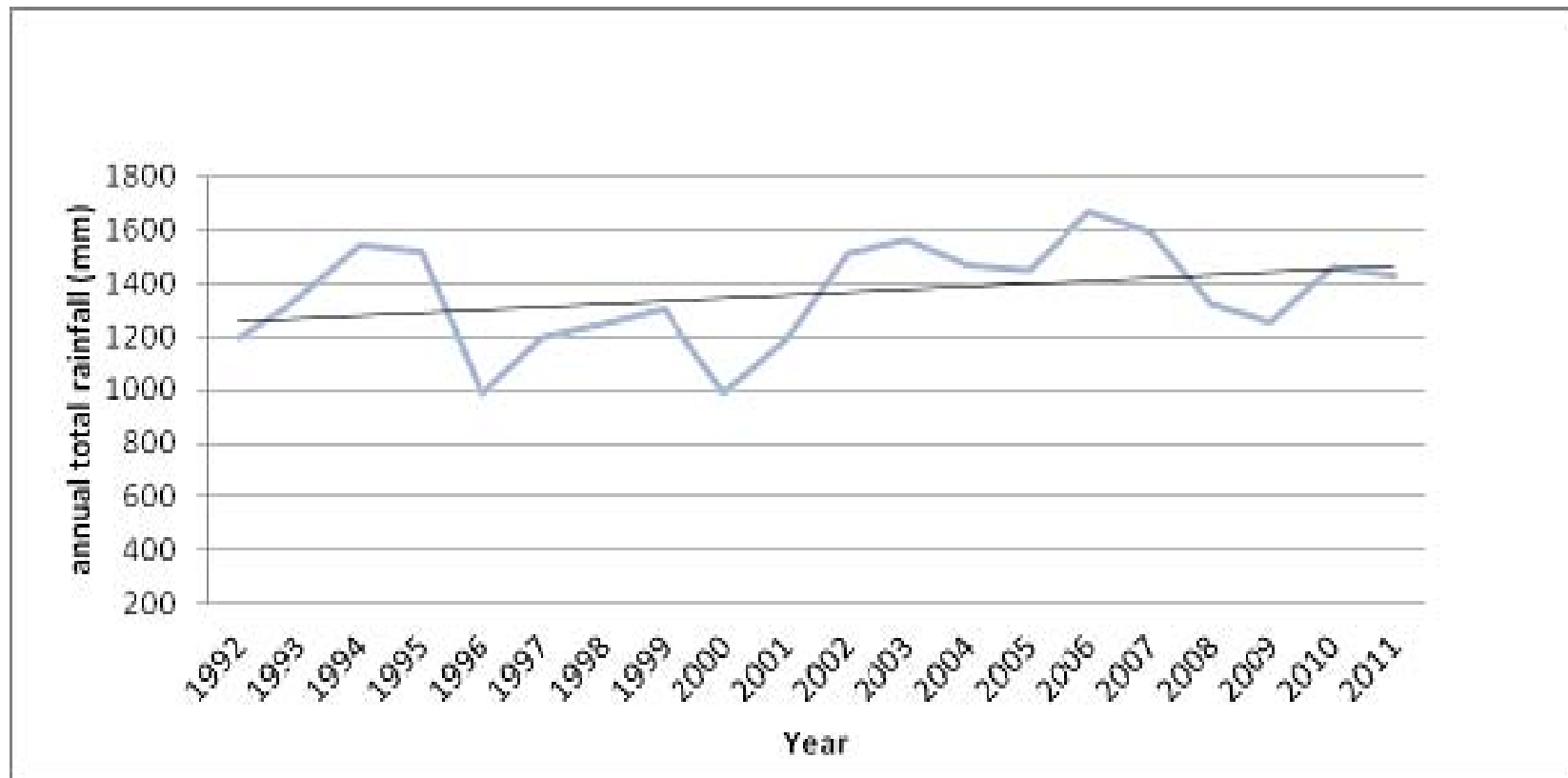


# Mean Monthly Rainfall of Wenchi, Atebubu and Bechem districts, Brong Ahafo region, Ghana (1992-2011) (Yussif Iddrisu in prep )





# Total Annual Rainfall in Bechem district, 1992-2011 (Yussif Iddrisu in prep)







## **ii)Assessing the influence of climate change on cassava postharvest systems**

UoG-NRI, UNAAB, FRI, UNIMA, TFNC, CTCRI

Two main sub-activities are planned under this activity

- iia) Assess the influence of climate variability on cassava value chains with emphasis on post- harvest systems
- iib) Assess the potential influence of climate change on cassava value chains, with emphasis on post- harvest systems
- A study of the impact of climate change and climate variability on cassava flour value chains in Brong-Ahafo region, Ghana is almost complete. This MSc study focused on High Quality Cassava Flour and Gari value chains.



# Framework for assessing resilience of value chains

(Yussif Iddrisu in prep )

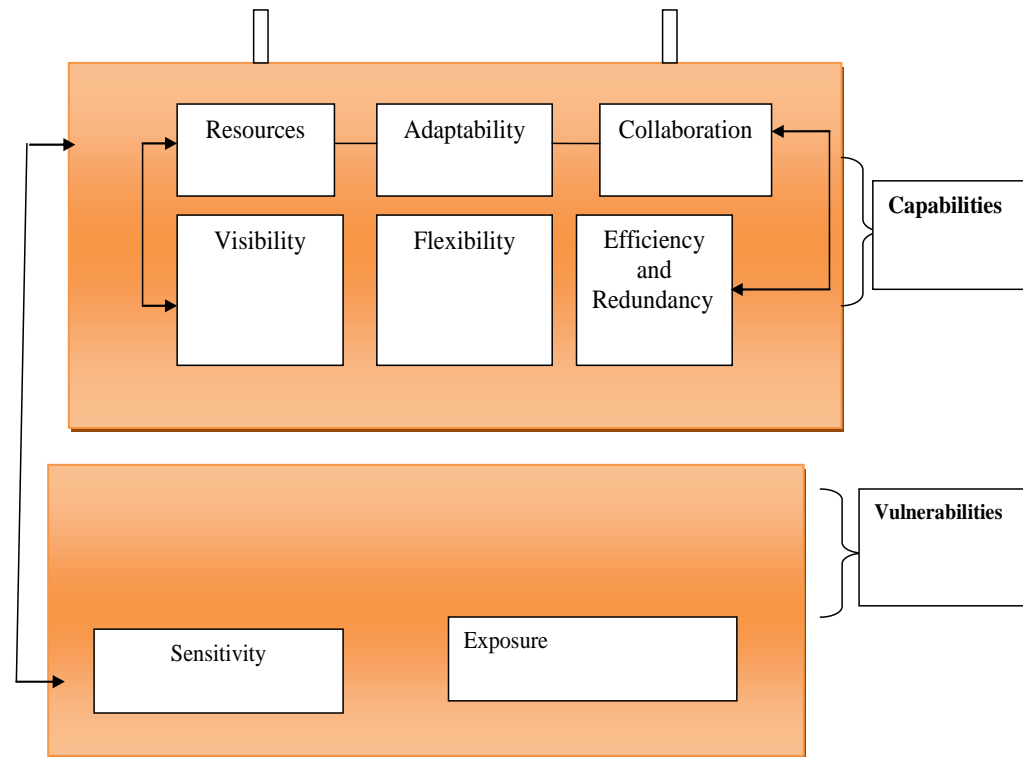


Figure 5: Framework for Assessing Resilient Value Chains

Source (Adapted from Peck and Christopher, 2004; Pettit, 2008)





### **iii)Assessing the influence of climate change on cassava cyanogenesis and mycotoxin formations**

- UoG-NRI, UNAAB, UNIMA
- This activity is not yet underway.

### **iv)Discuss findings among project partners and beneficiaries and validate for inclusion in other workpackages**

- UoG-NRI, UNAAB, FRI, UNIMA, TFNC, NARI, AfrII, CTCRI
- This activity has not started yet.



# Work planned for the next 6 months

## **i)Review of climate change projection models**

- Collate weather data for the C:AVA project sites
- Review climate change projections relevant to C:AVA project sites

## **ii)Assessing the influence of climate change on cassava postharvest systems**

- Complete the study of the impact of climate change and climate variability on cassava flour value chains in Brong-Ahafo region, Ghana is almost complete.
- Use the above study to jointly plan similar initiatives, with a focus on other C:AVA sites.

## **iii)Assessing the influence of climate change on cassava cyanogenesis and mycotoxin formations**

- Develop a work plan for this activity.



# Gmarkets weather data

For each C:AVA site identify the following:

Note: Record the type of data, the period over which it has been collected, who is custodian of the data and in what form it can be accessed eg Rainfall: daily total; 1970 – present; Tanzania Met Office, Dar Es Salaam (Met Office database) and Naliendele Met Officer, Mtwara (XL spreadsheet). Example from Ghana below

Location	Who responsible and contact details	GPS coordinates (if available)	Precipitation data	Temperature data	Sunshine data	Wind data	Other eg Relative humidity
<b>Brong Ahafo region</b>	Ghana Meteorological Agency-Regional Director Mr. Ampapeng Kyeremeh (+233243851091)						
<b>Wenchi district</b>	Ghana Meteorological Agency-Regional Director Mr. Ampapeng Kyeremeh (+233243851091)		1992-2011 Monthly Handwritten	1992-2011 Monthly average Handwritten			
<b>Bechem district</b>	Ghana Meteorological Agency-Regional Director Mr. Ampapeng Kyeremeh (+233243851091)		1992-2011 Monthly Handwritten	Not available			
<b>Atebubu district</b>	Ghana Meteorological Agency-Regional Director Mr. Ampapeng Kyeremeh (+233243851091)		1992-2011 Monthly Handwritten	Monthly average Handwritten 1992-2011			