



Climate change adaptation projects in Burkina Faso

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Background

- CC has become more pronounced since the 1970s
- Data show a clear increase of temperature with a decrease/fluctuation of rainfall
- Alternating heavy rains causing floods or lack causing draught
- These variations cause serious threat to food security and health

Very late maize sowing



Early sowing of cotton in BMHN





Background

- Burkina Faso located in the Sahel zone is particularly exposed to the adverse effects of climate variability and change
- Impact of CC is high and threaten the survival of the populations
 - Economy essentially based on agriculture more impacted by CC
 - Population mostly in rural area are more vulnerable because of poverty, ignorance
- Vulnerability to CC requires strong adaptation response
- In both side: interventions & research

Adaptation Interventions

- Burkina Faso has adopted two master plans for adaptation to climate change
- All adaptation projects are based on these master plans
- These are:
 - the National Action Program for Adaptation to Climate Variability and Change (PANA, 2007) and
 - the National Plan for Adaptation to Climate Change (PNA 2015)
- Six main areas targeted: agriculture, Environment/Natural resources, animals, Energy, Health, Housing



CRETARIAT PERMANENT DU CONSEIL IATIONAL POUR L'ENVIRONNEMENT ET LE DEVELOPPEMENT DURABLE BURKINA FASO

Unité - Progrès - Justice



PROGRAMME D'ACTION NATIONAL D'ADAPTATION A LA VARIABILITE ET AUX CHANGEMENTS CLIMATIQUES (PANA DU BURKINA FASO)



BF's National Climate Change Adaptation Plan, 2015

Objective general

 Reduce vulnerability to the impacts of CC by developing capacities for adaptation and resilience ;

Specific objectives

- Protect the pillars of accelerated growth
- Ensure sustainable food and nutrition security
- Preserve water resources and improve access to sanitation
- Protect people and property from extreme weather events and natural disasters
- Protect and improve the functioning of natural ecosystems
- Protect and improve the health of populations



Main targeted domains

Domain	Targeted Activities	X
Agriculture	 Promote adapted agro-pastoral production practices (lowland rice fields, market gardening, improved nurseries, crop seeds), Improve soil fertility, techniques against erosion 	
Environment/Natural resources	 Increase productivity and resilience of ecosystems Improve biodiversity conservation Preserve water resources 	
Animals	Developing livestock in pensStrengthen the security of pastoral activities	
Health	Improve early warning and response to CC phenomenaStrengthen research in CC	
Energy	 Promote renewable energy and ecology (Construction of bio digesters for biogas production 	
Housing	 Promote ecological housing with low energy consumption (local construction materials,) Relocate populations in submersible and floodable zones 	

RESEARCH: HDSS for CC and health research



Bärnighausen, Sié, Barteit 2019

Climate change research in Nouna HDSS

Acronym	Title
IEFMMTU5	Integrating environmental factors in modelling malaria transmission in < 5 years Burkina
PALUCLIM	Impacts of climatic factors on malaria vector production in rural areas of the Sahel and adaptation strategies - application to the Nouna region in Burkina-Faso
ACASIS	Sahelian Heat Waves and Health Impacts
CLIMIMO	Climate Migration and Mortality
EMIRA	Ecologic Malaria Reduction for Africa
Nutri-Clime	A multi-sectoral, retrospective longitudinal study on weather variability, harvest yields & under nutrition
r4d	Modelling spatio-temporal dynamics of malaria and mortality to develop optimised interventions and surveillance tools in Africa
DFG/RU	Climate Change and Health in Sub saharan Africa

Heat Perception (ACASIS/Heat wave project)



- 65% believe that high heat poses a health risk to humans.
- 60% consider that high heat can cause death in humans.
- 92.39% said they consumed more than one litre of water/day when it is hot
- More than 63% state that they do not fast in very hot weather

Heat effect on mortality of 60+



The elderly population (60+ of age) in Nouna appears sensitive to both extreme high and low temperatures in lag 0–1

Cutting across health topics



Cool roof trial

• Aim:

- To identify viable passive housing adaptation technologies with proven health and environmental benefits to reduce the burden of heat stress in communities affected by heat in Africa.
- Design: before and after study
- **Mechanisms to measure:** For the cool roof mechanism, we will assess three parameters application of the cool roof:
 - Roof temperature and solar reflectance
 - Indoor and outdoor temperatures
 - Internal and external ceiling temperatures



Cool roof trial to establish effectiveness



¹ Ortblad et al. *PLOS Med* 2017, ^{2,3} Geldsetzer et al. *PLOS Med* 2018, 2019 ICC = intra-cluster correlation coefficient, α = significance level, 1- β = power, GLM = generalized linear model

Conclusion

- Burkina Faso, seems to be doing well in the field of adaptation
 - Existence of governing documents
 - Several activities exists in differents domains
 - Initiative of strengthening research on CC
- However, there is still room for improvement in term of funding and coordination of interventions and research

capitalisation

Thank You