

Conversations between diverse knowledge and belief systems to reduce vulnerability to climate change in Bobirwa

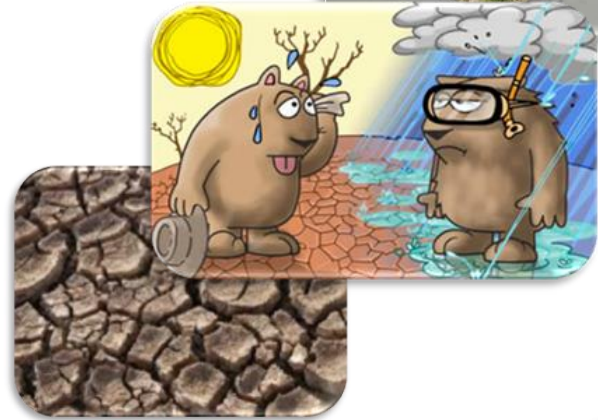
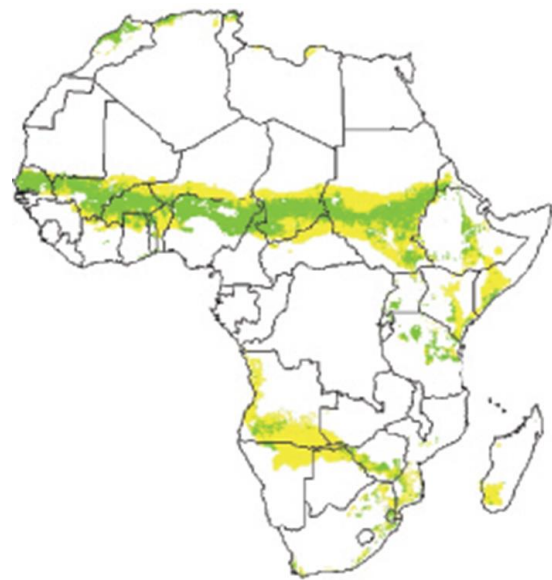
“I use the forecast together with the traditional forecast”

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University of Cape Town



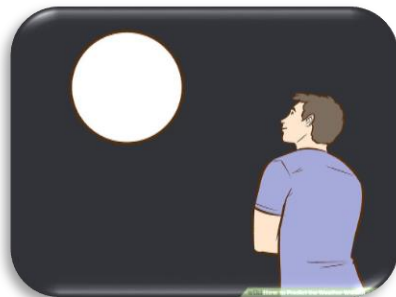
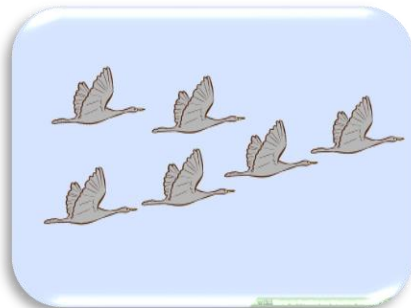
Background



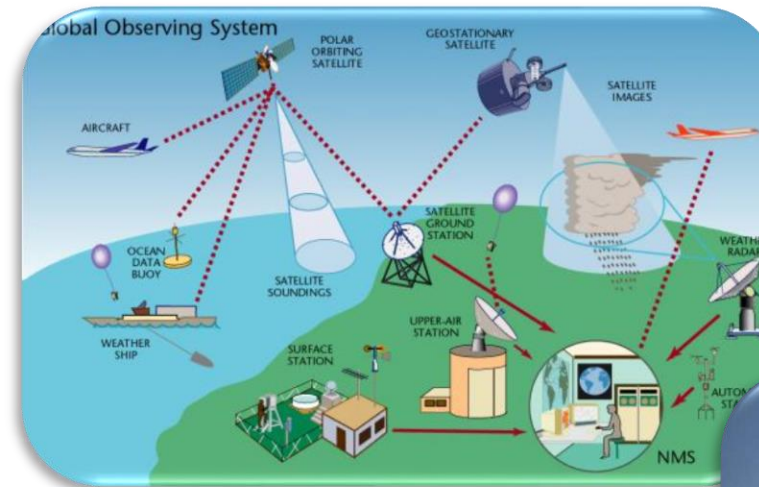
Variable semi-arid environments



Traditional coping measures employed



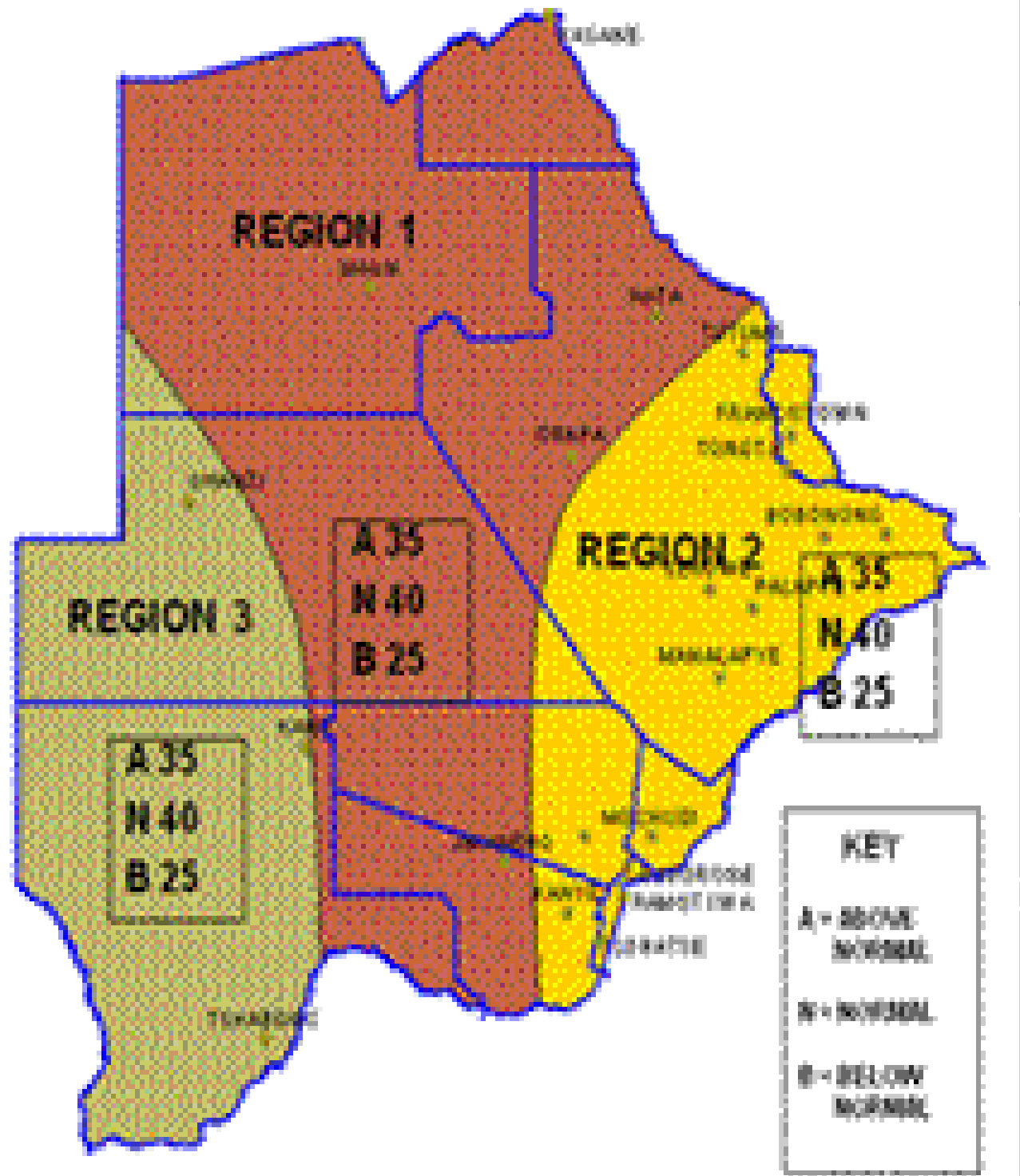
Local weather and seasonal climate forecasting using observations of biological, astrological and atmospheric indicators to inform agricultural decisions



Now - Seasonal climate forecasts using models from Meteorological Services

Now – Religious beliefs in addition to traditional beliefs





Seasonal forecast above or below normal rainfall



Model based forecasts from national Met services are at a large spatial and temporal scale

National level model based information



Local level observation based information



Different information is used by different farmers

Aim

This study uses the case of Bobirwa subdistrict in Botswana to investigate the place and utility of combining national and local forecasting systems in a community with multiple belief systems

Approach

Semi-structured interviews in Setswana of 84 farmers in 8 villages

Credibility and Scale as Barriers to Uptake and Use of Seasonal Climate Forecasts in Bobirwa Sub-District, Botswana



Submitted by

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Department of Environmental and Geographical Sciences
UNIVERSITY OF CAPE TOWN



The use of traditional weather forecasting by agro-pastoralists of different social groups in Bobirwa sub-district, Botswana

By

Bonolo Mosime

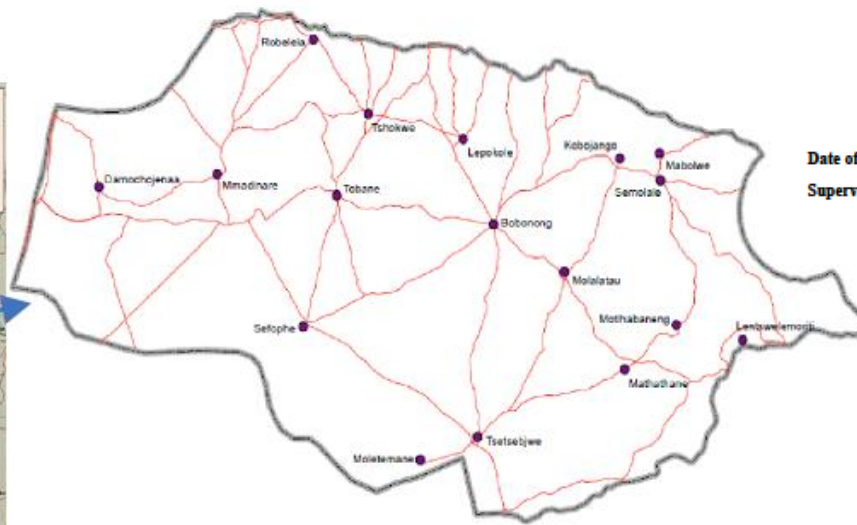
Master's Thesis

MPhil in Climate Change and Sustainable Development
Department of Environmental and Geographical Science
UNIVERSITY OF CAPE TOWN



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Supervisors: Dr Dian Spear and Dr Admire Nyamwanza



The use of national level forecasts

Experience of reliability of national forecast

"I trust the forecast because last season it predicted there would be low rainfall and indeed there was no rainfall".

"I once followed the forecast and it said there was less rain expected and I planted a lot of sorghum and melons and didn't plant maize. So I made bumper harvests and sold quite a lot."

"I am not familiar and I don't understand this seasonal climate forecast because what I do traditionally, is that at the start of the season when the cloud thunders we go to plant."

Previous benefit from national forecast

Lack of understanding of national forecast

It covers broad areas but it should explain where it will rain exactly so that we are informed of where the rain will cover"

"I don't trust it because the forecast can state that less rain is expected but then we then experience a lot of rainfall at the end of the season, this leaves us confused".

Timing and specificity

Validation with local observations

"It doesn't explain when it will rain exactly, like last year it rained very late."

"I trust it because when the forecast is released and I observe the clouds also I see that indeed from my observations confirm national forecast."

"I use the forecast together with the traditional forecast."

Broad spatial scale of national forecast

The role of traditional norms

Continue to farm as always have

"We plant the way parents taught us."

"Traditionally I plant every year no matter what the forecast says and I plant a variety of crops by assessing my farm, seeing what is appropriate and depending on what seeds I have.... for example, I never miss planting sorghum and maize as they are our staple food."

This could be a good option due to uncertainty

"I am always prepared and have equipment ready so that when it starts raining I plant and I always get ready no matter what the forecast says."

But crops sometimes fail

"I started planting with the early rains to take advantage of available moisture but it became dry for a long time so I lost my crops but those who planted later got harvests."

Planting constrained by permission from chief

"Our cultural start of the planting season which also grants us permission to plant from the chief, letsema, takes place very late. Even if I secure planting equipment earlier I cannot start planting because permission is not yet granted in our area".

The role of religious beliefs

God controls the rain

“rain is controlled by God”, “I don’t use the forecast I just trust in God because he knows everything and is creator of everything.”

“Rain is a natural phenomenon made by God so humans cannot totally get it as they can say it won’t rain and God makes it to rain”

“when I plant I trust in God even when the forecast says there is no rain I tell myself only God knows and may bless us with rain”

Humans can’t predict rain

Crops planted regardless of forecast

“we usually gather at the kgotla every morning and pray for rain trusting that maybe God will be merciful to us and give us rain”

Praying will lead to the provision of rain

“he can override the forecast and change the situation”

No individual actions or interventions are necessary

“one cannot go to church and believe in traditional practices. These practices are demonic and are not recognised by our church”

Traditional practices not used

Towards an integrated and accessible knowledge system

Increasing credibility and reliability

Integrate national and local level information through participatory and collaborative processes to develop relevant tailored information

e.g. Adaptation Learning Programme for Africa (Ambani & Percy 2014).

Also see Singh et al. (2017).

Work with traditional and religious leaders and use relevant narratives

e.g. Foundations for Farming in Zimbabwe (Kassam et al. 2014).

Ambani, M., & Percy, F. (2014). Facing Uncertainty: the value of climate information for adaptation, risk reduction and resilience in Africa. Nairobi, Kenya: CARE International.

Kassam, A., Derpsch, R., & Friedrich, T. (2014). Global achievements in soil and water conservation: The case of Conservation Agriculture. *International Soil and Water Conservation Research*

Singh, C., Daron, J., Bazaz, A., Ziervogel, G., Spear, D., et al.. (2017). The utility of weather and climate information for adaptation decision-making: current uses and future prospects in Africa and India. *Climate and Development*

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