



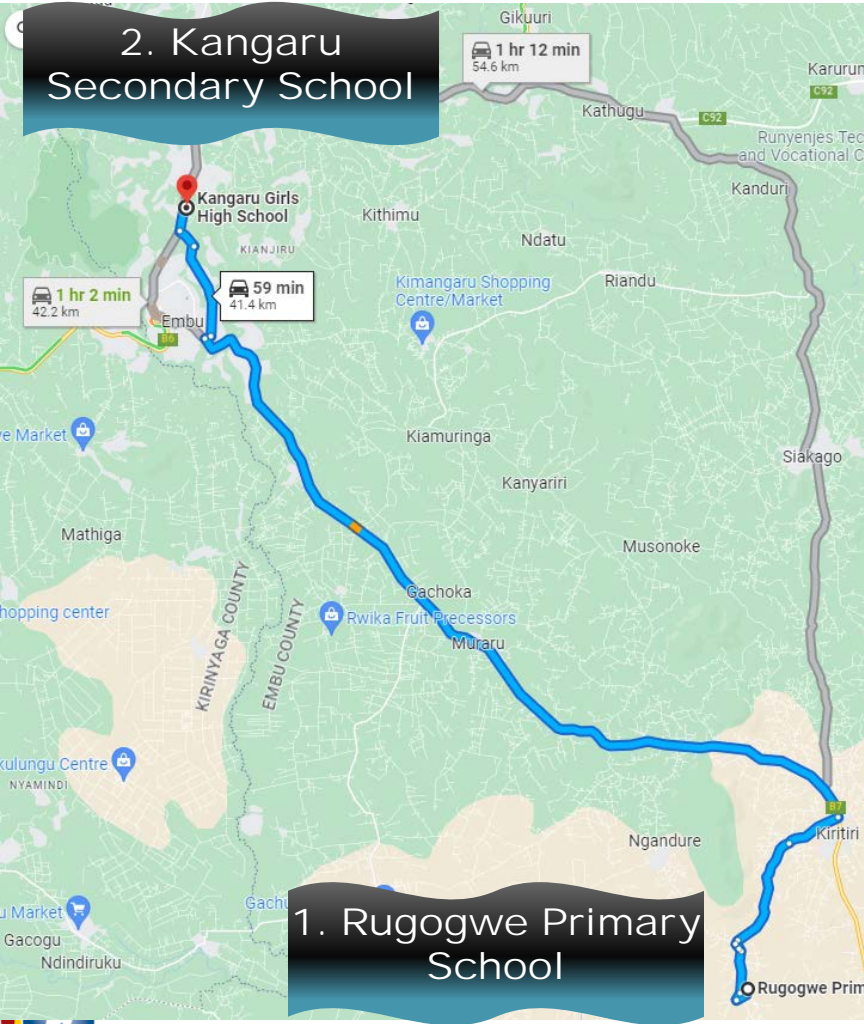
Going back to our roots to combat climate-linked disasters – the journey across the ITIKI Bridge



Information Technology & Indigenous Knowledge with Intelligence

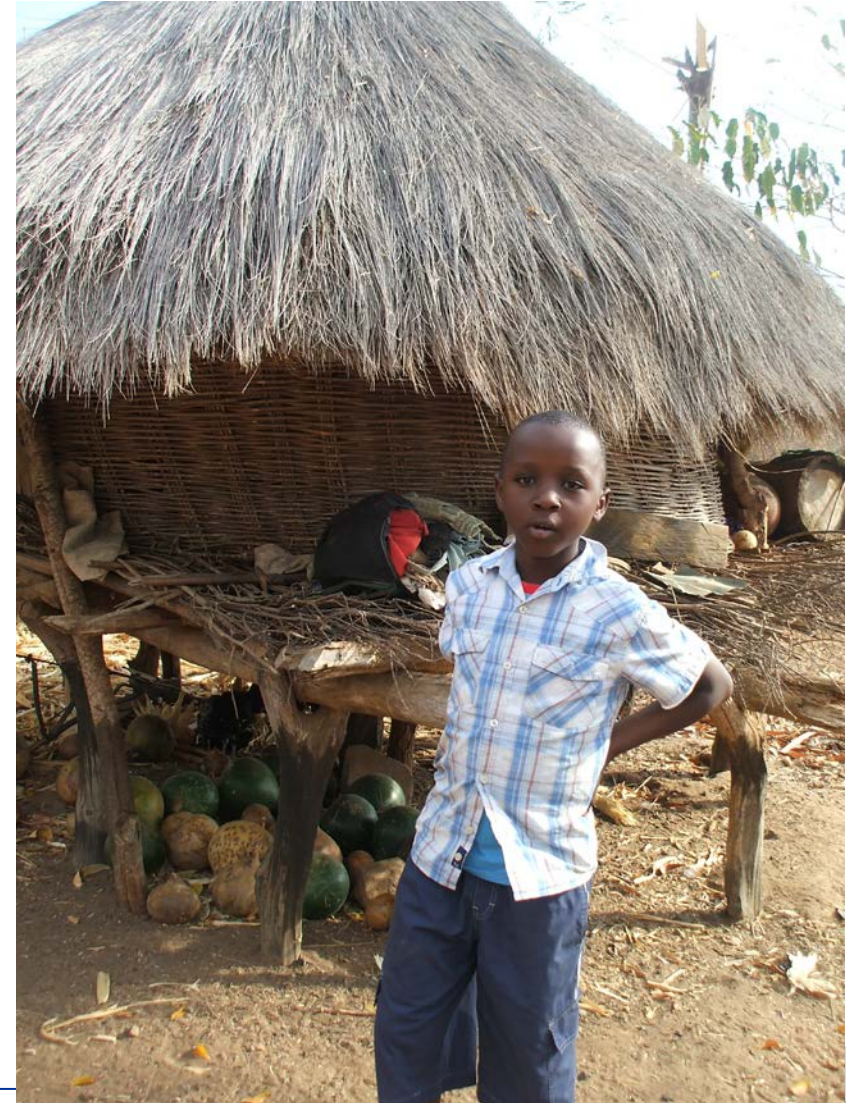


My Journey to Professorship



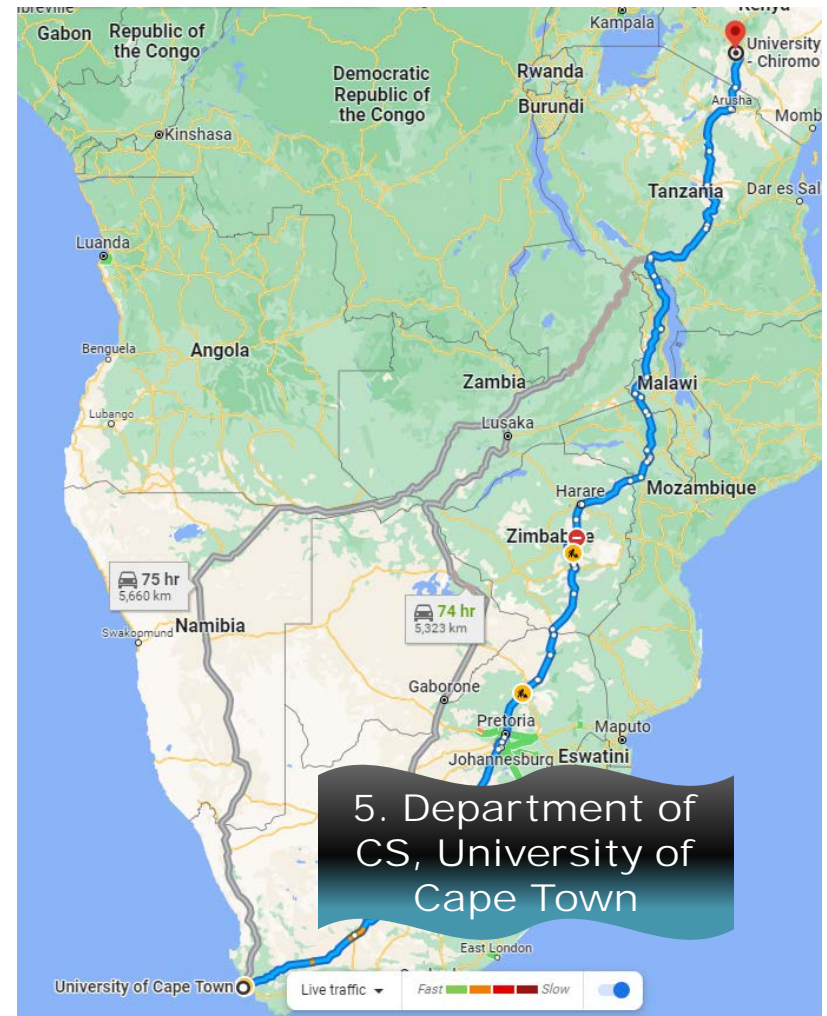


My Journey to Professorship





My Journey to Professorship





The pillars - My family



The pillars - My Mentors



Prof. Antoine Bagula

Position: Head of Department
Department: Computer Science Programme
Faculty: Faculty of Natural Science
Qualifications: PhD (KTH-Royal Institute of Technology, Sweden)
Tel: 021 959 2562
Fax: 021 959 1274
Email: bbagula@uwc.ac.za



Georges Eisendrath · 2nd
Professor emeritus at Vrije Universiteit Brussel



Nzioka Muthama

[University of Nairobi](#)
Verified email at uonbi.ac.ke - [Homepage](#)
[Air](#) [Climate and Climate Change](#)



Gary Marsden

Professor

The Bridge

Drought Monitoring and Prediction
Effective Drought Index
Artificial Intelligence

Drought Early Warning System
(DEWS)

Weather data

Weather stations

Mobile Phones

Wireless sensors

IK Data



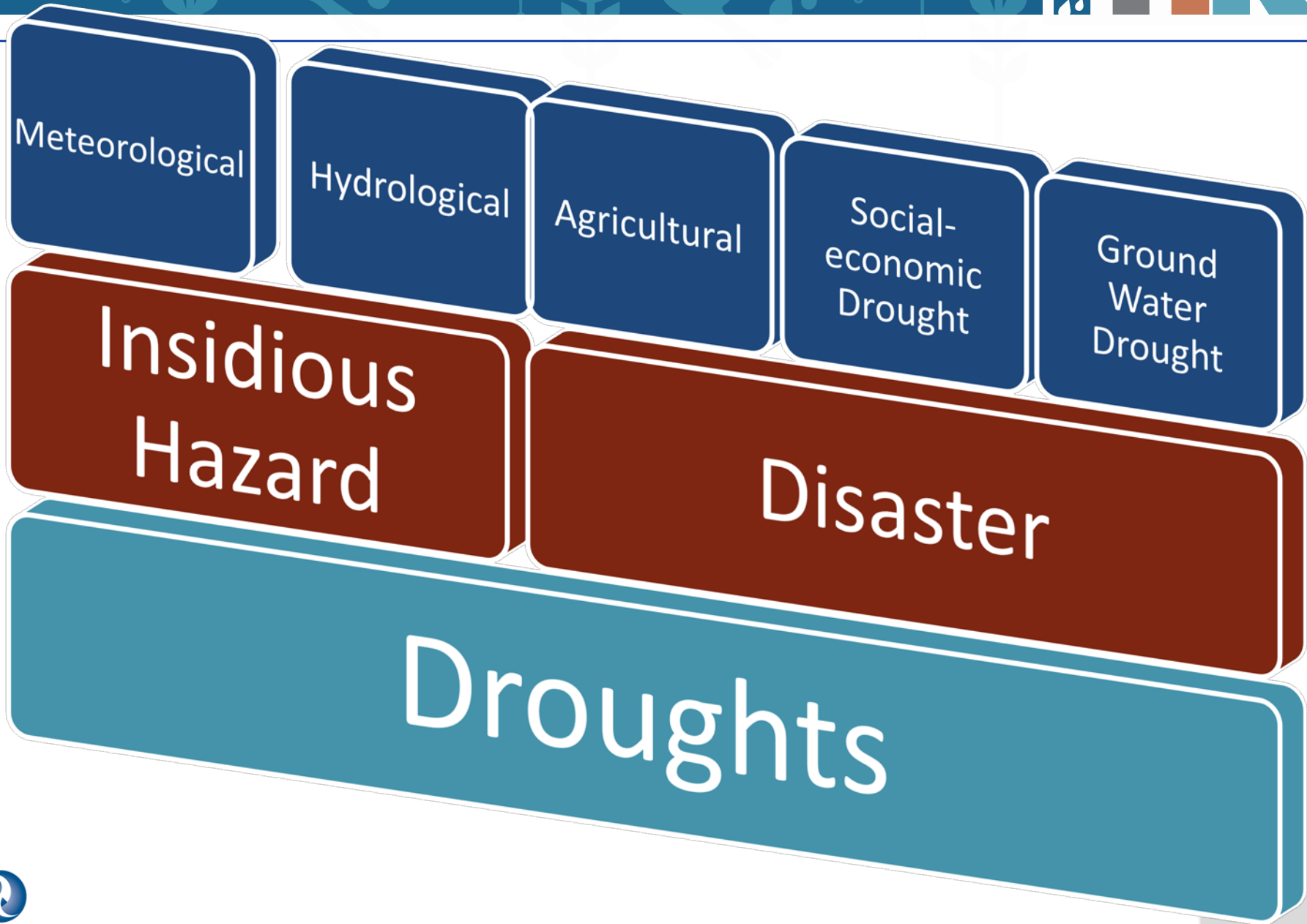


NATIONAL RESEARCH COUNCIL

<https://nap.nationalacademies.org/catalog/6370/making-climate-forecasts-matter>

**MAKING
CLIMATE
FORECASTS
MATTER**







Women to Watch: Africa's Weather Maven



VOA Africa ✓
122K subscribers

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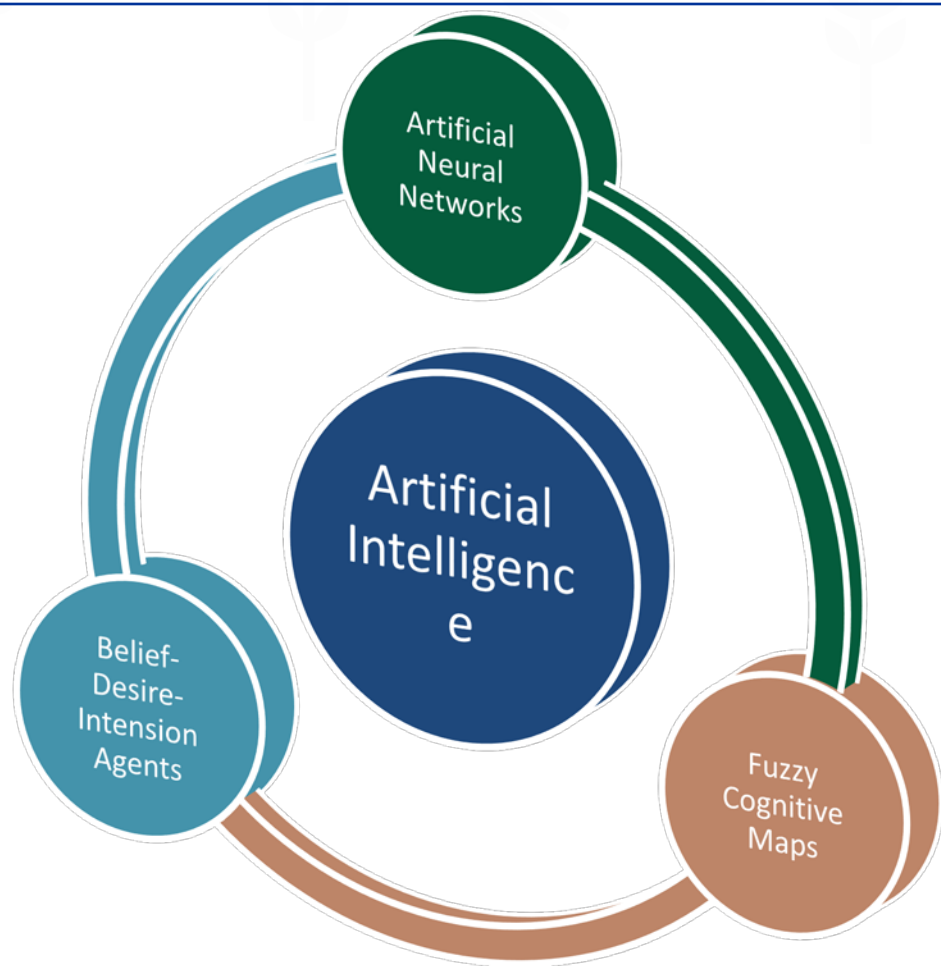
⬇️ Download

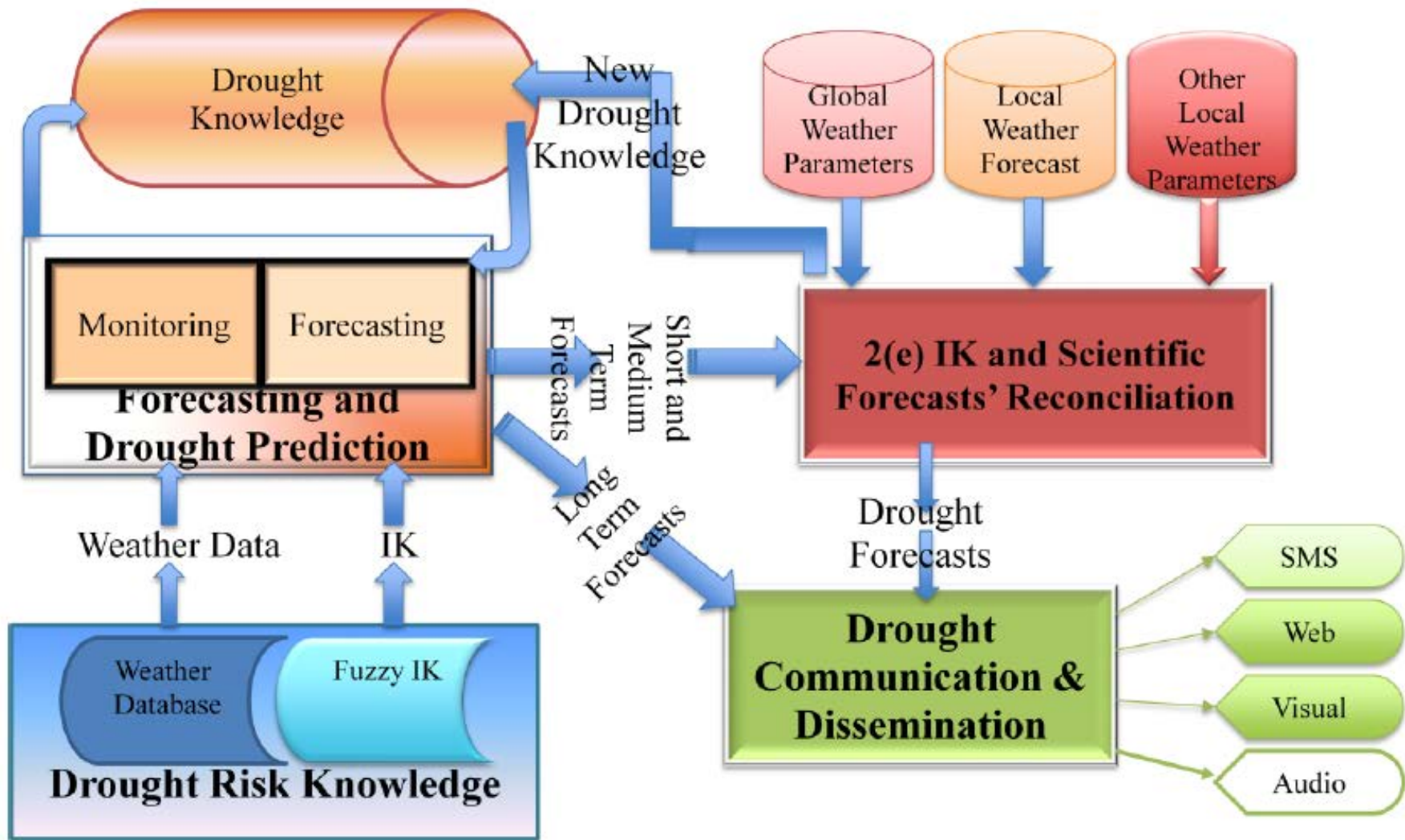
⌵ Save



Indigenous Knowledge









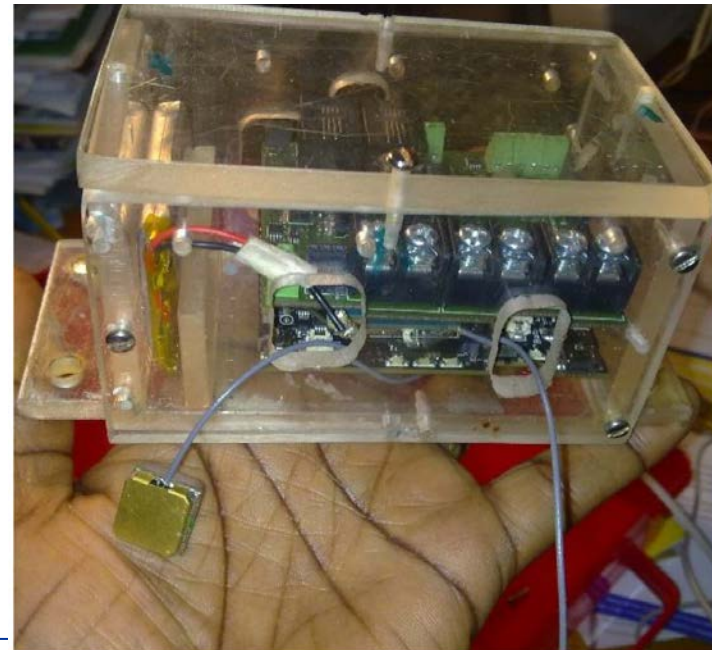
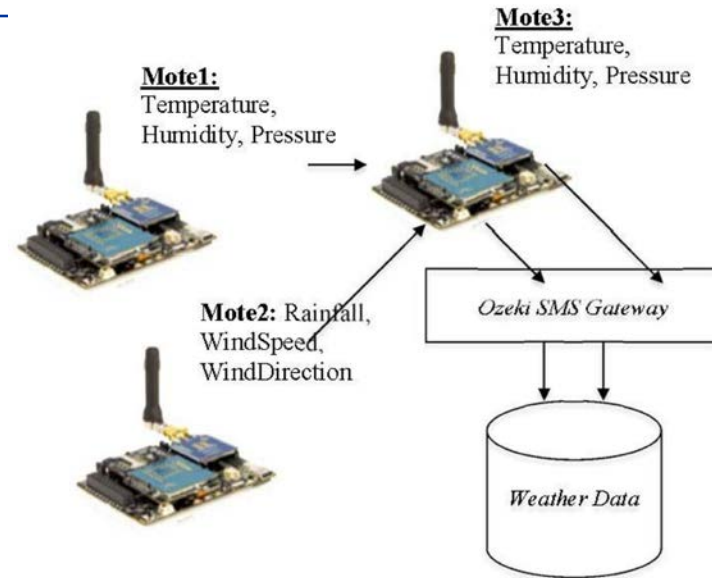
EaDrought Monitor <073-225-0851>

Me: Df;HKEM;2;2
Sent: 1:12PM

EaDrought Monitor: Drought Forecast for: [2012-8](#) in Embu will be: Moderate Drought and Current IK Forecast is: Rains will fall in two weeks
Sent: 1:14PM

To: muthonimasinde@gmail.com 1:14

Drought Forecast for: 2012-8 in Embu will be: Moderate Drought and Current IK Forecast is: Rains wil...





- Browse This Site**
- Home
 - About the Project
 - Weather Monitoring
 - Drought Monitoring
 - Past Droughts**
 - Related Links

Weather Readings for Makindu [May, 2009]

Date	Precipitation	AWRI	EDI	EDI Class
1-May-2009	0	43.1	-1.59	Severe Drought
2-May-2009	11	53.1	-1.37	Moderate Drought
3-May-2009	0	50.6	-1.44	Moderate Drought
4-May-2009	0	49.1	-1.52	Severe Drought
5-May-2009	0	47.8	-1.51	Severe Drought
6-May-2009	2.1	48.9	-1.51	Severe Drought
7-May-2009	0	47.6	-1.54	Severe Drought
8-May-2009	0	46.6	-1.55	Severe Drought
9-May-2009	0	45.7	-1.62	Severe Drought
		45	-1.62	Severe Drought
		44.2	-1.57	Severe Drought
		43.5	-1.55	Severe Drought

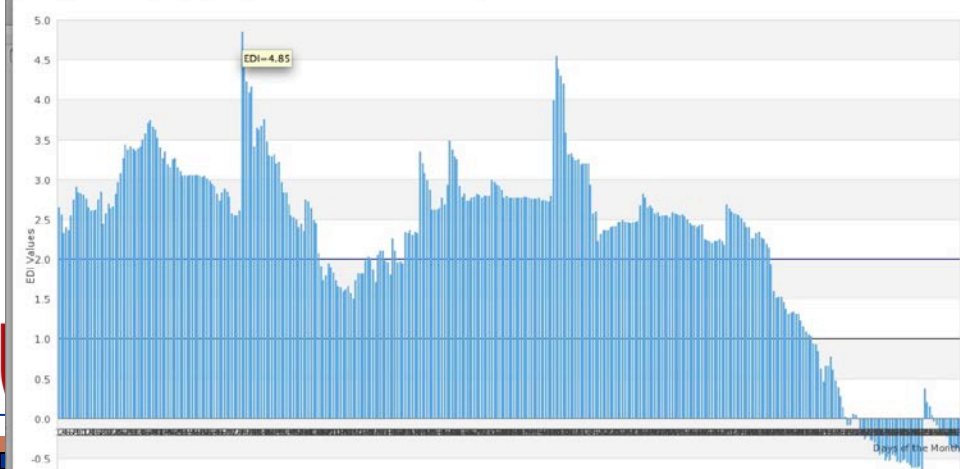
Safari File Edit View History Bookmarks Window Help

http://localhost:8080/2011/EDISystem/Graphs/EDIGraph.php

http://localhost:8080/2011/EDISystem/Graphs/EDIGraph.php

http://localhost:8080/2011/EDIS...

Past Droughts






11:22 VoLTE 83%

ITIKI Ambassador




11:23 VoLTE 83%



Muthoni Masinde
emasinde@cut.ac.za

Report

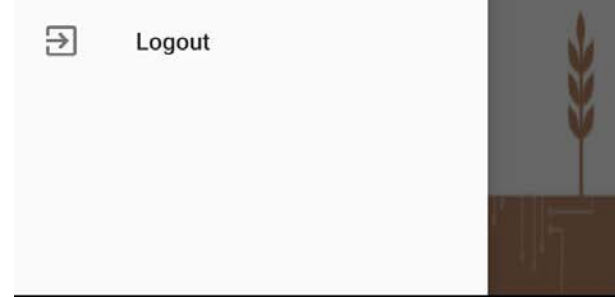
- Report IK Indicators
- Report Extreme Events

History

- View IK Indicators
- View Extreme Events

Other

- Logout

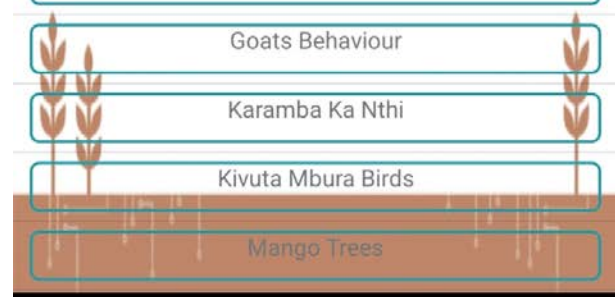


11:24 VoLTE 83%

Select IK Indicator

Select IK Indicator

- Accasia Totilis (migaa) sprouting new leaves
- Bugvare Birds
- Bulls Behaviour
- Busting of euphoria
- Cows Behaviour
- Dark clouds
- Drizzling in the Evening
- Eastward Winds
- Flowering of Trees
- Frogs
- Goats Behaviour
- Karamba Ka Nthi
- Kivuta Mbura Birds
- Mango Trees






April 20, 2017

Distinguished Young Women Researchers: Dr. Muthoni Masinde

Managing Drought In Africa The ITIKI Way

By **Ogechi Onuoha** - June 1, 2020

Drought remains the most destructive cause of losses in agriculture in Africa. About 2.5 billion people around the globe depend on Agriculture for livelihood, with Africa constituting a large percentage of that figure. However, obstacles positioned by climate conditions have often undermined the growth of agriculture on the continent.



DROUGHT PREDICTION TOOL – CUT, FREE STATE

OBSTACLE

Droughts remain the number one disaster in Africa; of all the people affected by all types of disasters, drought is responsible for over 88% of them.

INNOVATION

Drought Early Warning System

ORGANIZATION TYPE

University

INNOVATE AFRICA



Using technology to warn farmers about droughts

Central University of
Technology, Free State



November 29, 2019

Dragonfly Forecasts Rain? To See Is to Believe

SECURING
WATER
FOR FOOD:
A GRAND CHALLENGE
FOR DEVELOPMENT



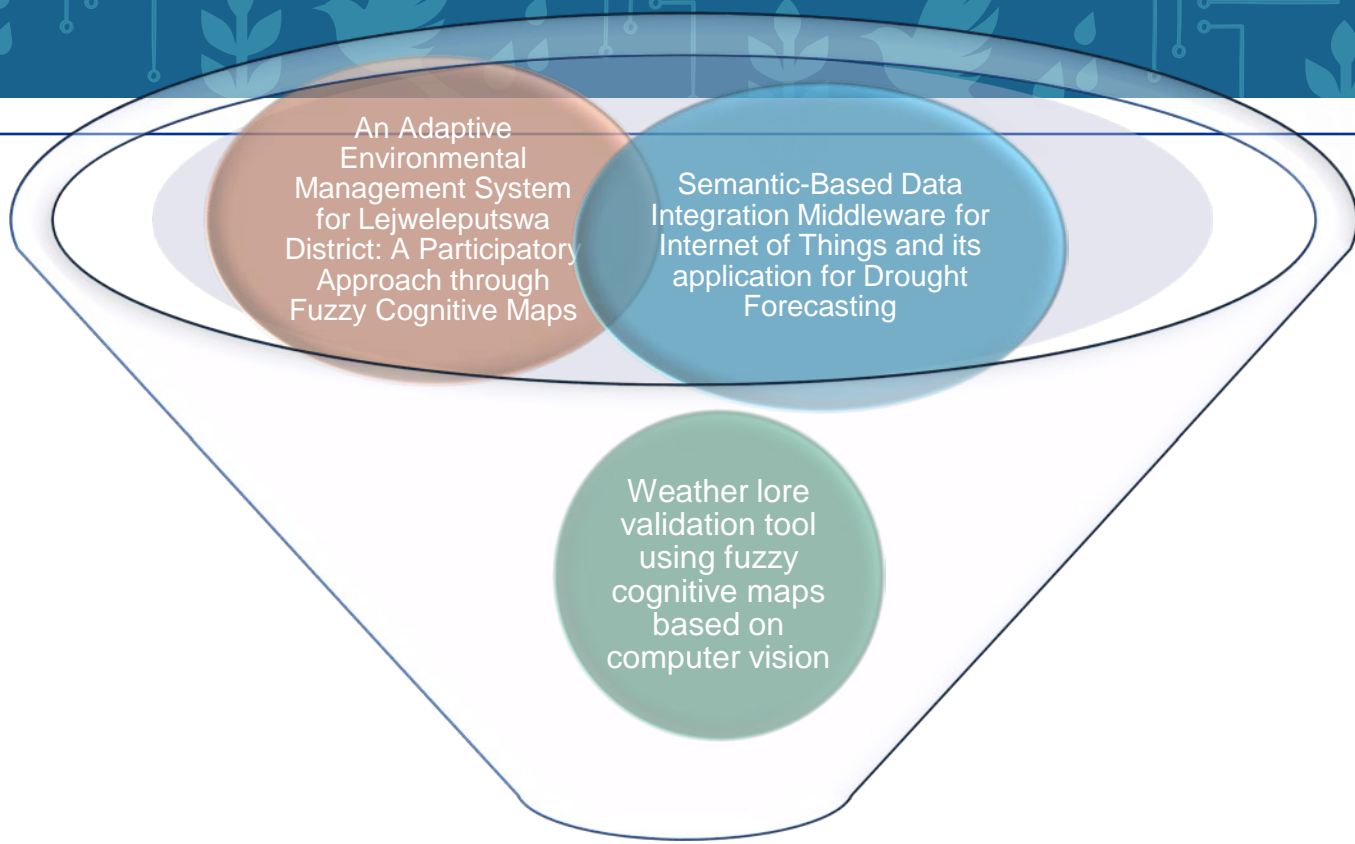
By Munyaradzi Makoni, Thomson Reuters Foundation

Crickets, birds, weather data combine to guide African farmers

CAPE TOWN, South Africa, Sept 26 (Thomson Reuters Foundation) - It was in Mbeere, in rural Kenya, where Muthoni Masinde began to pick up on nature's way of signposting shifting weather patterns, as she helped her mother farm their land.



She learned that if thick swarms of crickets appeared in the evenings during planting season, it meant the rains were about to end - a sign that farmers should stop planting because their seeds would not germinate.



ITIKI PLUS

- **Crop production optimization**
- **Application of big (climate) data to predict infectious diseases**
- **Framework for An Integrated Climate-driven Multi-Hazard Early Warning System (ICMHEWS)**



Good morning, Prof.

Just saw your story on CNN and wanted to reach to say kudos for the great work. There is so much indigenous ways that is being lost in our modern high-tech world. Your work is pioneering in efforts to integrate native knowledge into modern IT. Great work!

Will love to collaborate to bring some of the ideas to Ghana.

Hello Prof. Masinde,

Trust you are keeping safe. I read about your innovation a few minutes ago and decided to reach out to you.

We invest in companies focused on providing solutions that would help to create wealth in Africa. Looking forward to hearing from you.

[Redacted sender information] >

Thu, Jun 4, 2020 at 6:40 AM

To: info@itiki.co.za

I have a Chirty which might be able to provide financial assistance if your organisation is planning to lunch your APP in Tanzania



Prof. Masinde,

I am contacting you in response to an article I read about your research on CNN. I should point out that I was born and bred in South Africa although I am living in Israel today. Hence, South Africa has a special place in my heart. I am the head of the Environmental Studies Department at Tel Aviv University, and we are also involved in research in Africa and India. My background in meteorology, and hence I am very interested in your project.

The main reason I am contacting you is about the smartphone application and data. We have a research project ongoing related to using smartphone "pressure" data to improve weather forecasting. Most smartphones have many sensors inside, but are generally not stored and saved. We are trying to use these data to provide better weather forecast in developing countries. However, our main problem is receiving the smartphone data for our use. The idea is to use the public and farmers to supply their smartphone data to us for use in initializing our weather forecast models, and the improved forecasts would be sent back to the farmers and other users for their use.

The question is whether you collect any data from the smartphone users, and if so if you would be interested in collaborating on such a topic with us. If this topic interests you, we could help in adding a component to your App to collect specific data that could be used to improve weather forecasts.

I look forward to hearing back from you.
Best regards,

[Redacted signature]

=====

[Redacted name]

Head of the Environmental Studies Department
The Porter School of the Environment and Earth Sciences
Tel Aviv University

[Redacted] AfricaRIH <*****>
To: "muthonimasinde"
Cc: *****

Mon, Jun 26, 2023 at 11:39

Hello Muthoni,

The ***** Regional Innovation Hub is pleased to invite you to apply to our Open Call for Innovations (OCFI) grant funding opportunity.

We believe the work that you do is impressive, and that your contribution to helping smallholder farmers and people at the base of the pyramid is notable.

The OCFI grant funding provides an opportunity for your organization to receive tailored support to address some of the challenges you face when scaling your innovation. Successful organizations in the water-food, energy-food, and water-energy-food nexus will receive a combination of up to US\$ 200,000 in grant match funding, technical assistance, and investment facilitation support



Filter Messages

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3601 - 3650

Date	Text	From	To	Cost	Status
October 16, 2020 8:54 AM	Uyu ni uboro wa ITIKI mari na ngwataniro na Embu County: mbura ya mweri wa ikumi ni NINI. Vanda tene and uvande mimera ta muvia (sorghum), nthoroko and mwere 1 message (157 characters)	ITIKI	[REDACTED]	KES 0.80	Success
October 16, 2020 8:54 AM	Uyu ni uboro wa ITIKI mari na ngwataniro na Embu County: mbura ya mweri wa ikumi ni NINI. Vanda tene and uvande mimera ta muvia (sorghum), nthoroko and mwere 1 message (157 characters)	ITIKI	[REDACTED]	KES 0.80	Success
October 16, 2020 8:54 AM	Uyu ni uboro wa ITIKI mari na ngwataniro na Embu County: mbura ya mweri wa ikumi ni NINI. Vanda tene and uvande mimera ta muvia (sorghum), nthoroko and mwere 1 message (157 characters)	ITIKI	[REDACTED]	KES 0.80	Success
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October 16, 2020 8:54 AM	Uyu ni uboro wa ITIKI mari na ngwataniro na Embu County: mbura ya mweri wa ikumi ni NINI. Vanda tene and uvande mimera ta muvia (sorghum), nthoroko and mwere 1 message (157 characters)	ITIKI	[REDACTED]	KES 0.80	Success



– ITIKI Adoption Numbers

	<u>Individuals</u>	<u>Number is Household</u>	<u>Female (70%)</u>
Kenya	3 090	14 533	10 173
Mozambique	1 278	6 200	4 340
South Africa	800	3 200	2 240
Total	5 168	23 933	16 753

– ITIKI impacts: crop yield increase

	<u>Production (Before) in Tonnes</u>	<u>Production After</u>	
Kenya	3 808	4 340	14%
Mozambique	1 364	1 464	7%
Total	5 904	6 536	11%



Thank you