



# **Integrating Indigenous and Scientific Drought Forecasts Empowers Africa's Women Small-Holder Farmers**

By Muthoni Masinde, Adeyinka Akanbi and Portia  
Thothela

# OUR CUSTOMERS' PROBLEM AND PAIN POINTS

Smallholder farmers in sub-Saharan do not have the tools to respond to drought and climate change

## 1 Dependence on rain-fed agriculture

70% of food supply relies on rain-fed agriculture from smallholder farmers; 30% of the economy



## 2 Emerging threats to food security & livelihoods

10-50% less rain & higher temperatures → lower yields, lower farm revenue, new adaptation challenges



## 3 Farmers lack the tools to respond

Weather forecasting is unavailable – and indigenous coping mechanisms are inadequate



# OUR VALUE PROPOSITION

ITIKI is a high-accuracy, affordable forecasting tool for smallholders farmers that boosts yields, incomes and resilience through better cropping decisions

## 1 Key Value Proposition Drivers

Accuracy	Yield	Cost	Income/Livelihoods
60-90% accuracy of cropping decisions	↑ 30-75% in yields	↑ 30-70% reduced water use	Uncertain but try to capture over time if possible

## 2 Logic Model

Activities →	Outputs →	Outcomes →	Impact →
Actionable forecasts delivered via SMS	<ul style="list-style-type: none"><li>- # of forecasts</li><li>- Accuracy of forecasts</li><li>- Farmers/communities reached</li><li>- Customer satisfaction %</li></ul>	Improved decision making (e.g. water use, fertilizer application, transportation to market)	Improved incomes, agricultural productivity, climate change resilience, school attendance, nutrition, safety (accessing water) etc.

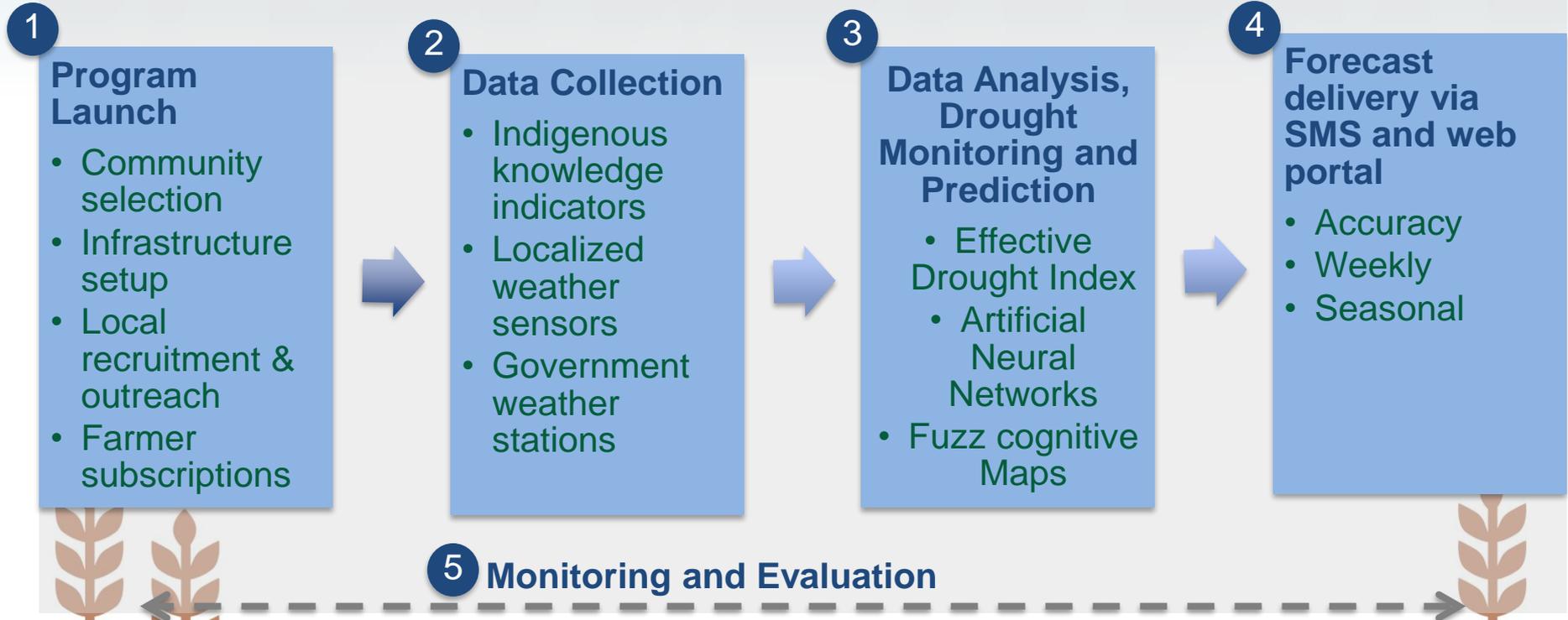
# OUR VALUE PROPOSITION

## 4 Key Points of Differentiation / Additional Value Drivers

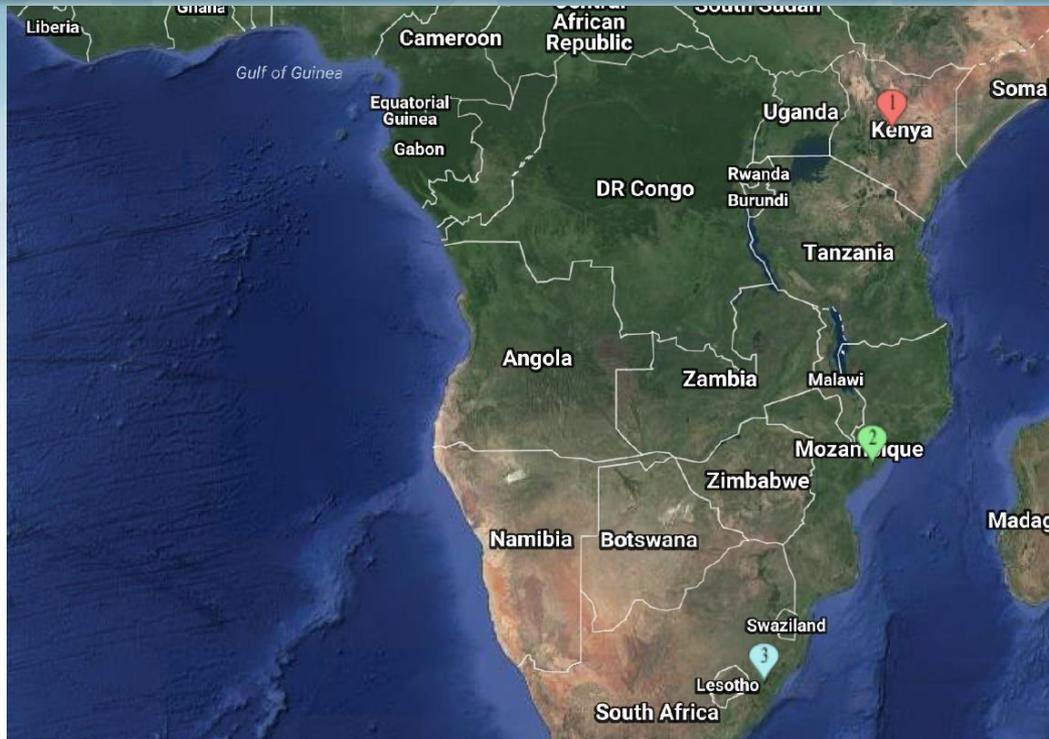
Key Value Drivers	
<b>High-Accuracy</b>	Forecasts 70-98% accuracy
<b>Affordability</b>	\$0.14 per SMS
<b>Participatory/Community-Driven</b>	Integrating IK is key in instilling confidence in the system; Use of trusted individuals in the village builds credibility
<b>Accessibility</b>	SMS format is ideal delivery mechanism to ensure easy, reliable access
<b>Customer Satisfaction</b>	90% customer satisfaction in first pilot (signal of adoption potential)in Kenya, Mozambique and South Africa; Key is to monitor post-adoption
<b>Reliability and Consistency</b>	Service is provided on a regular, predictable basis
<b>Actionable &amp; Relevant</b>	Forecasts via SMS drive decision making. When What, How, Where to Plant
<b>Cross-Selling Potential</b>	Potential to bundle other agricultural inputs (e.g. drought-tolerant seeds), technology (e.g. drip irrigation equipment) etc.

# OUR PRODUCT/SERVICE

ITIKI is an early-warning system that integrates scientific weather forecasting with farmers indigenous knowledge (on weather and drought) to deliver reliable, actionable and timely alerts to smallholder farmers via SMS



# OUR CUSTOMERS AND IMPACTS



## Farmers and Households

- Kenya: 1,348 (6,058)
- Mozambique: 542 (2,382)
- South Africa: 488 (1,952)



## Number of Hectares

- Kenya: 46,000
- Mozambique: 17,000
- South Africa: 1,000



## Tones of food Produced

- Kenya: 4,000
- Mozambique: 1,500
- South Africa: 1,000

**70% (1,665 individual farmers) of these represent women!**

# OUR TEAM



Founder and Director

Prof. Muthoni Masinde



Software Developer

Ms Portia Thothela



Project Manager: Mozambique

Mr Adeyinka Akanbi



Project Manager: South Africa

Dr Solomon Mwagha



Project Manager: Kenya

Mr. Peter Njiru



Research Assistant

Jandre van Vuuren

# OUR SUPPORTERS AND SPONSORS



Sponsor: Seed Funding



**USAID**  
FROM THE AMERICAN PEOPLE

Sponsor:  
Through SWFF



Host Institution:  
Co-sponsor



Host: Provides Resources



Parent Company:  
Managing



Collaborator: Co-branding

# OUR CONTACTS

**Prof. Muthoni Masinde**  
*Founder and Director*

+27 51 5073091  
+27 72 807 0389 cell  
+254 721 319434 cell  
muthoni@itiki.co.za

ITIKI-RI LIMITED  
Private Bag X20539, Bloemfontein, 9300, South Africa

**Ms. Portia Thothela**  
*Software Developer*

+27 51 5073457  
+27 81 004 9006 cell  
pthothela@itiki.co.za

ITIKI-RI LIMITED  
Private Bag X20539, Bloemfontein, 9300, South Africa

**Mr. Adeyinka Akanbi**  
*Operations Manager*

+27 51 5073457  
+27 63 135 6812 cell  
aakanbi@itiki.co.za

ITIKI-RI LIMITED  
Private Bag X20539, Bloemfontein, 9300, South Africa