

How to Make Agriculture Cool?

Creating Livelihoods and Rural Employment in Africa



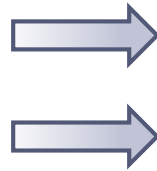
Vivek Prasad
Environmental Science and Public Policy Dept.
George Mason University
Fairfax, Virginia
USA





African Agriculture and Food: **A Sector of Opportunity**

**US \$313 billion
in 2010**



**US \$1 trillion in
2030**

African food sector can become an engine for jobs and enterprise



Average age of farmers in Africa

60



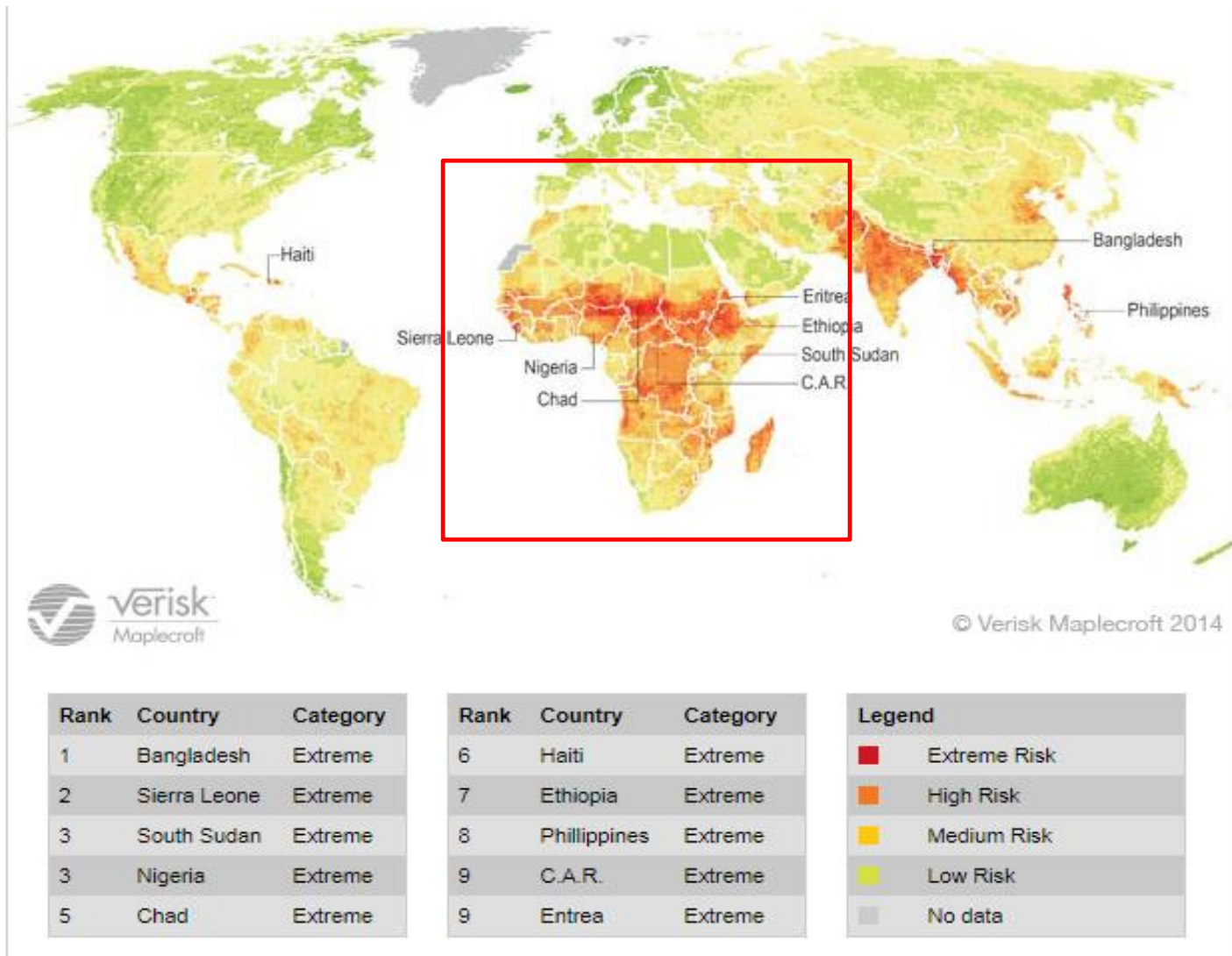
“Africa has **65% of all the arable land** left in the world to meet the food needs of 9 billion people on the planet by 2050.” – Akinwumi Adesina, AfDB President

BUT

Africa had an estimated net **food import bill of US \$35.4 billion in 2015**

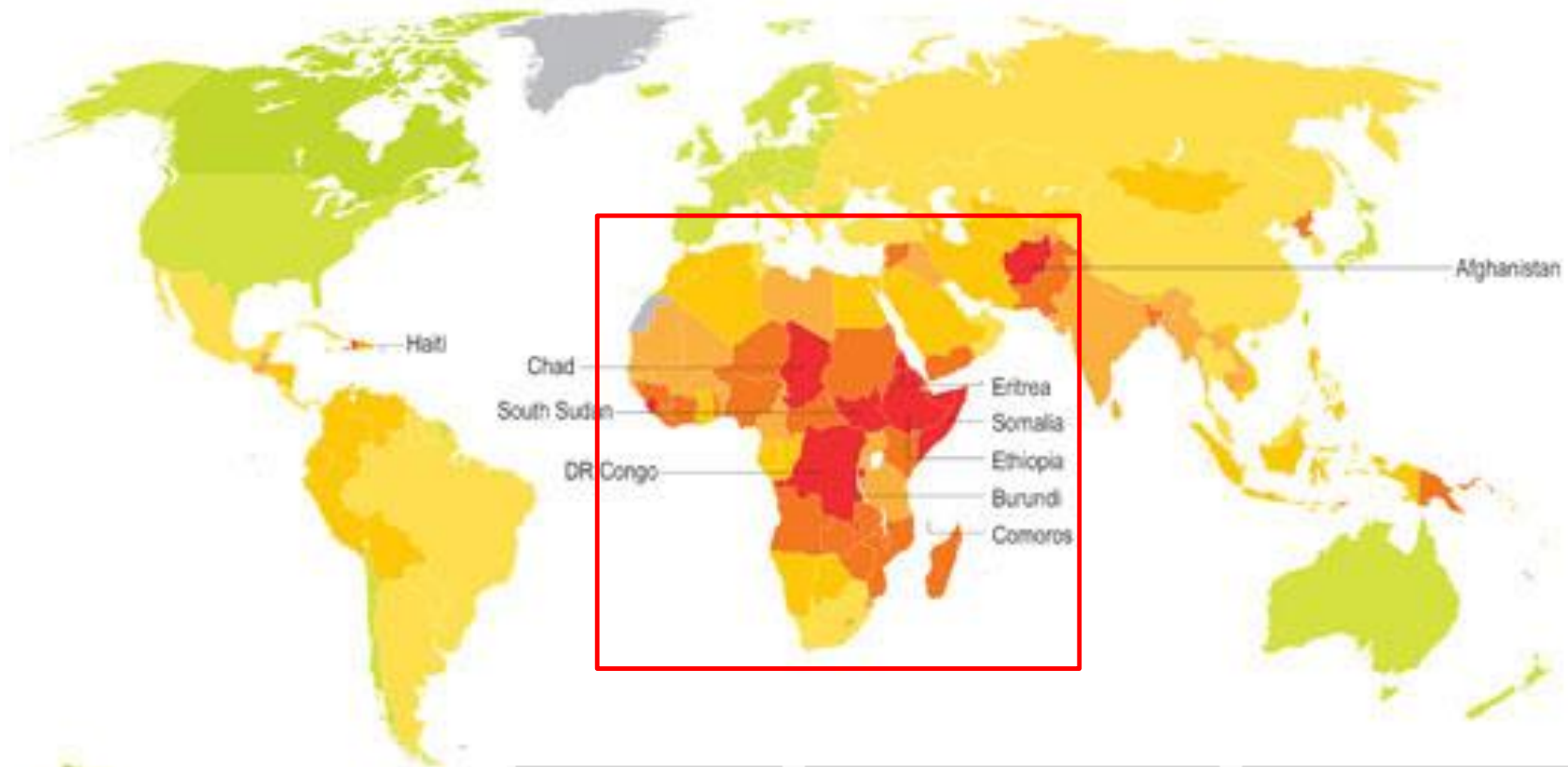


Climate Change Vulnerability





Food security



Legend	Rank	Country	Rating	Rank	Country	Rating
Extreme risk	1	Somalia	Extreme	6	Ethiopia	Extreme
High risk	2	DR Congo	Extreme	7	Eritrea	Extreme
Medium risk	3	Haiti	Extreme	8	Afghanistan	Extreme
Low risk	4	Burundi	Extreme	9	South Sudan	Extreme
No Data	5	Chad	Extreme	10	Comoros	Extreme



Diversification in African Agriculture: Engine for Jobs and Entrepreneurship



Cereal 163 mill tones



Vegetables 70 mill tones



Roots and tubers
258 mill tones



Fruits 88 mill tones
(excluding melon)



Fish 7 mill tones



Egg 2.7 mill tones



Meat 16 mill tones



Dairy 42 million tones



Diversification in Agriculture Value Chain



Commercial millers
and food processors



Packagers of produce for
National and international
markets



Wholesalers, aggregating
produce from a number of
small-scale farmers



Transport providers



Farm equipment and fuel suppliers



Farmers participating in value chain

Countries	% of farmers participating in value chain
Kenya	2.30
Mozambique	0.12
Rwanda	1.17
Tanzania	0.02
Uganda	0.21
South Africa	0.41



Approaches for Creating Livelihoods and Employment



Sustainable creation of Jobs: Pathways to consider

Through informal and Formal SMEs

Through Social Enterprises

Through Skills and Agropreneurs (focus on Youth)

Through Aggregation



Employment through informal and Formal SMEs



Floriculture Clusters in Kenya



KENYA FLORICULTURE

500,000 Kenyans
depend on the
Floriculture industry



90,000 of whom are
Flower-farm employees

Kenya exported
125,000 tones
of flowers in 2013



507 million



Agriculture sector
contributes
25%
of Kenya **GDP**





Ethiopia is the second largest flower producer in Africa next to Kenya

Revenue **213 million**
USD 80% of the total foreign
revenue earning,
Production of **50,000 tones**

Over 180
thousand employment
85% are women
Annual income
\$350-950/employee

Export to Italy, **France,**
Germany, Middle East,
Korea, Japan, Russia,
Cameroon, Nigeria and
South Africa





Employment through Social Enterprises



Uberizing Mechanization: Hello Tractor

Problem:

Very low mechanization of Agriculture in Africa

Solution:

Tractor has been reconfigured using **ICT, GIS** and other innovations thus **Uberizing** many aspects of mechanization.

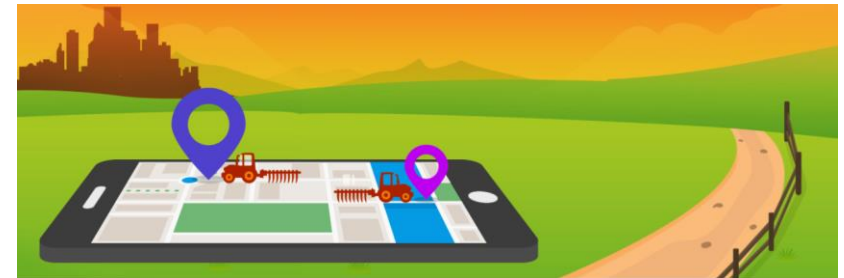
Customized mechanization services can be **delivered at the doorstep** of small holders using a technology platform.

Impact:

65% increase in mechanization

Results in a **200% increase** in farmers' yields.

Tractor owners as service providers get a **\$75/daily fee**.



300 individual owners
22,500 farmer beneficiaries
Work in Kenya and Nigeria



Digital Green: Digital extension of Agricultural best practices

Problem:

Agriculture extension delivery not available in timely manner at doorstep .

Solution:

Rural library of digital videos providing decentralized and **localized agriculture** solutions to farmers **through digital pico-projector**.

Impact:

Ethiopia, Ghana, Malawi and Niger **1.2 million farmers** viewed

The approach was found to be **10 times more cost-effective** and uptake of new practices **3 times higher** compared to traditional extension services.





iCow: Mobile-based information delivery system for small-scale dairy farmers

Problem:

Small farmers lack timely access to good quality and verified agricultural content.

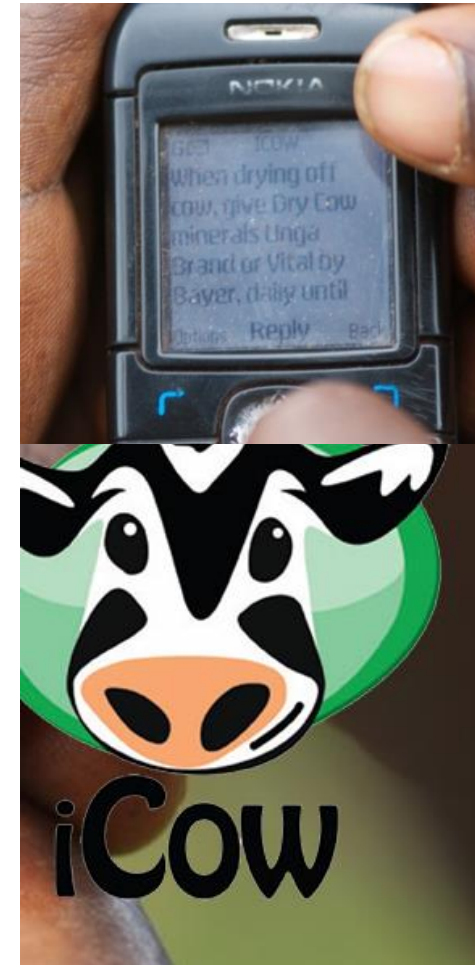
Solution:

A **text message and voice-based** mobile phone application for small-scale dairy farmers in Kenya. Designed to support them with livestock and crop production and connect farmers to the vital players in their agricultural ecosystem.

Impact:

Ethiopia, Kenya, Tanzania **600k farmers**.

Increased incomes due to increased milk yield ranging from **1.5 to 3 liters per lactating animal**





Employment through Skills and Agropreneurs (focus on Youth)

Fresh Direct Nigeria: Hydroponics

Peri-urban fresh food production through stackable container farms enabling urban populations access high quality produce using hydroponics.



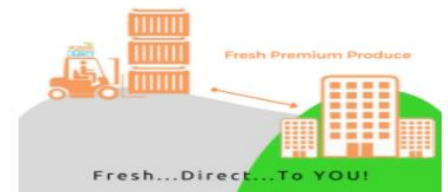
YOU ORDER

Go to our Produce Menu to order from a list of exotic veggies available.



WE HARVEST

When we get your order, we harvest from one of our Urban Farms nearest to you. This ensures you get the freshest produce possible.



WE DELIVER

Once we harvest and package, within 15-30 minutes, we get our organic produce FRESH.... DIRECT....TO YOU!!!!

Angel Adelaja, Winner of World Economic Forum Africa's female innovators of 2017



Employment through Aggregation



Ghana Pineapple Cooperative: Farmers' owned Enterprise in Ghana

Five pineapple cooperatives comprising **450 farmers**

Members are able to consistently achieve yields of **65%** or more from their fields, which guaranteed profits of about **\$1,000 per acre**.

80% of the shares of the company were acquired by five smallholder cooperatives

