



# BEFS

Bioenergy and Food  
Security Project

## An Example

BEFS Team,  
Bioenergy and Food Security Project

Dar Es Salaam  
13-14 January 2010

# BEFS and Policy: An Example

**Using the information generated by BEFS for  
biofuels decision making**

## Where are we under the status quo...

- No biofuel sector
- In the period 2009 – 2017 Tanzania becomes more dependant on food imports as food demand goes up faster than food production

## Question:

**Can cassava be used to produce ethanol in Tanzania?**

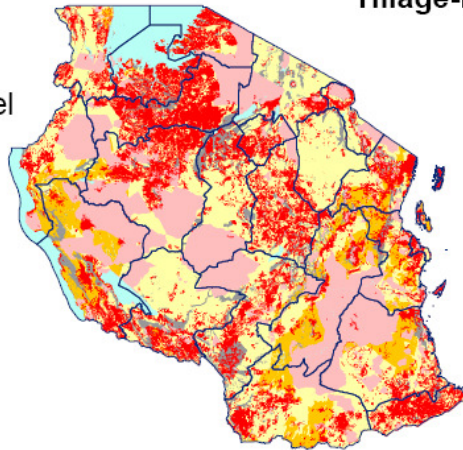
## A. Where?

**Which areas could be developed?**

# Cassava: Where?

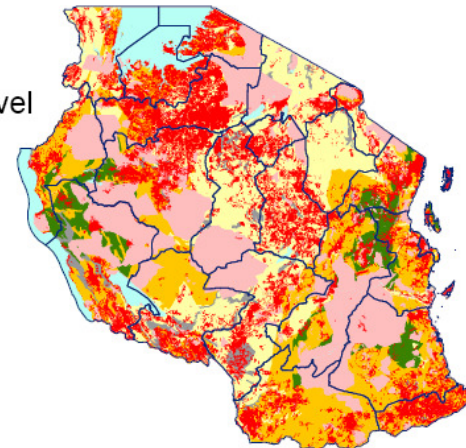
Tillage-based production system

Low input level



Conservation Agriculture production system

High input level

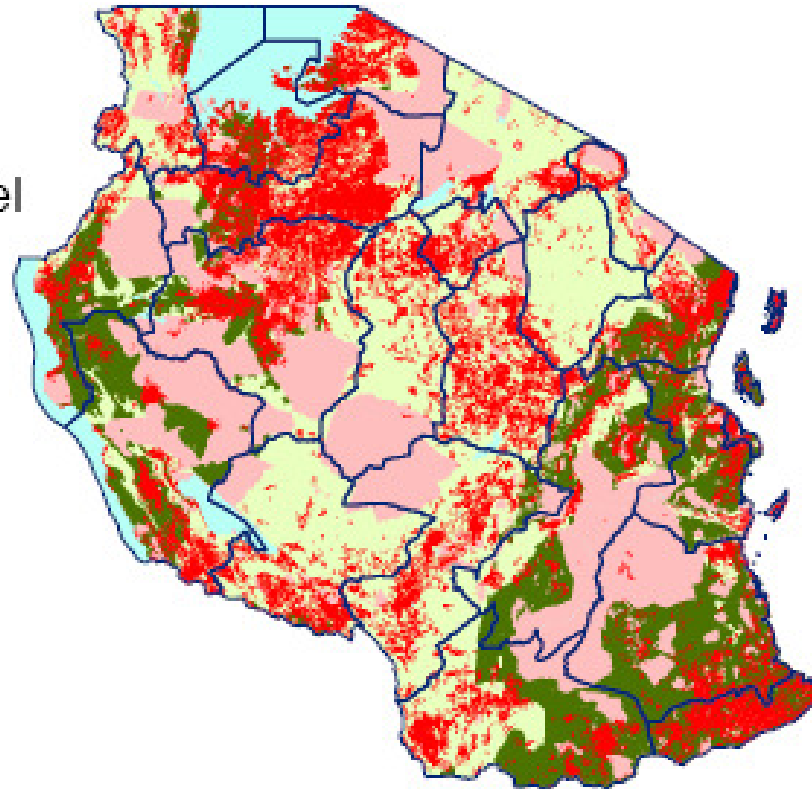


CASSAVA - Suitability Index



# Cassava: Zoning for the bioenergy sector

Conservation  
Agriculture  
High input level



CASSAVA



Not economically viable



Economically viable



Excluded areas



Agriculture



Water

## B. How?

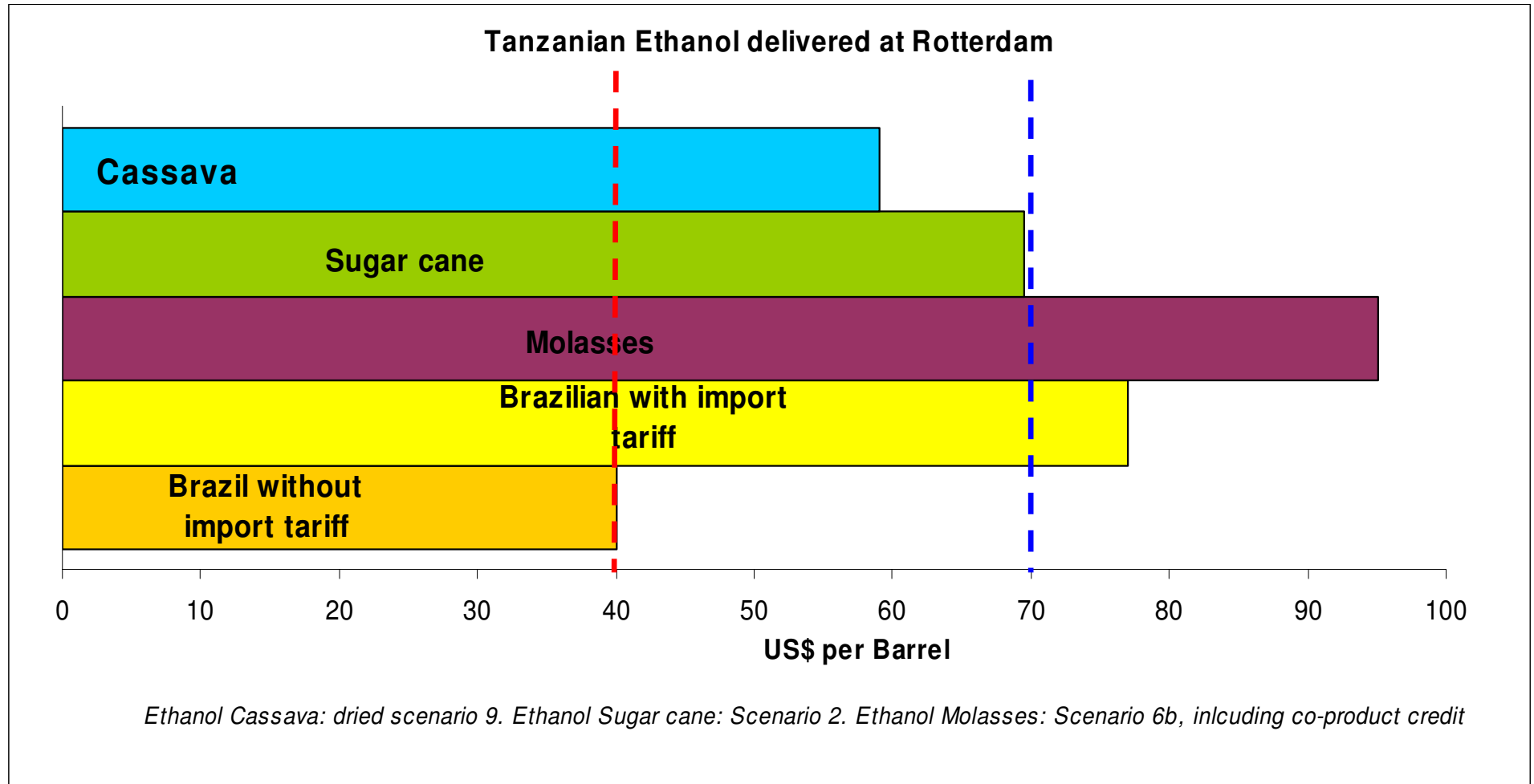
**Is ethanol from cassava competitive? If so, under what set up?**



# Cassava cost of production (USD/litre)

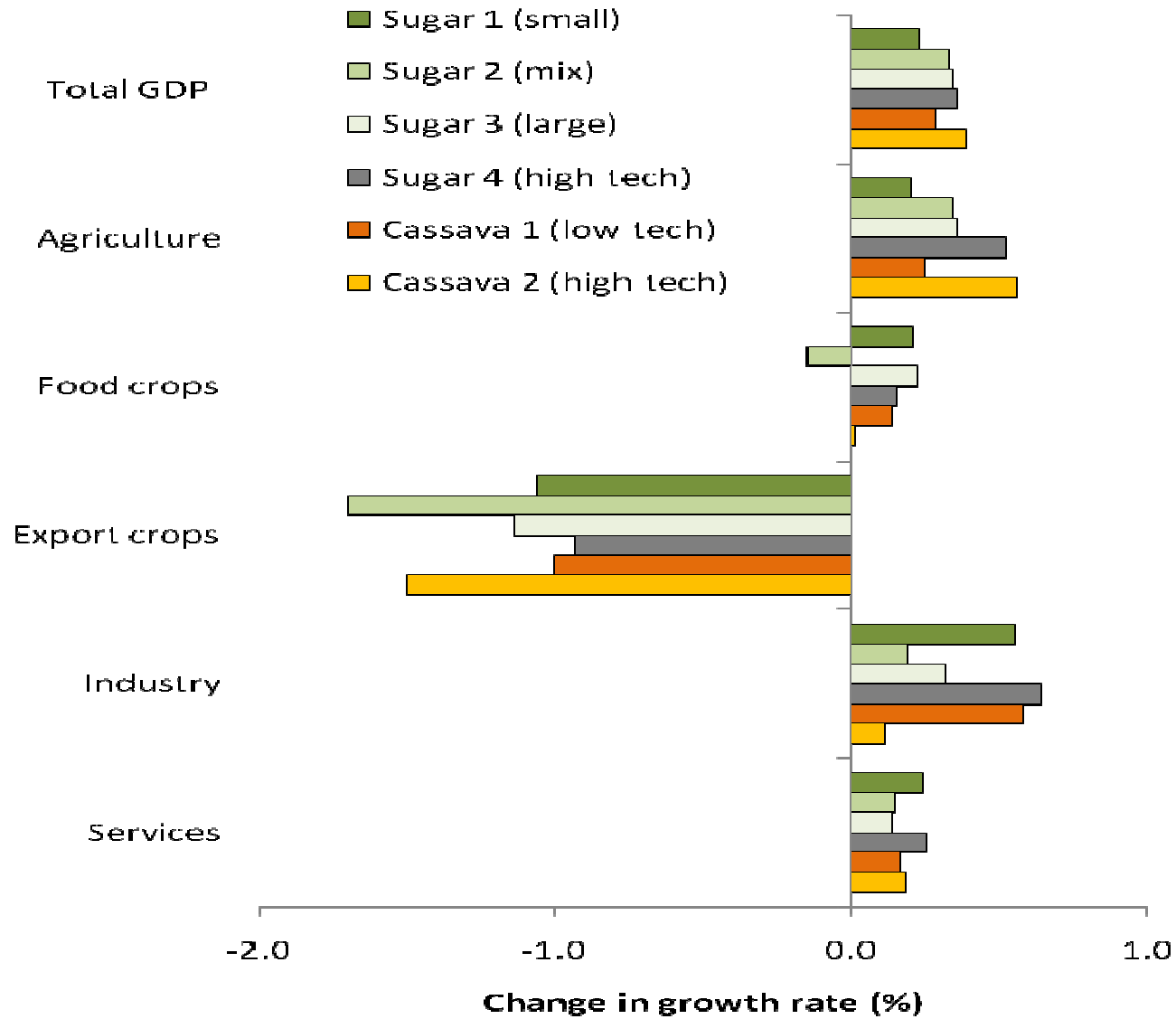
Fresh cassava from outgrowers	0.42	Thailand and Vietnam – 0.34 to 0.40
Dried cassava from outgrowers	0.47	Brazil - 0.45 - 0.47
Dried cassava from estate (60%) and outgrowers (40%)	<b>0.37</b>	China and India 0.60 - 0.65

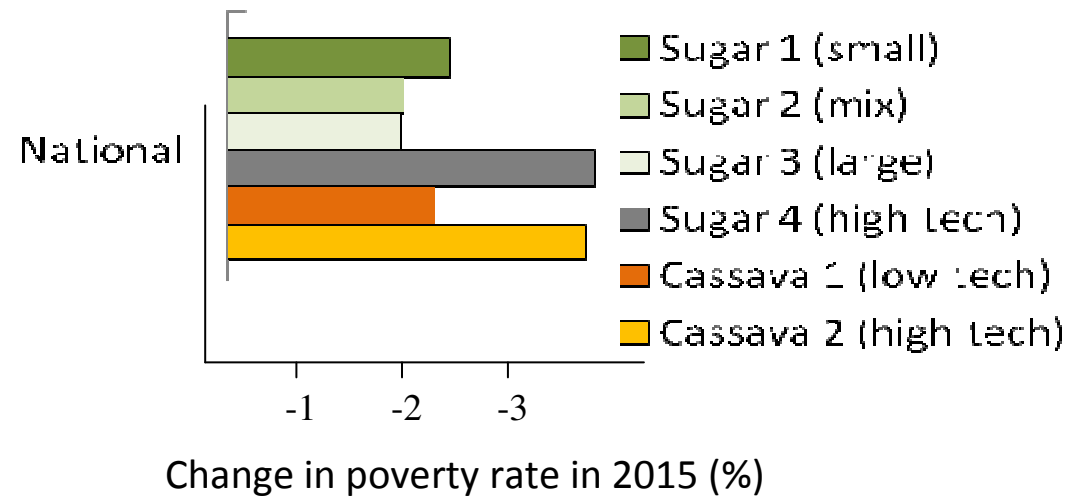
# Tanzanian ethanol delivered at Rotterdam port USD per barrel



## C. What will it do for my economy?

**Can it bring economic growth? Can it help reduce poverty? What are the tradeoffs?**





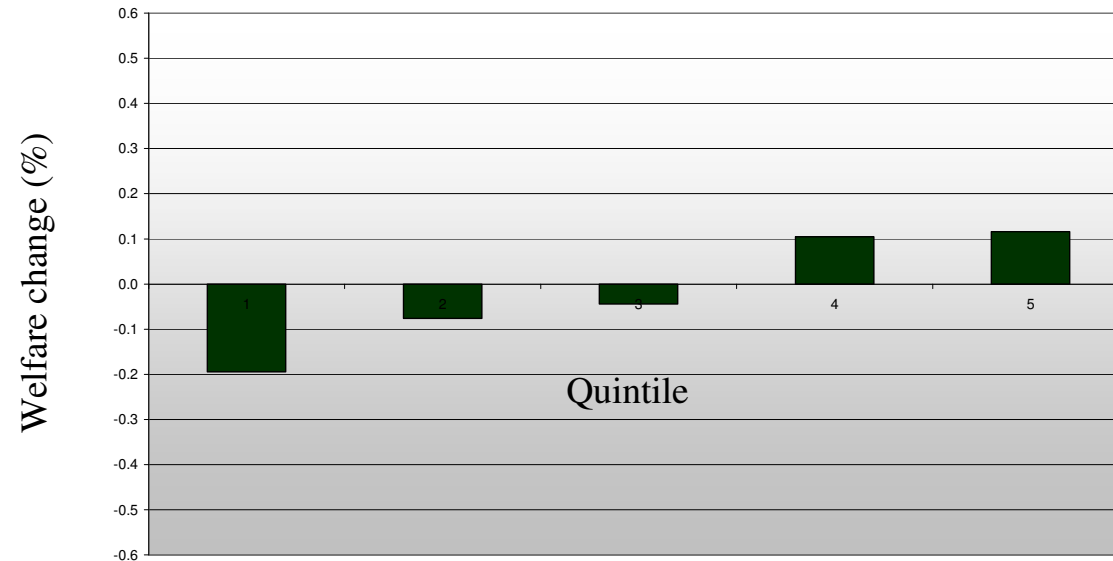
## Poverty level impact (%)

## D. Vulnerable population groups

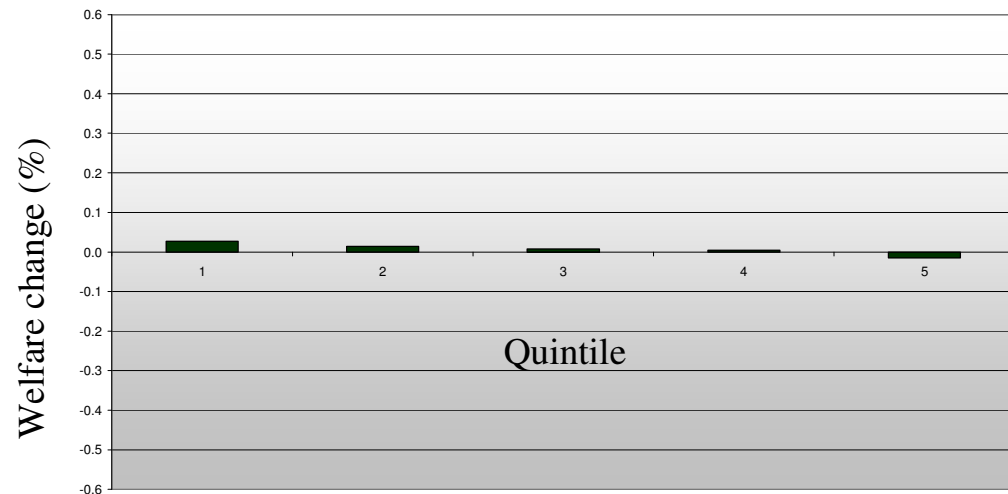
**Which segments of the population are at risk?**

# What if the price of cassava increased by 10%?

- Ruvuma



- Kilimanjaro



## Did cassava prices change already?

<b>Commodity and Marketing Level</b>	<b>Domestic Retail Fresh Cassava</b>	<b>Domestic Retail Dried Cassava</b>	<b>Domestic Maize Wholesale</b>
Real Percent Change Between 2003 and 2008	50	42	44



## Using BEFS to inform policy

### *Bioenergy Industry Development*

- Land Zoning
- Industry structure
- Screening of investors to reflect above and policy priorities

### *Contributing toward existing development policy*

- Poverty, economic growth, equity, energy access, food security, agriculture

### *Additional measures*

- Food security safeguards
- Awareness of international risk factor

## Concluding remarks

**Structuring the industry to deliver maximum benefits with fewest risks.**

**Ex ante - being aware of all the issues, minimising risks**

**Ex post - having mechanisms to monitor and deal with problems**

*...Per se* biofuels is neither good nor bad

What matters is the **management** of the sector...



# BEFS

Bioenergy and Food  
Security Project

**Asante Sana!**

**[www.fao.org/bioenergy/foodsecurity/befs](http://www.fao.org/bioenergy/foodsecurity/befs)**

**BEFS FAO**

