



Improving Food Security through Biofuel Development in India

# The Development of Alternative Biofuel Crops

IFAD & ICRAF Collaborative Programme

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# Structure of Presentation

- The Programme
- Linkages
- Road Map



# 1. Development of Alternate Biofuel Crops

## Goals

- **Improve cash income to poor including women**
- **Improve Food Security**
- **Increase Access to affordable energy**



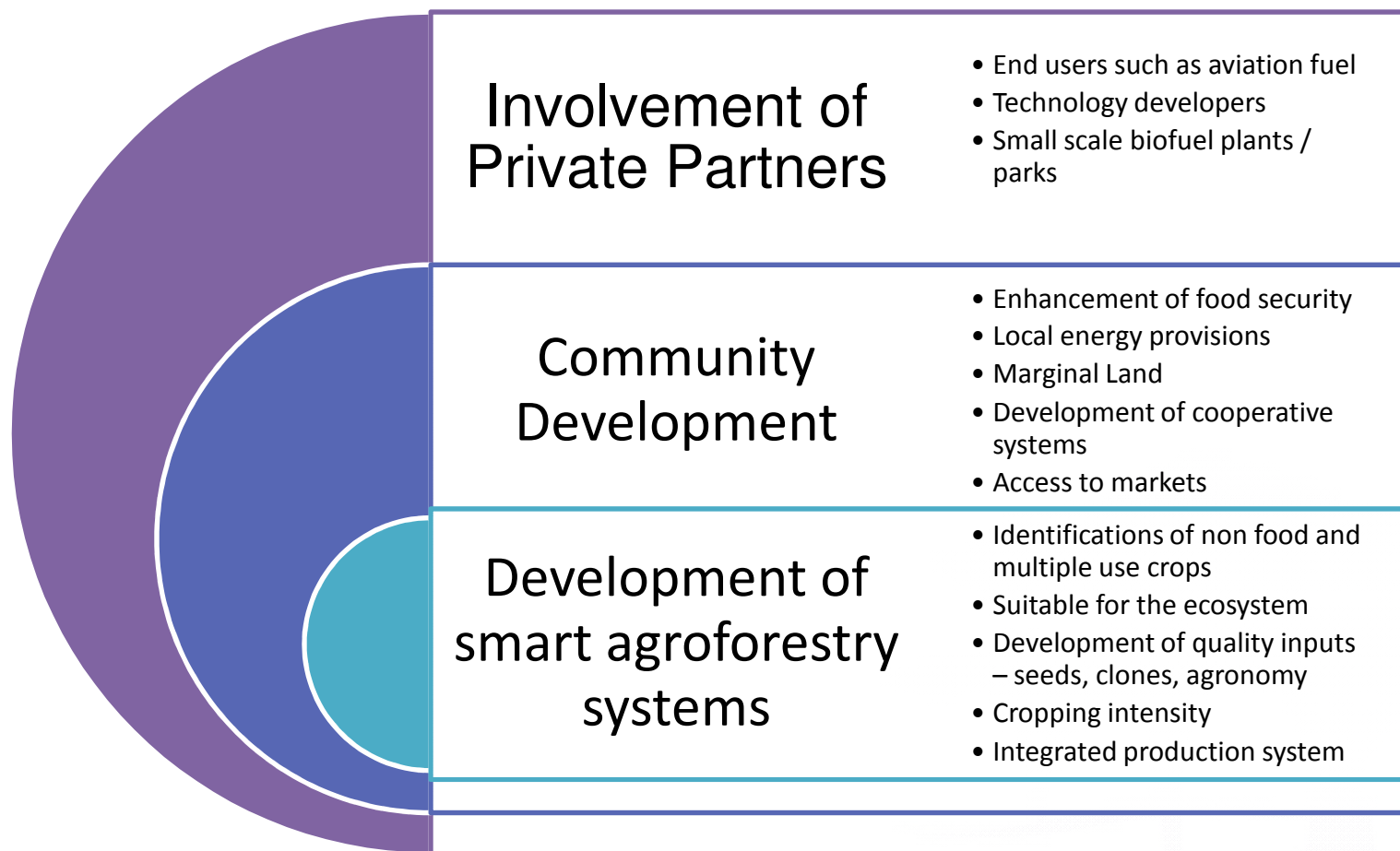
# 1.1 How is this programme different?

- Development of alternate and non-food crop or cropping system (Agroforestry) – use of marginal land
- Combinations of crops for sustainable production throughout the year  
→ based on agroclimatic / ecosystem
- Covers the whole value chain : Landscape / System Approach

## Agroforestry Challenges

- Selection of Appropriate Species (Ecosystem based)
  - Quality planting material
  - Short rotation crops
- Remunerative to small farmers: land scape approaches

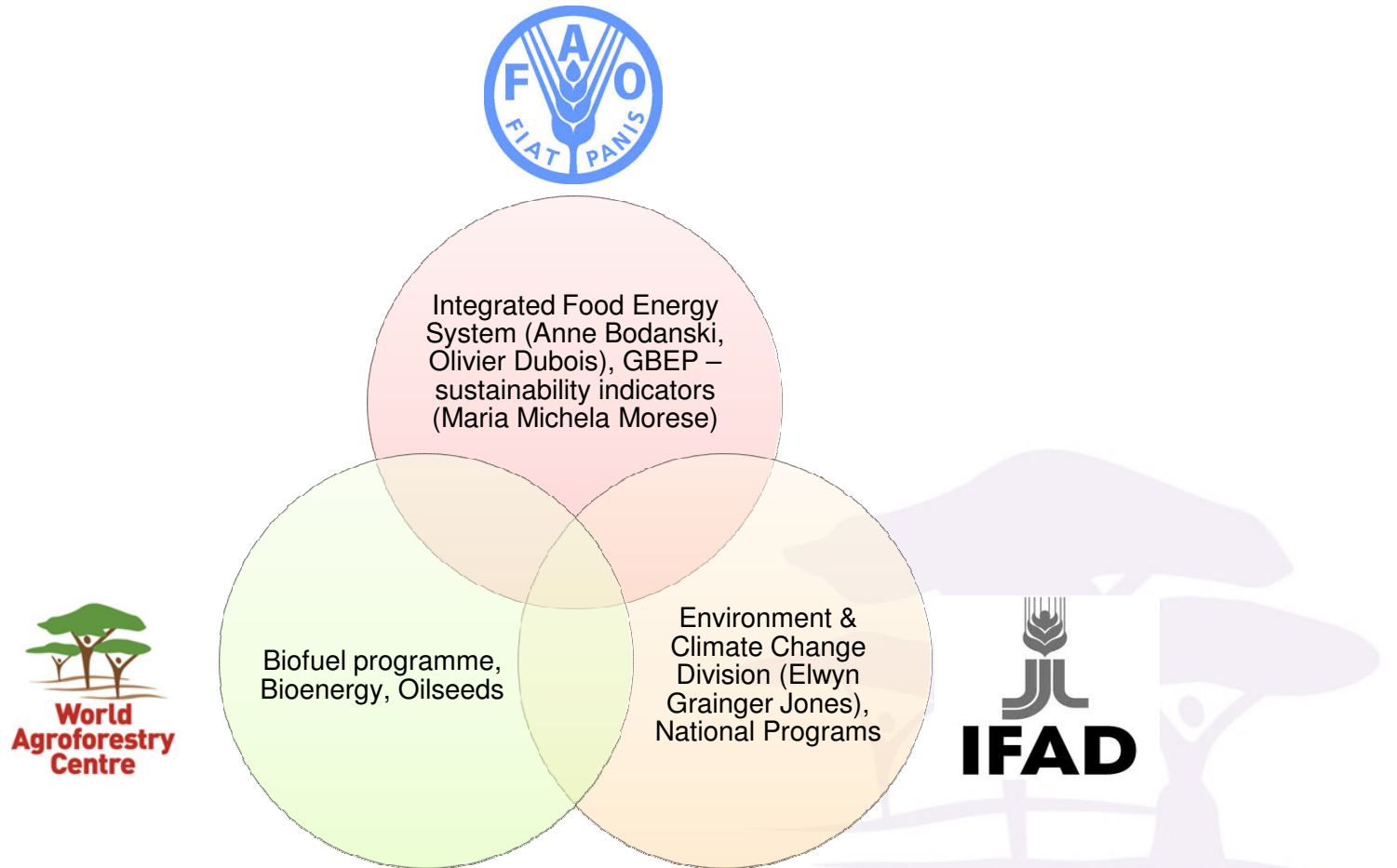
# 1.2 Value Chain



Develop a business model to fulfil sustainability criteria for planet, people and profit

# 2 Linkages

## Energy for Food , People & Climate

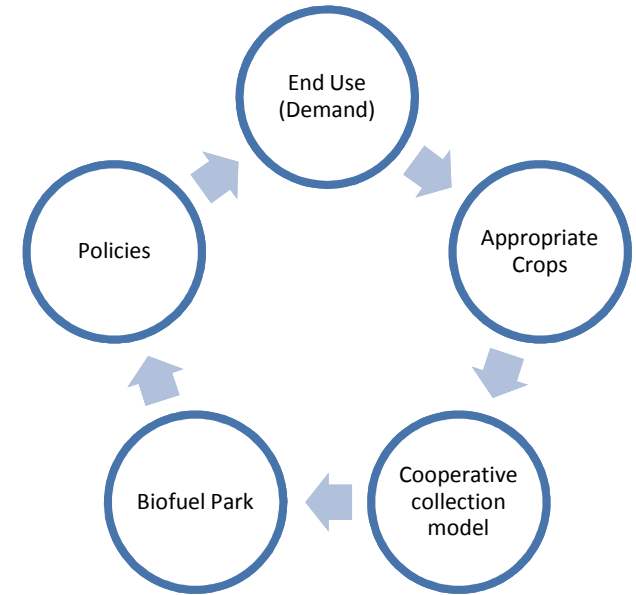


Linkages with FAO / IFAD explored : Initial discussions 11- 12 April 2013

# 3.1 Programme – Phase 1

Karnataka - India

- ❖ Inclusion of multiple & locally adapted species
  - Pongamia (*Pongamia pinnata*)
  - Madhuka (*Madhuka latifolia*),
  - Neem (*Azadirachta indica*)
  - Simarouba (*Simarouba glauca*),
  - Jatropha (*Jatropha curcus*)
  - Amoora (*Amoora rohiyuka*) &
  - Surahonne (*Calophyllum inophyllum* L)
- ❖ Smart farming system, e.g. fence planting
- ❖ Area covered – 7000 Ha; No of seedlings – 1.5 millions



## Work Plan

Value Chain  
Analysis &  
Interventions

Agri Business  
Development

Improve  
Market  
Participation

Livelihood  
Impacts

Developing linkages with Karnataka  
Develop agroforestry system  
Identify the gaps in the programme  
Develop a pilot / CoE  
Criteria test

## 3.2 Programme Phase 2

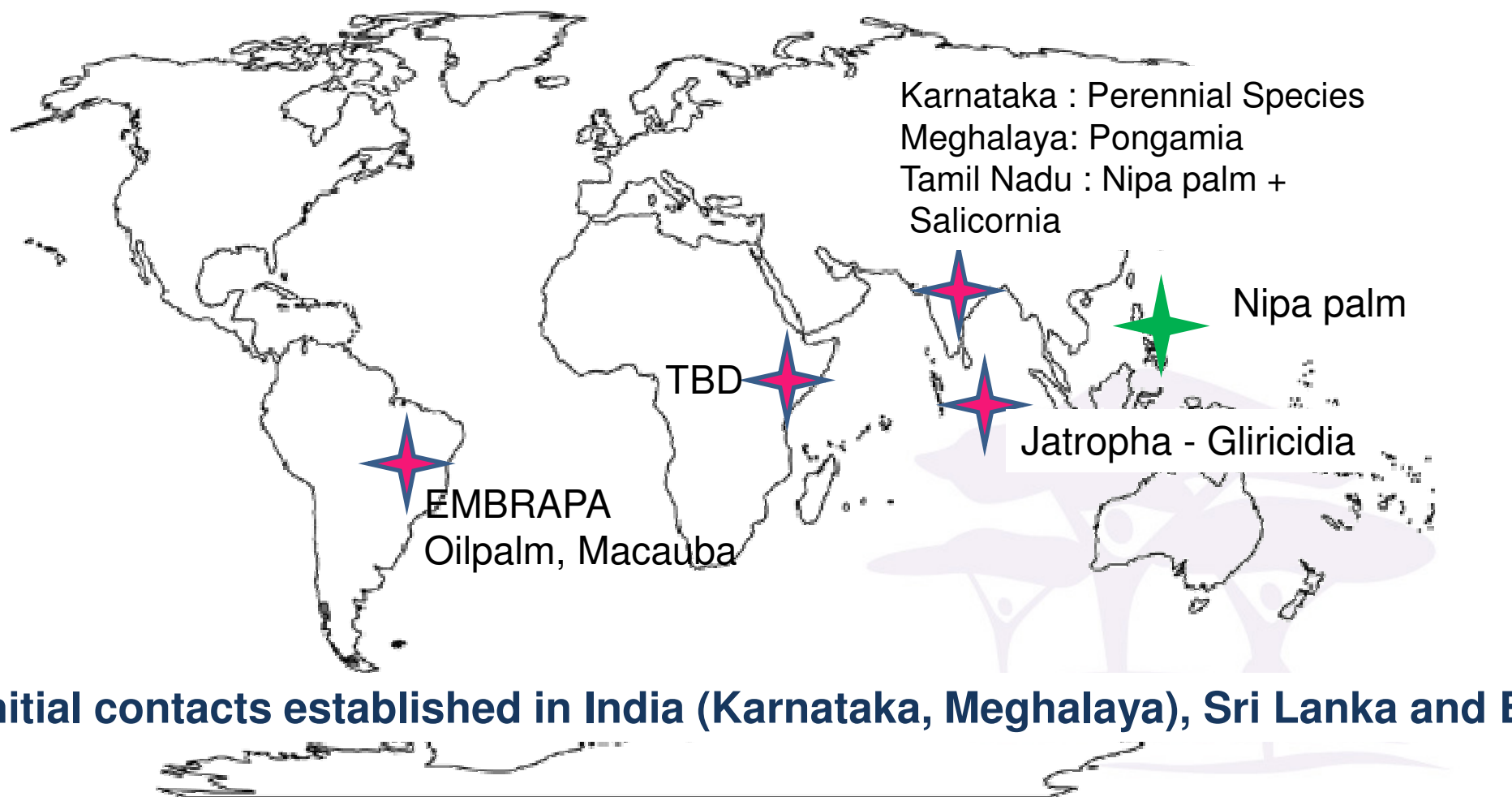
### South-South Cooperation with Brazil

- ❖ Learn from the Brazilian experience with biodiesel:
  - Focus on social inclusion, environmental sustainability and promotion of regional development.
    - More than 100,000 smallholders.
    - About 70 biodiesel refineries.
    - National savings of US\$ 3.4 billion.
    - Annual average household income: twice the previous income.
  - Main challenge: overcome the excessive
    - dependence on soy beans and castor and
    - dependence on weather (rainfall).
- ❖ Partner with Embrapa on the development of alternate feedstocks:
  - Agroforestry model on Jatropha, Macaúba Palm and others.
  - Agro-ecological zoning in process.





## 4. Road Map



# 5. Summary & Conclusion

- The programme looks beyond use of food crops
- Focussed on improving the livelihoods of rural and marginal farmers
- Address the sustainability – economic, environmental and social





**United Nations**  
Framework Convention on  
Climate Change

## **Bonn Climate Change Conference - June 2013**

Wednesday,  
05 Jun 2013

18:30—20:00  
Rail (MoT)

**International Centre for  
Research in Agroforestry  
(ICRAF)**

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**The ICRAF - IFAD biofuel  
program**

Biofuels are necessary to reach the 2°C target but can have negative effects on the environment, food security, and livelihoods. Panelists from research, governments, donors and business will discuss the ICRAF-IFAD biofuel program in the context of development, environment, and climate change.

**Speakers:** ICRAF, IFAD, Indian Government, business, NGO