An example of Low Carbon Development in Rural India – Mitigating Climate Change and Poverty

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on behalf of the Environmental Defense Fund
and Fair Climate Network

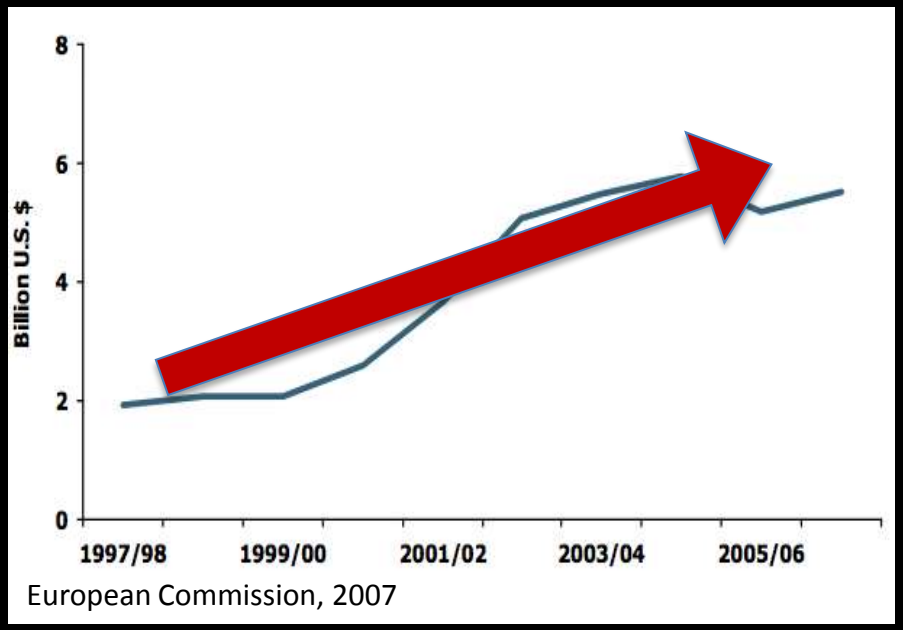
India: Rural development needed at the largest scales

Urban and rural populations

Rural poverty

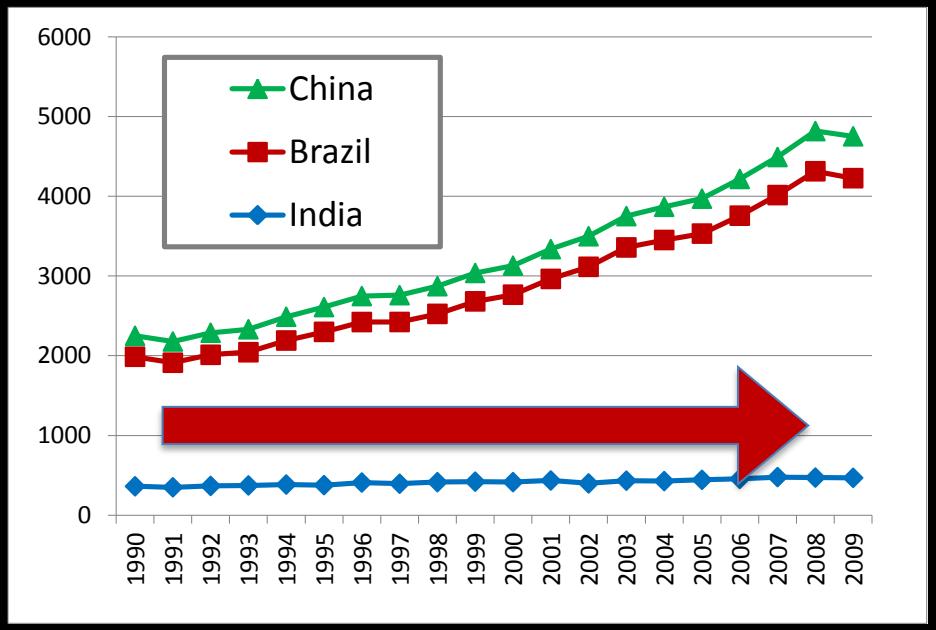
Existing safety nets are under pressure and may not be sustainable

India's Food Subsidy expenditures



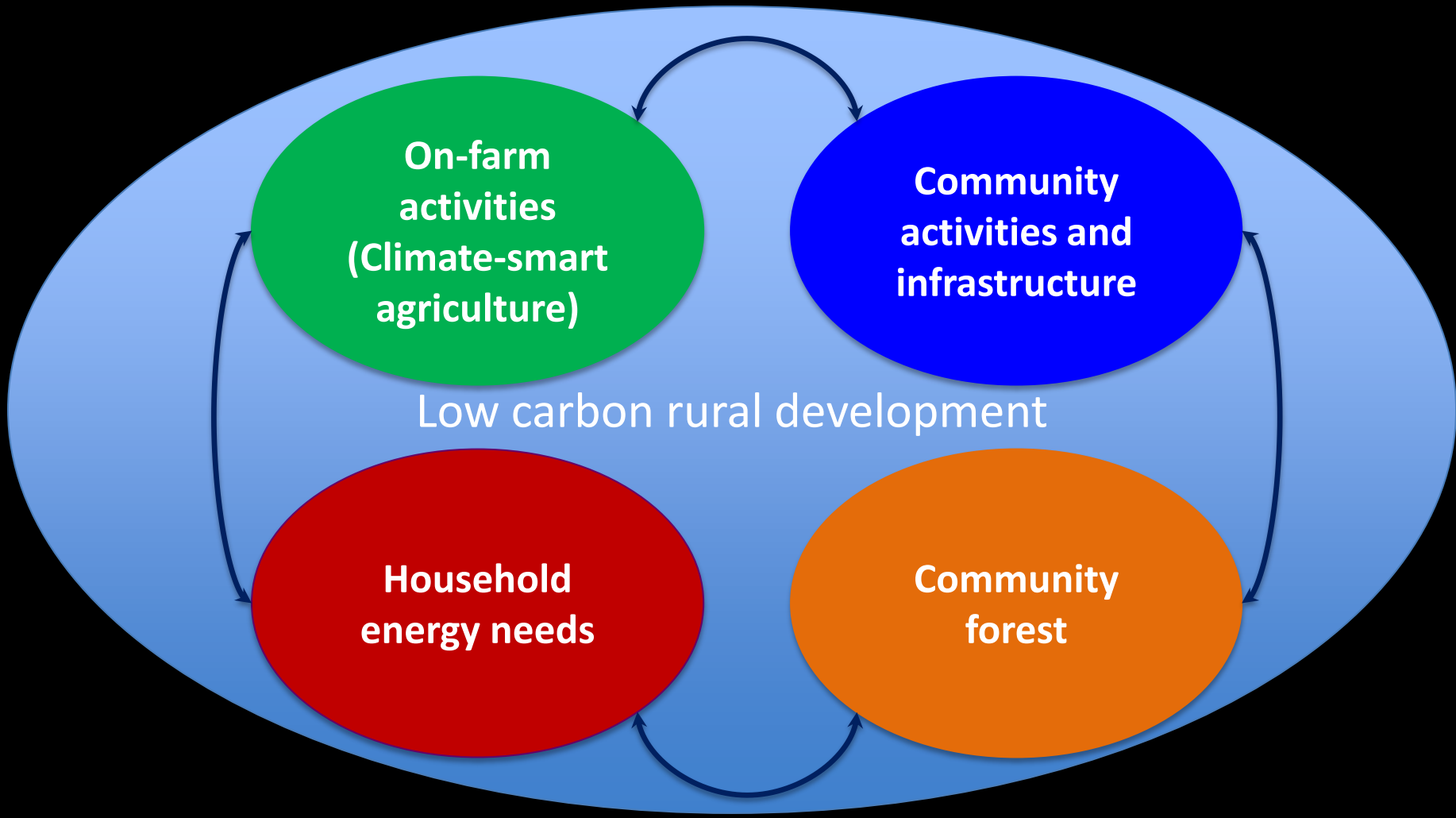
European Commission, 2007

Agricultural Value added per worker



Expenditure is not increasing productivity

What would a solution for rural India look like?



What are our goals for India?

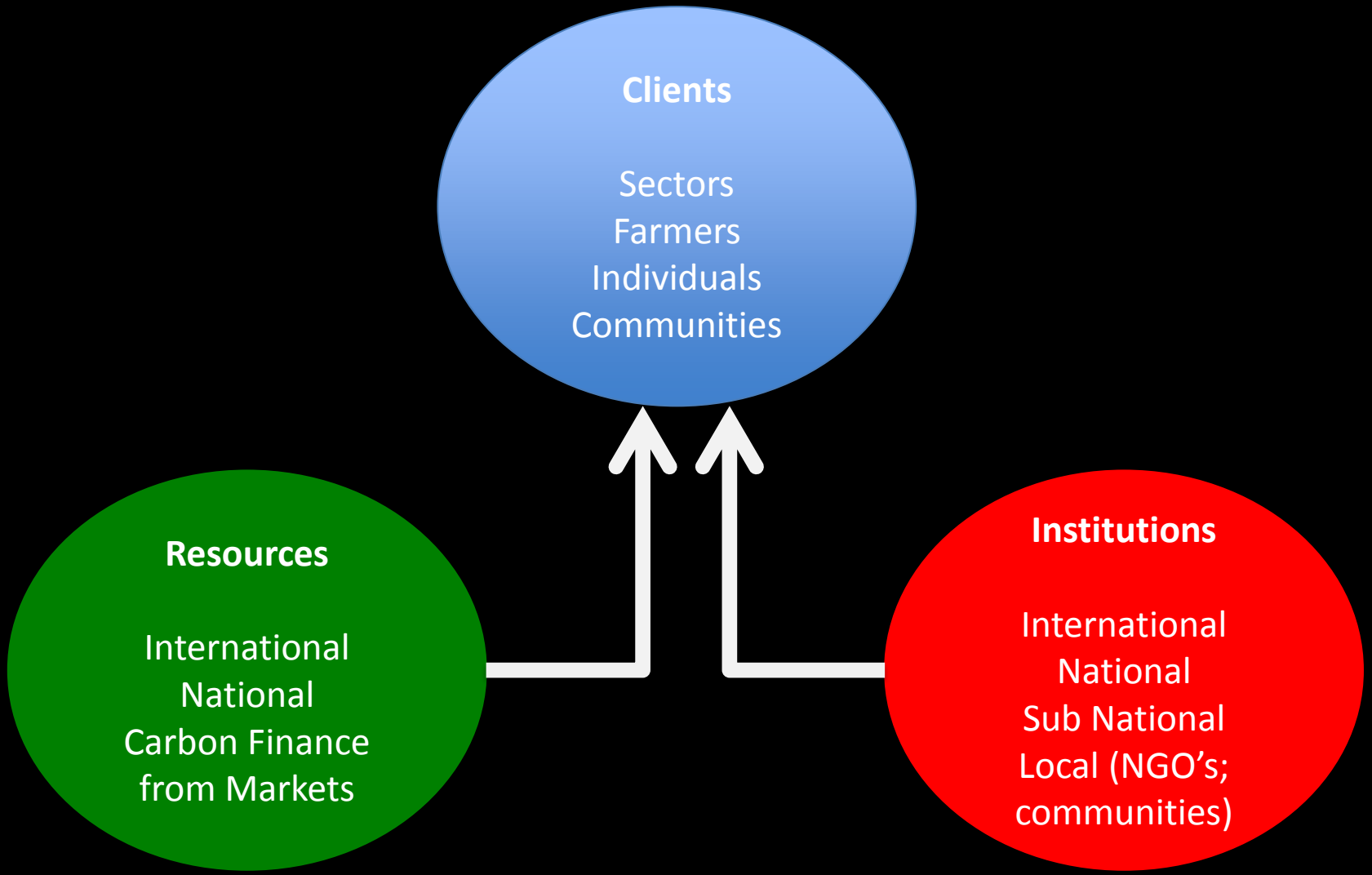
Make change at the “bottom of the pyramid” by

- consulting local peoples
- supporting institutional capacity
- establishing replicable practices
- increasing resilience
- meeting the needs of markets

What is the model low carbon rural development in India?

- Nutrient management
- Soil conservation
- Efficient water utilization
- Integrated pest management
- Integrated livestock management
- Improved cook stove utilization
- Incorporation of energy production processes

What is the model for "Climate-smart" Agriculture?



Part 1: The Clients

Who are the clients?

- Rural-dwellers
- own < 1 ha of land
- subsistence farmers
- little growth in agricultural income
- 30% live in poverty

What do the Clients need?

- Stable livelihood (income diversification)
- More efficient use of inputs
- Long-term natural resource maintenance

Part 2: Who are the Institutions?

the timbaktu collective

in celebration of life

SEDS

towards a greener tomorrow

ACCION FRATERNA

ecology centre

sustainable . human . nature

"SACRED" TRUST

PWDS

Palmyrah Workers Development Society

What characteristics do we look for in these Institutions?

- Duration of institution presence
- Presence in community
- Engagement of community in institutional activities
- Culture of thorough data collection

Part 3: How to bring sufficient capital for low carbon development?

- International
  - ODA
  - FDI
- National/Regional
  - Programs to enhance sustainability
- Carbon markets
  - VCS
  - EU

What do carbon markets need in order to pay for mitigation?

- Additionality
- Permanence
- Accounting for leakage
- Monitoring
- Measurement
- Transparency
- Certification

Project Strategy

1. Capture demographic data
2. Delineate land-holdings
3. Develop baseline emissions data
4. Implement low carbon practices
5. Monitor emissions
6. Generate carbon contracts

Delineate Land-holdings

Develop Baseline Emissions Data

	Total	Average
Kerosene purchased from Ration Shops (ltrs)	23,318	2.70 litres
Kerosene purchased from Open Market (ltrs)	1,115	0.19 litres
Monthly Kerosene usage for Cooking (ltrs)	13,327	1.54 litres
Monthly Firewood usage for Cooking (kgs) (Ramachandra Study: 252.6 kgs/fly/month)	2,240,118	260 kgs
No of Families purchasing firewood	73	
No of Families collecting firewood	8,555	
Distance to Collect Firewood (kms)		2 kms
Daily Cooking Hours (hrs)		3 hrs

Implement Low Carbon Practices

Implement Low Carbon Practices

Implement Low Carbon Practices

Monitor Activities and Emissions

Farmer Diary format – Basic template

Land ID		Year	
Calculated area		Season	

1. Crop Details

Date of sowing	Crop	Variety	Seeds (kg)
/ /			
/ /			
/ /			
/ /			
/ /			

2. Tillage

Date	Method
/ /	Tractor/country plough/others
/ /	
/ /	
/ /	
/ /	

3. Weeding

Date	Method
/ /	Manual/gentle plough/weeder
/ /	
/ /	

4. Chemical Fertilizers

Date	Name	Kg
/ /		
/ /		
/ /		
/ /		

5. Manuring (FYM, Compost, Jeevamrutha, etc.)

Date	Name/Type	kg
/ /		
/ /		
/ /		
/ /		
/ /		

6. Chemical Pesticides, Herbicides, etc.

Date	Name/Type	kg
/ /		
/ /		
/ /		
/ /		

7. Biological Pest Control

Date	Name/Type	kg
/ /		
/ /		
/ /		

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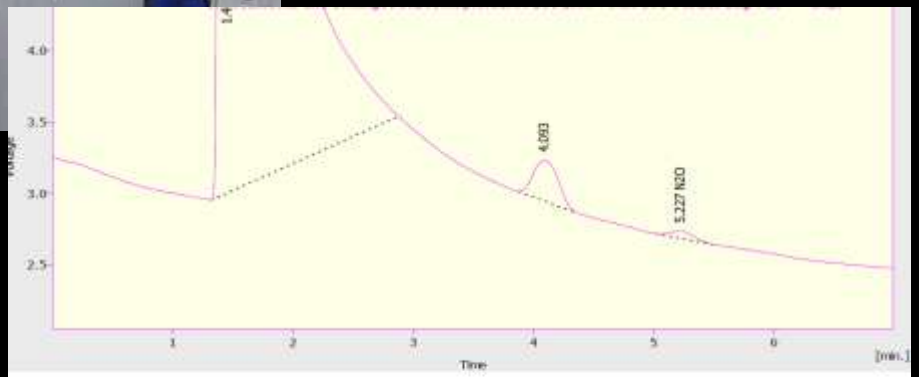

Result Table (ESTD - C:\Documents and Settings\AA\Desktop\CRR] (04-Dec-2010 - 5 ml OTC 5 bellar bag 1 air ------Sr.20)

	Reten. Time [min]	Response	RB	Amount [ppb]	Peak Type	Area [%]	Compound Name
1	1.457	671.329	A	0.000		99.3	
2	4.093	4.142	A	0.000		0.6	
3	5.227	0.722	A	18.087	Ordnr	0.1	N2O
	Total			1.000		100.0	

Progress Summary

Project Strategy	Steps Taken
1. Capture demographic data	- Identified 5500 participating households - Conducted household surveys
2. Delineate land-holdings	- Used GPS to plot field coordinates - Filed GPS information in conjunction with demographic data - Established land tenure
3. Develop baseline	- Recorded tree, soil, and landscape information
4. Implement practices	- Determined practices for each crop: i.e. reduced fertilizer and pesticide, manure management, and tree-planting
5. Emissions monitoring	- Acquired and installed gas collection devices and gas chromatographs - Trained and oriented farmers and NGO workers
6. Generate carbon contracts	- Developed monitoring scheme in line with market expectations

Project Co-benefits

- Reduced time spent on field
- Reduced time collecting firewood
- Increased school attendance or investment in alternate income-generating activities
- Reduced natural resource degradation – air, water, soil quality
- Improved health - fewer hospital visits, decreased morbidity

Departing thoughts

1. Develop in coordination with communities
2. Early stages of engagement: need players to consolidate, coordinate, develop their own theory of change
3. Aligns local, national, and international goals
4. Aligns mitigation, poverty alleviation, and adaptation