Managing Climate Change, Agriculture and Rural Poverty

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Secretary to Government of India
Ministry of Rural Development

Des Moines, 16 October 2008
I will give you a talisman. Whenever you are in doubt, or when the self becomes too much with you, apply the following test.

Recall the face of the poorest and the weakest man whom you may have seen, and ask yourself, if the step you contemplate is going to be of any use to him. Will he gain anything by it? Will it restore him to a control over his own life and destiny?

Then you will find your doubts and yourself melt away.

Mahatma Gandhi [Last Phase, Vol. II (1958), P. 65]
Presentation Structure

- Rural Poverty, Agriculture & Environment
- Vulnerability of Rural Poor to Climate Change
- National Rural Employment Guarantee Act, 2005
- National Action Plan on Climate Change, 2008
- Way Forward
850 Million Hungry People

Where are they?

- 62% live in Asia
- 25% live in India
- 25% live in Sub Saharan Africa
- 70% live in Rural Areas

Who are they?

- Small and marginal farmers, landless agricultural laborers, fisher-folk, herders, tribal and indigenous people, female-headed households especially infants, children, elderly and disabled
Landless Agriculture Laborers
Women in Rainfed Areas
Rural Poverty

- Livelihoods based on natural resources
- Natural resources threatened by stresses
- Climate Change is an additional stress
- Poor are most vulnerable to Climate Change
- Rural poor do not have resources to cope
Poverty in India

Poverty Ratio

Source: Different NSSO Rounds and 61st Round Consumer Expenditure Survey 365 days reference period
Below 2400 Kcal/capita/day in Rural Areas; Below 2100 Kcal/capita/day in Urban Areas
GDP Growth Rates in Agriculture

- Pre green Revolution (1951-1968)
- Green Revolution 1968-81
- Wider technology dissemination (1981-91)
- Early reforms period (1991-1997)
- Ninth plan (1997-2002)
- Tenth Plan Period (2002-2007)

Total Economy GDP
Agriculture GDP
Indian Agriculture: Salient Features

- 60% population dependent on Agriculture
- 18% share of Agriculture in GDP
- Average size of operational holding: 1.3 ha.
- 82% of operational holdings small & marginal
- 18% landless agriculture labour
- Green Revolution by-passed rainfed areas
- 60% of cultivated area is rainfed
Climate change will accentuate climate variability
Increase in rainfall by 15-40%
Increase in annual mean temperature by $3^0\text{C}$ to $5^0\text{C}$
Changes in frequency and magnitude of extreme events
Gradual recession of Himalayan glaciers
Likely adverse impacts on agriculture, water resources, health, forests, coastal areas
Increased vulnerability to extreme events – droughts, floods, cyclones
Food production is sensitive to climate changes such as variability of rainfall and temperature changes within a season

NATCOM-1:

Simulated response of rice and wheat production due to increase in temperature by 2 degree indicate a decrease in grain yield of both the crops by 15-17%

Other studies indicate:

Every 1° rise in temperature decreases wheat production by 4-5 million tons

Decrease in productivity of fruits, vegetables, coffee, aromatic and medicinal plants due to small changes in temperature and rainfall

Rise in crop-weed competition, diseases and insect population with increase in temperature

Global reports indicate a loss in crop productivity by 10-40%
Enhancing Sustainable Agricultural Growth

**Economic Growth:** Inclusive, Broad-based, Pro-poor for faster poverty reduction

**Higher Agricultural Growth:**

- Higher public investment
- Focus on rainfed agriculture
- Diversification
- Effective input management
  - (irrigation, nutrients, crop protection, credit)
- Conservation Agriculture – More Crop Per Drop
- Risk management
- Agriculture Marketing Reforms
Rural Development Interventions for Inclusive Growth:

1. Wage Employment Generation
2. Self Employment
3. Skill Development Mission
4. Social Security
5. Rural Housing
6. Rural Infrastructure – Roads & Markets
7. Rural Sanitation & Drinking Water
8. Land Resources Management
National Rural Employment Guarantee Act, 2005

www.nrega.nic.in
NREGA

- Provides at least 100 days of guaranteed wage-employment in a year to every household

- Works undertaken address causes of chronic poverty like drought, deforestation, soil erosion

- Strengthens grassroots democratic processes and infuses transparency and accountability in rural governance
Village level Worker Making a Job Card
Unique Features of NREGA

- Rights-based Framework
- Demand Driven
- Decentralized through Local Self Government
- Self Targeting
- Transparency & Accountability / Access to Information
- ICT for pro-active disclosure & information in public domain
- Social Audit through Village Assembly
Workers with Job Cards
Job Card Holders
Informing People of their Rights
Writings on the Wall
## Scale of Implementation

<table>
<thead>
<tr>
<th></th>
<th>2006-07</th>
<th>2007-08</th>
<th>2008-09</th>
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</thead>
<tbody>
<tr>
<td><strong>No. of districts</strong></td>
<td>200</td>
<td>330</td>
<td>615</td>
</tr>
<tr>
<td><strong>No. of Households provided</strong></td>
<td>21</td>
<td>34</td>
<td>45 (estimated)</td>
</tr>
<tr>
<td><strong>Employment (million)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>No. of days per Household</strong></td>
<td>43</td>
<td>42</td>
<td>60 (estimated)</td>
</tr>
<tr>
<td><strong>Average wage rate (Rs)</strong></td>
<td>65</td>
<td>75</td>
<td>85 (US$ 2 approx)</td>
</tr>
<tr>
<td><strong>Earnings per Household (Rs)</strong></td>
<td>2795</td>
<td>3150</td>
<td>5100 (estimated)</td>
</tr>
<tr>
<td>(average)</td>
<td>(US$ 62)</td>
<td>(US$ 70)</td>
<td>(US$ 113)</td>
</tr>
<tr>
<td><strong>Women employed (percent)</strong></td>
<td>41</td>
<td>43</td>
<td>49</td>
</tr>
<tr>
<td><strong>Schedule Caste &amp; Tribes employed (percent)</strong></td>
<td>61</td>
<td>57</td>
<td>57</td>
</tr>
<tr>
<td><strong>Expenditure (billion $ US)</strong></td>
<td>2.5</td>
<td>4.0</td>
<td>7.0 (estimated)</td>
</tr>
</tbody>
</table>
Wage Payment through Post office
Wage Payment through Smart Card
Transparency at Grassroots
Impact on Poverty

- Reduction in distress migration
- Major increase in wage income
- Enhanced food security
- Improvement in wage negotiation power
- Increase in wage rates
- Equal wages for men and women
- Major safety net
- Financial Inclusion
- Insurance of wage earners
Impact on Natural Resource Base
Improved Rural Livelihoods

34 million households employed on 1.8 million works in 2007-08
Water Tables beginning to get recharged, improvement in land productivity

NREGA yielding Co-benefits of Adaptation to Climate Change

- Land Development, Flood Protection & drainage: 15%
- Rural Connectivity: 15%
- Micro Irrigation Works: 19%
- Water Conservation, water harvesting: 50%
- Renovation of traditional water bodies: 15%
- Drought proofing, Afforestation and Plantation: 19%
Water Conservation
Women Workers
Desilting of Irrigation Channel

KATHIRIPULAM- DESILTING OF CHANNEL (Rs. 3.20 LAKHS)
NAGAPATINNAM
Plantation Works
Tree Plantation
Rural Road Construction

KARAPPATU FORMATION OF NEW ROAD (Rs. 3 LAKHS)
VILLUPURAM
New Delhi, Jul 31

To ensure timely payments and avoid the involvement of middlemen in wage payment to workers under the National Rural Employment Guarantee Act (Nrega), more than two crore saving bank accounts have been opened in banks and post offices across the country. This is the largest number of bank accounts linked to a development programme across the globe.

**On Their Account**

Job scheme has led to expansion of the formal banking sector.

**A new deal for poor farmers**

Guest Column

Jeffrey D'Ornato

**Fewer workers leaving Bihar this year**

The number of migrant workers in the state has declined from 65 lakh to 70 lakh. This is the first time in the past 9 years that there is a fall in the number of migrant workers.

**NREGA in News**

Rural India sets a world record for bank accounts

Sandip DaS Posted online: Aug 01, 2008 at 2343 hrs, Financial Express

NREGA cuts rural migration to cities

Deccan Chronicle, Chennai, August 5, 2007

Chennai, August 4: The National Rural Employment Guarantee Act (NREGA) has reduced migration from rural to urban areas in Tamil Nadu, the NREGA council, a statutory body to monitor the scheme nationwide, said on Saturday.

Insurance cover for 2.11 crore NREGA workers

Sandip Das

Posted online: Jul 21, 2008 at 2357 hrs

New Delhi, Jul 20

After ensuring that all the beneficiaries under the National Rural Employment Guarantee Act (NREGA) have access to formal banking system through banks and post offices, the Centre has decided to extend insurance cover to all Alliance's flagship wage employment programme.
Work Inspection

- Focuses on sustainable rural livelihoods
- Integrates climate change into the development planning process
- Emphasises poverty eradication and sustainable development as the best form of adaptation
- Identifies measures that promote development objectives, while yielding co-benefits for addressing climate change effectively.
- Outlines steps to simultaneously advance development and climate change-related objectives of both adaptation and mitigation
Integrating Environmental Concerns into Economic Policy

National Action Plan (NAP) on Climate Change

- **8 National Missions launched to enhance:**
  - Adaptation to climate change
  - Ecological sustainability of India’s development path

- **5 Adaptation Missions** – **Sustainable Agriculture**, Sustainable Habitat, **Water**, **Green India**, Himalayan Eco-system

- **3 other Missions** on Energy Efficiency, Solar Energy, Strategic Knowledge for Climate Change
Way Forward
Changing the way to combat poverty

1. Creation of Rights / Legal Guarantees for rural poor
2. Setting-up well defined Systems to give effect to the Rights
3. Decentralized democratic planning & implementation
4. Earmarking adequate financial resources
5. Social Audits for transparency and accountability
6. Access to Information at every stage of implementation [if necessary, through legal means (Right to Information Act)]
7. IT platform for placing all information in public domain
8. Innovative use of ICT for development of financial products
9. Effective grievance redressal mechanisms
10. Judicial System/ Courts to enforce Rights against State violation
Way Forward

Poverty is the worst polluter

- Boosting sustainable agricultural growth
- Recognizing that rural livelihood strategies, which yield co-benefits of adaptation are the best form of coping with climate change
- Poverty alleviation programs that simultaneously (i) reduce poverty, (ii) promote sustainable agriculture and (iii) enhance adaptation to climate change
- Integration of climate change concerns into economic policy and development planning
- For lasting solution adaptation must go together with mitigation by developed countries together with lifestyle changes
“The Earth has enough resources to meet people’s needs, but will never have enough to satisfy people’s greed”.

Mahatma Gandhi 1927
Thank You