

**PROBLEMS AND OPPORTUNITIES IN MITIGATING EMISSIONS  
THROUGH AFFORESTATION AND REFORESTATION PROJECTS  
IN SMALL LANDHOLDER'S DEGRADED LAND IN INDIA**



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# NABARD AND IT'S FORESTRY ACTIVITIES

- NABARD IS A DEVELOPMENTAL BANK
- SRF THROUGH CREDIT- FF / AF:  
SFDCs, WBIs, NGOs, BIG FARMERS
- FORESTRY( JFM) UNDER RIDF: SFDs
- BIOFUEL-Jatropha/Pongamia: SFDs,NGOs, Corporates, Big farmers
- SRF THROUGH NRM / TDF FUND:  
INDIVIDUALS, NGOs, CORPORATES
- SRF THROUGH CO-FINANCING:  
COMMERCIAL BANKS

# EXTENT OF DEGRADED LANDS & POTENTIAL OF AR PROJECTS IN INDIA

- India has nearly 60 Million Hectare degraded lands falling both under forest and non-forest categories
- Holds tremendous potential for sequestering carbon with low opportunity costs and high ancillary benefits
- In spite of huge potential and CDM opportunities , no forestry projects are forthcoming
- So far only three CDM AR Projects have been developed in India viz. Bagepalli women in north Kolar, Karnataka (1383 ha); ITC in AP and JKPM in Orissa / AP which are awaiting registration under UNFCCC. Few projects are in the pipeline
- Globally fo far only one project viz. "Facilitating Reforestation for Guanxi Watershed Management in Pearl River basin, China" registered under UNFCCC

## Potential CDM AR Opportunities in India

- SRF for fuelwood production
- SRF for Biomass feedstock to power generators
- SRF for Industrial pulpwood production
- SRAF for farm income and C sequestration
- LR Timber for timber industries
- Pongamia pinnata and Jatropha curcus plantations for Biodiesel production
- Bamboo plantations for C sequestration and livelihood security of small landholders

# WHY ONLY FEW PROJECTS?

- AR projects under LULUCF sector are not only difficult but the most debated to be eligible for CER benefits under CDM of KP due to many uncertainties viz.
- Difficulties in establishing baselines
- Non Permanence nature
- Very strickt land eligibility criterion
- Complicated Forest definition
- Too Many barriers
- Long gestation and high risk projects

# WHY ONLY FEW PROJECTS?

- ADDITIONALITY & LEAKAGE FACTOR
- COMPLICATED AND STRINGENT METHODOLOGIES INVOLVED IN CLAIMING CARBON CREDITS
- MEASUREMENT, MONITORING AND VERIFICATION RISKS
- EU NOT PURCHASING AR CERs UNDER EUETS
- Low price offered for AR CERs as compared to industrial CERs
- Uncertainty of KP beyond 2012

# Barriers of AR CDM Projects

- Technological-Eligible land area and use of modern tools like remote sensing  
Lack of genetically high yielding planting material
- Market based- Limited and unorganised market, higher transaction cost, Less CER buyers, Low rate of CERs, Uncertainty
- Institutional –Weak institutional capabilities( FD,FDC),Inadequate extension activities, capacity building of communities, indigenous DOEs
- Database- Baseline GHGe data NA,Ground level data on revenue wastelands,
- Financial – Reluctancy of Banks to fund,non-awareness of carbon related financing,High interest,Lukewarm approach of Timber industries
- Physical –Land use pattern,, Land tenure systems, RORs,Land fragmentation
- Govt. & Policy-Implication of CDM definition, Procedural Complexity,  
Uncertainty of KP beyond 2012
- EU ETS- AR CERs not traded
- IKMS- Illiterate farmers, non-availibility of effective communication system,  
Language barrier,non-availability of publicity materials

# JK PAPER MILLS PROJECT

- AREA – 3500 HA DEGRADED LANDS
- 2800 TRIBAL FARMERS IN SIX DISTRICTS OF ORISSA AND ANDHRA PRADESH
- THE CONTRACTED CERs: 276,000 MT C
- WORLD BANK OFFERED US\$ 4.05 / CER
- THE TREE SP. ARE: *Eucalyptus tereticornis* and *Casuarina equisetifolia* CLONES
- ROTATION: 5 YEARS
- SHARING BENEFITS: 80% FARMERS, 20% JKPM AND VEDA MACS

# ITC PROJECT

- AREA- 3000 HA DEGRADED LANDS
- FARMERS-2500 TRIBAL SMALL LAND HOLDERS
- TREE SP.- E.camaldulensis, E.tereticornis clone
- ROTATION- 4 YEARS
- EXPECTED CERs-20 MT CO2 PER HA/YEAR
- THE PROJECT IS YET TO BE APPROVED BY EB OF UNFCCC
- BOTH THE PROJECTS ARE MANAGED UNDER INTENSIVE AF SYSTEM

# RESULTS

- HUGE OPPORTUNITIES EXIST IN AR PROJECTS FOR COMBINING MITIGATION AND CLIMATE CHANGE ADAPTATION
- HUGE SCOPE FOR CHANNELING INSTITUTIONAL CREDIT TO POOR , SMALL LANDHOLDERS
- NABARD IS TRYING TO PROVIDE SOFT LOAN TO POOR, TRIBAL FARMERS THROUGH UPNRM
- PLANTATIONS ARE CLONAL, HENCE MOST VULNERABLE TO CLIMATE CHANGE, THUS IT IS NECESSARY TO EVOLVE NEW CLONES/ STRAINS FOR ADAPTATION THROUGH CC PROOFING AND ADAPTATION TOOLS

# MARKET FOR AR CREDITS

- COMPARED TO REGULAR CREDITS, MARKET FOR AR CREDITS LIMITED
- MAJOR OBSTACLE IS EU'S DECISION TO EXCLUDE AR CREDITS FROM EU'S EMISSION TRADING SCHEME. THE LEGAL DIRECTIVE GIVES AS THE REASON FOR EXCLUDING THE COMMUNITY'S DIFFERING PRIORITIES FOR CLIMATE POLICY AS WELL AS THE RISKS INVOLVED IN AR PROJECTS
- FINANCIAL MELTDOWN

# INDIA'S CLIMATE ACTION PLAN-2008

- **BOOST IN SOLAR ENERGY**
- **SAVINGS BY ENERGY EFFICIENCY**
- **STEEL,POWER, TEXTILES TO BE EFFICIENT**
- **MINIMUM 5% RENEWABLE ENERGY**
- **NUCLEAR POWER FOR CLIMATE MITIGATION**
- **CRITICAL DATA TO BE SHARED**
- **RECYCLING OF AUTOMOBILES**
- **5000 MW OF COAL THERMAL PLANTS TO BE RETIRED BY 11<sup>TH</sup> PLAN AND 10,000 MW BY 12 TH PLAN**

**WEAK SPOTS: ADAPTATION OF AGRICULTURE TO CLIMATE CHANGE,WATER MANAGEMENT**

# ISSUES/CHALLENGES FOR DISCUSSION

- SRF PROJECTS ARE IMPORTANT INSTRUMENT OF CLIMATE CHANGE MITIGATION
- BESIDES ARRESTING TOP SOIL EROSION AND GREATER GROUND WATER CHARGE, THEY CREATE ENORMOUS LIVELIHOOD POTENTIAL OF RURAL COMMUNITIES
- AS WORLD BANK'S BioCarbon FUND EMPHASISES ON COST EFFECTIVENESS OF ER, SIMILARLY EU ETS MAY FOLLOW AND START PURCHASING AR CER TO MAKE FORESTRY PROJECTS MORE ATTRACTIVE
- DEFORESTATION EFFECTS 20% INCREASE IN CARBON EMISSION
- THOUSANDS OF HA OF DEGRADED LANDS ARE BEING REHABILITATED UNDER AR BY POOR INDIAN FARMERS
- THESE ARE POVERTY ALLEVIATION AND ENVIRONMENTAL PROTECTION PLANS, TOP PRIORITY OF FORESTRY SECTOR
- HENCE AR PROJECTS ARE A NECESSITY AND CAN NOT BE IGNORED BY THE WORLD COMMUNITY

# RECOMMENDATIONS

- INTRODUCTION OF CDM INCENTIVES FOR SMALL LAND HOLDERS IS ESSENTIAL
- KP IMPOSES 1% CAP ON TRANSACTIONS CREDITABLE FROM AR ACTIVITIES

THE SOCIAL AND ENVIRONMENTAL BENEFITS OF AR CDM PROJECTS MAY BE CONSIDERED AS ESSENTIAL CRITERIA FOR APPROVAL BY UNFCCC

- SIMPLIFIED BASELINE AND MONITORING METHODOLOGIES FOR AR CDM ESPECIALLY FOR SMALL LANDHOLDERS MAY BE EVOLVED AND CONSIDERED
- THE AUSTRALIAN EMISSION TRADING SCHEME MAY THINK TO PURCHASE AR CDM CERs OF SMALL LAND HOLDERS
- In COP 15 AT COPENHAGEN THE ABOVE ISSUES MUST BE ADDRESSED TO FOR CDM BEYOND 2012
- NABARD IS PROMOTING A 5000 HA AF PROJECT IN THREE STATES FOR C SEQUESTRATION AND CDM BENEFITS TO SMALL LAND HOLDERS THROUGH BILT CSR.IT WILL INCLUDE AR IN WATERSHED & TDF
- PRICE STABILITY, CB, ABSENCE OF CLEAR TRADING SCHEMES, SMALL LANDHOLDER, LAND TENURE AND OWNERSHIP, INSUFFICIENT INFORMATION ETC. NEED TO BE ADDRESSED



THANKS  
FOR KIND  
ATTENTION