



The Tenth IDCA International Conference

on

Poverty Eradication and Climate Change Mitigation in India, Oct. 6-7, 2012

at

Illinois Institute of Technology, Rice Campus, Wheaton, Illinois

by

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on

**Importance of knowledge sharing and documenting traditional/indigenous
knowledge for mitigating the adverse impact of climate change in India**



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About Solution Exchange

- ✓ A network of development practitioners in India with around 35,000 subscriptions.
- ✓ Set up in 2005, the 13 online Communities have generated more than 2,000 publications.
- ✓ It is a part of the UN Development **Action** Framework to support the Government of India.
- ✓ It leverages the convening power, international reach and immense development experience of the UN.
- ✓ Climate Change Community Launched in July 2009 achieved membership of 2500+



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10 Active Communities of Solution Exchange in India



Decentralization (*UNDP*)



Water (*UNICEF*)



Food & Nutrition Security (*FAO*)



Gender (*UNICEF & UNWOMEN*)



Maternal & Child Health (*WHO*)



Microfinance (*UNDP & ILO*)



Education (*UNESCO*)



Disaster Management (*UNDP*)



Climate Change (*UNDP*)



Work & Employment (*ILO*)



Services

1. Query service



2. e-Discussion



3. e-Consultation



4. Action Group





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Traditional Knowledge for Climate Change Adaptation

- ✓ Farmers anticipate heavy rains within a couple of hours if their sky attains a dark color, - as dark as crow's egg. Conversely, they predict drought conditions, if the sky acquires a faint yellow color.
- ✓ The presence of rings or halo around the sun or moon indicates imminent rain.
- ✓ The good foliage of Mahuda (*Madhuca Latifolia*) tree indicates good monsoons.
- ✓ Farmers plant the seeds in late summer and in early monsoon to tackle flood situations anticipated using traditional knowledge.



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Khatri, Percolation Tank & RWH for Adaptation

- Traditional water conservation techniques are being used in Himachal Pradesh, India.
- Communities in Kangra district use a traditional structure for conserving and harnessing water in the mountains known as the Khatri, a 10'x10'x10' percolation tank dug in the mountain requiring special skills.
- Traditional RWH practices through "Roof top RWH" utilizing tanks called "kunds", stepwells or "baolis" are still utilized.
- Communities follow certain rules for RWH including cleaning the area before monsoon, desilting the storage tanks.





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Artificial Glaciers & Sacred Groves

- It involves diverting water from rivers into neighboring valleys that have been carefully penned in with rocks.
- This step usually takes place in the winter months of October through December.
- Once it arrives in the valley, the water freezes in a shallow layer in small pools.
- The artificial glaciers provide water during summer season.
- Sacred groves of India are forest fragments of varying sizes, which are communally protected, and usually have a significant religious or cultural connotation.





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Traditional Seed Bank & Beej Bachao Andolan

- Gene Campaign and local communities have been conserving the germplasm of traditional crops through Zero Energy Gene Seed Banks that are located in villages and are under the stewardship of the local communities.
- The village youth have been taught in these regions to undertake all activities associated with collection, characterization and conservation of the genetic diversity of crop plants.
- The Beej Bachao Andolan or Save the Seed Campaign in Tehri Garhwal, Uttarakhand is restoring the traditional barahnaja (Twelve grain) cropping system through a participatory approach.



Gene - Seed Bank, Ranchi, Jharkhand





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Documenting Traditional Knowledge Akruti Technology for Food Storage

- UNDP-GEF-SGP is supporting an NGO, 'Sambandh' in documenting indigenous traditional knowledge.
- Traditional knowledge is being used to promote health and livelihood security for the rural poor in Orissa.
- The project has established a participatory documentation methodology and is a bridge between traditional knowledge and modern science. Vibro Thermal Disinfestor (VTD) is a simple electricity operated device for disinfestations of food grains.
- Insects in all their development stage are susceptible to killing by heat when exposed to temperatures of 55 to 60°C for 30 mins.





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Traditional Watermills & Biomass to Energy

- Traditional Water mills could be revived for reducing emissions from use of fossil fuels and providing locally produced electricity or energy.
- Indigenously Developed Biomass gasifiers have been used in Bihar, Karnataka for power generation.
- Saran Renewable Energy (SRE) Pvt. Ltd. is generating electricity from agricultural wastes in Chapra district of Bihar.





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Solar Bottle Bulb & Solar Field Mate

- **"Solar Bottle Bulb"** can provide day time lighting in temporary shelters built in disaster prone / struck areas.
- **"Solar Field Mate"** includes a Portable Solar Powered Light Emitting Diode (LED) Lamp, Cell Phone Charger cum FM Radio.
- It can play a significant role in DRR as it is observed that during disasters the already fragile rural infrastructure particularly energy sources crumble within a short time frame.





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Chakra Pedal Generator

- **The Chakra Pedal Generator that uses 10-13 minutes pedaling to provide 4 to 10 hours of bright light.**
- **It is being promoted through the model of providing group loans, where a group of borrowers bears collective responsibility for the credit.**
- **It could be utilized to power other electronic appliances or small enterprises.**





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Wearable Floats and Pedal Powered Washing Machine

- Mr. Chourasiya Prasad has developed a pair of wearable floats that would help people walk or skate across a lake or flooded areas.
- The innovation has been recognized by National Innovation Foundation, AP.
- It could be utilized in areas facing flood situation. Ms. Remya Jose has indigenously created, pedal-powered washing machine.
- It reduces electricity consumption and GHG emissions caused by washing machines.





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Energy and Environment Unit (EEU), UNDP

- EEU is committed to promoting low carbon, climate resilient and inclusive development.
- It supports the Government of India in meeting national development objectives and commitments under important multilateral environment agreements.
- Capacity building and support for State Action Plans for Climate Change: preparation and implementation
- Strengthening Madhya Pradesh Climate Change Cell
- Capacity building for addressing Climate Change



Strategic Areas: Current interest

❖ Environment and CC Policy:

- State Action Plans for Climate Change: preparation and implementation

❖ CC mitigation

- Energy efficiency for industrial units: domestic technology diffusion and adoption
- In RE, focus on solar thermal and biomass power generation
- Access to Clean Energy

❖ Chemicals Management

- Phase-out of ODS in industrial units: Pharmaceutical and metallurgy
- Health waste management



National Missions Under the National Action Plan on Climate Change

- ❖ **Jawaharlal Nehru National Solar Mission**
- ❖ **Enhanced Energy Efficiency**
- ❖ **Sustainable Habitat**
- ❖ **Water**
- ❖ **Sustaining the Himalayan Ecosystem**
- ❖ **“Green India”**
- ❖ **Sustainable Agriculture**
- ❖ **Strategic Knowledge for Climate Change**
- ❖ **All the above missions are in various stages of implementation by different Ministries of the Government of India.**



Activities Related to National Missions by Stakeholders

- ❖ The private sector companies are introducing products/technologies that reduce GHG emissions
- ❖ Significant investment in renewable energy particularly in solar is taking place
- ❖ Many large companies are participating in Perform Achieve and Trade mechanism under the Enhance Energy Efficiency Mission
- ❖ Consultants are advising companies and organizations to reduce GHG emissions
- ❖ Multilateral and bilateral agencies are funding adaptation and mitigation projects for demonstration and replication
- ❖ Several organizations are involved in capacity building and institutional strengthening initiatives.



Role of NRIs

- ❖ Mobilizing investment for renewable energy from the private sector
- ❖ Convincing large corporations in the US to support adaptation projects in India
- ❖ Supporting R&D for addressing challenges related to climate change
- ❖ Introducing low carbon technologies
- ❖ Supporting capacity building and institutional strengthening initiatives
- ❖ Developing platforms for knowledge sharing and technology transfer to India



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Conclusions

- There is a need to document and validate traditional knowledge in India so that it can be utilized for climate change mitigation and adaptation.
- Indigenously developed methods and technologies need incentives from the government and NRIs for large scale replication / adoption.
- There is a need for sharing knowledge regarding traditional and indigenous solutions to tackle the myriad challenge of climate change.
- It is crucial to develop innovative programs, plans and campaigns for scaling up and replicating the successes of indigenous interventions for climate change mitigation and adaptation so that our growth trajectory can be sustained in the medium and long term.