The background of the top half of the slide is a repeating pattern of white interlocking leaf or petal shapes on a blue background. The shapes are arranged in a grid-like fashion, creating a textured, organic feel.

**IMPLEMENTING PARIS AGREEMENT: NEW RESEARCH AND
POLICY AGENDA**

Vikrom Mathur, Senior Fellow



Common Futures: India and Africa in Partnership

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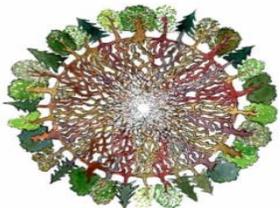
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EARS TO THE GROUND:

SCALING-UP GRASSROOTS “SOCIO-TECHNICAL INNOVATIONS” FOR ADAPTATION IN INDIA AND AFRICA



A NEW POLITICS OF TECHNOLOGY (AND INNOVATION)

- Global Policy has been mitigation centric
- Paris Agreement was a significant but not overwhelming step forward on adaptation
- Adaptation is critical for both Africa and India to sustain growth and development
- Calls for technological revolutions, transitions, transformations echoed in Paris
- Innovation, new ideas, new technologies that will lead us to 1.5 degrees
- Focus however is on large scale industrial – energy technologies (Solar Alliance, Mission Innovate etc.)
- Technologies for adaptation, for the poor: agriculture, water resources, disaster management, habitation, health etc. not adequately addressed in the global discourse



HUMBLE TECHNOLOGIES

- **Government:** Innovation programs, support temples of scientific excellence, foster ‘startups’, incentivize investment
- Private firms engage in ‘product development’ – stay in the race & leapfrog
- Humble technologies and grass-root innovations not part of foresight exercises
- Market signals alone will not generate technological applications for the poor: we need a new politics, new research and policy making

WHY GRASS ROOT INNOVATIONS ?

- Predict and provide is the dominant paradigm in adaptation research and policy
- Downscale global scenario driven model outputs to local scales, predict impacts, identify vulnerabilities and define adaptive action. Uncertainties. Glossing over local institutions, agency and knowledge
- Skewed research: Focus of research on removing uncertainties in the physical science basis of impacts
- Flawed policy: Lack of spatially and temporally precise and accurate foreknowledge of future climates has been used to justify inaction, confusion and the proliferation of investment in 'hard infrastructure' for adaptation
- Rather than fretting over model accuracy and 'over determining fragile impact data', there needs to be better understanding of how communities cope with current climate variability and extreme weather events to generate strategies and practices for coping with future impacts

KEY QUESTIONS

ORFs Technology and Society Initiative seeks to identify successful ‘grassroots socio-technical innovations’ for adaptation in India and Africa, to understand:

- What are the important success stories?
- Why were they successful ?
- How can they spread, from India to Africa, Africa to India?
- What can we learn from other grass root innovation movements: the appropriate technology movement in the 1970s around development assistance; the People’s Science Movement in the 1980s; Honey Bee Network; National Innovation Foundation
- Theory: ‘multi-level perspective on technological transitions’ – linking niches, regimes and landscapes. Can grass-root movements rooted in diverse communities be seen as niches? Protected spaces to deal with teething problems ?

SOME BRIGHT SPOTS

▪ **DROUGHTS**

- Combing long range weather forecasts with local knowledge and communicating these through mobile sms;
- Reviving traditional water conservations practices – rain water harvesting, ground water recharge pits, renovation of wells. Setting up of local institutions.

CLIMATE SMART AGRICULTURE

- Drought resistant maize in Africa: researchers, farmers, GATES foundation. The initiative has benefited 30-40 million people across 13 African countries through collaboration with national agricultural research systems in partner nation.
- Rice: 40% of all water used is for rice, 10% of methane produced from rice fields. System for rice intensification, Alternate Wetting and Drying System. Kaggga rice variety for brackish water and deep water/flood resistant varieties in Varada river basin in Karnataka

SOME BRIGHT SPOTS

DISASTERS:

- Barmer Aashray Yojna is a people driven initiative with support from the SEEDS (Sustainable Environment and Ecological Development Society) has constructed disaster friendly housing in Rajasthan;
- A trans-boundary project aims to establish community early warning systems on the Koshi and Gandak rivers in India and Nepal.

ALTERNATIVE LIVELIHOODS

- Seaweed farming presents itself as an unusual yet potentially effective avenue to synergize the efforts to reduce both poverty and the effects of climate change.
- Indian Lac Research Institute in Ranchi district of Jharkhand and several lac growing villages of other regions have revealed that income generated from lac cultivation is more than paddy

WHAT ARE THESE GRASS-ROOT SOCIO TECHNICAL INNOVATIONS ?

- New organizational arrangements, new tools and new practices: complex configurations of artefacts, institutions and actors reproducing technological practices.
- Diverse social actors who negotiate innovation; pervasive technological mediation of social process
- Grass-root always include local institutions, civil society and networks of activists But not exclusively. Pioneering organizations, co-operatives, social enterprises, community groups, associations.
- Varied sources of funding – grants, voluntary inputs, limited commercial activity to start with..

SCALING UP ?

- Grassroots innovations studied have emerged in locally specific contexts. Supporting their spread – appropriation/transport to a new reality and culture is a significant challenge for research and policy.
- Often face challenges in commercialization. Commercialising can produce dilemmas as it can seek to modify existing objectives and modes of production and resource utilisation.
- Can help create new institutions that may seek change at regime levels or influence incumbent interests in mainstream initiatives.
- Can help in “creating a space for: developing new ideas and practices; experimenting with new systems of provision.

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SOUTH SOUTH COOPERATION: HYPED BUT UNREALIZED AGENDA

- Crop Research Institute for the Semi-Arid Tropics (ICRISAT) and International Livestock Research Institute (ILRI) are at the forefront of India-Africa cooperation in agriculture.
- Indian private sector is already active; Jain Irrigation has wide presence in Kenya, Rwanda, Ethiopia, Tanzania and Nigeria and is spreading drip irrigation technology in Africa.
- National Seed Association of India and Syngenta Foundation of India are spreading better seeds to African farmers and opening up markets for Indian seed companies through "India-Africa Seeds Bridge" project
- India's partnership with Africa on science and technology is half a century old. Africa was a major focus of the Indian, Technical and Economic Cooperation (ITEC) programme.



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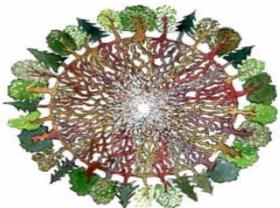
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**PUTTING WOMEN AT THE HEART OF THE INDIA-
AFRICA DEVELOPMENT PARTNERSHIP**

