

CTARA-Vision, Action and the Future

Convocation-Alumni Day

Milind Sohoni

Centre for Technology Alternatives for Rural Areas

www.ctara.iitb.ac.in



Welcome



Welcome



Our Guest-**Meeta Rajivlochan, IAS**

- Principal Secretary, Directorate of Municipal Affairs
- Written extensively on many development issues

The Broad Vision in Development Action

Core values :

- The bottom 80%-households, hamlets, gram-panchayats, villages, towns and cities
- Basic areas-soil, water, energy, livelihoods, public health
 - ▶ end-user defined or demand-driven
- Concrete stake-holder and concrete deliverable-as close to implementation as possible
 - ▶ solutions and knowledge-technology, policy, study, capacity

Methods:

- Case Study: An important theoretical/practical/development tool.
- Field-work, inter-disciplinarity, applied social science and engineering
- State programs, markets and their functioning, innovation.
- increasingly: other engineering colleges, local partners.

Core Faculty

- **Anand Rao**-Energy and Environment, Climate Change
- **N. C. Narayanan**-Water and Governance, Development
- **N. Shah**-Food, Agriculture and Agro-Industry
- **Priya Jadhav**-Electricity, Energy
- **Amit Arora**-Agriculture, bio-mass systems.
- **A. W. Date**, Appropriate Tech.
- **Om Damani**, Water, modeling

- **Rangan Banerjee**-Energy Systems, Policy
- **Milind Sohoni**, Water, Optimization
- **Puru Kulkarni** Water, public systems
- **Bakul Rao**-Environment Analysis and Assessment

Adjunct Faculty (some):

- **Vishal Sardeshpande** -Small enterprises, energy.
- **Satish Agnihotri**-Policy and Governance
- **Prasad Modak**-Environment

The Programs

Objectives of the M.Tech. program

To produce the developmentalist/development professionals

- Analyse "development" situations and design solutions
- Work with implementation agencies and see them to completion
- Rising demand for such professionals -NGOs, Govt., think tanks, CSR, consultancies

Objectives of the Ph.D. program

- Explore and innovate in the technology and development interface
- Contribute to the consultancy, higher education and research
- Produce the next generation of leaders for national programs

The current M.Tech. in T&D

Coursework

- **Perspective-philosophical underpinnings**
Development Theory, Appropriate Technology, Policy and Governance
- **Sectors-the knowledge base**
Water, Soil and Agriculture, Energy, Environment
- **Skills-to bring rigour to field work**
Field Research Methods, Quantitative Methods, Project Mgt. and Analysis
- **Field work**- 9 week structured rural stay, field visits.
- **Two-Stage Project**-Ideally
 - ▶ Ist Stage-**Situation and alternatives**-Appreciation
 - ▶ IInd Stage-**Technology or Policy**-Generation

The Programs

TDSL

- *First-ever in the country.*
- Institute-wide platform to do development projects for credit.
- *A new pedagogy*-design and analysis in live situations
- interdisciplinary work with stake-holders
- **TDSC** Solutions and consultancy cell. To select and train MTD/TDSL students for private enterprise.
- **UBA**: MHRD program based on CTARA experience.
- **RuTAG**: Development support to NGOs.



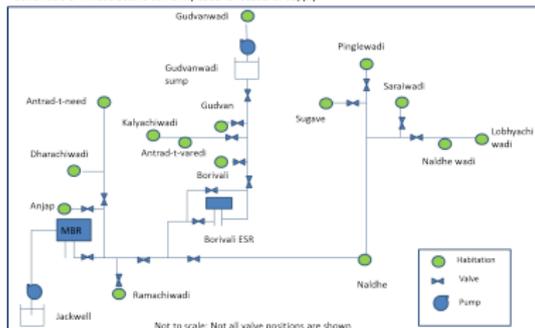
Research Areas

- Energy policy, implementation of various energy systems, micro-grids, energy uses in lighting and irrigation. Rural electrification.
- Biomass processing. Agri-processing, food processing and food supplements.
- Rural planning. Solar panchayats. Water supply, sewage and waste management. Environmental analysis.
- Policy in environmental services and water. Regional studies and the planning process in PRI.
- Drinking water solutions. Groundwater and surface water. Schemes.
- Small enterprises. Energy and factor efficiency. Livelihoods.

Sample works-Design



Schematic of infrastructure currently used for seasonal supply



Sample works-Processes



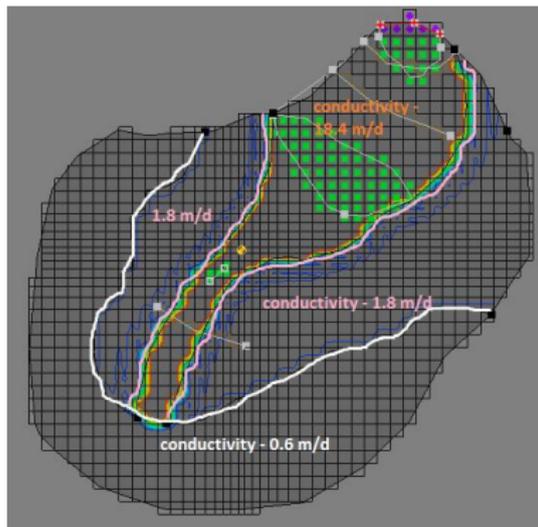
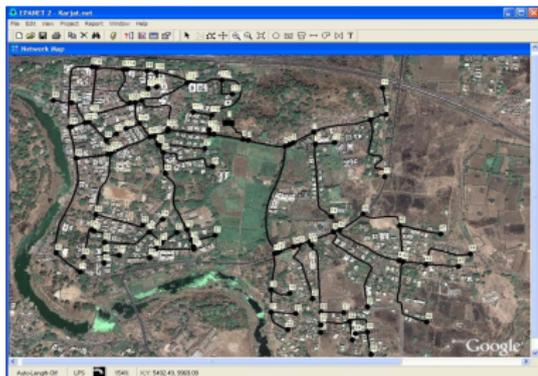
Sample works-Assets



Sample works-Policy Studies



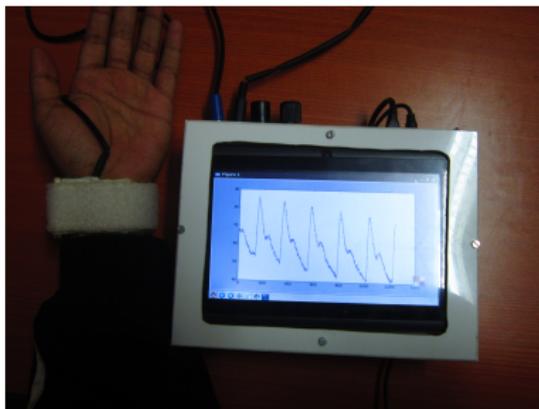
Sample works-Simulations



Sample works-Supply Chain



Sample works-Gadgets



What happened last year...

Thanks to Rangan Banerjee...

- Various meetings and conclaves. Manthan, CSR conference.
- **Academic ties.** TISS in winter school. Nanded, COEP, IIT Rourkee in TDSL.
- **Strategic.** : TEQIP workshop with 17 Maharashtra colleges. Gondwana University.
- **Extension.** Swirlers, treadle pumps in Koraput, Jawhar. Priya at MERC. Lekshmi at GoM. Milind at GoM. SOUL.
- **Faculty.** PKPatwardhan institute award. Projects with ILFS, Concordia, Berkeley.

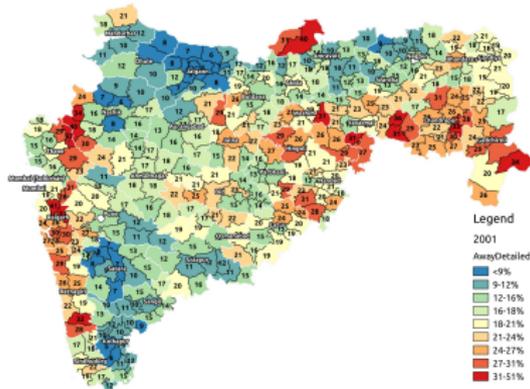
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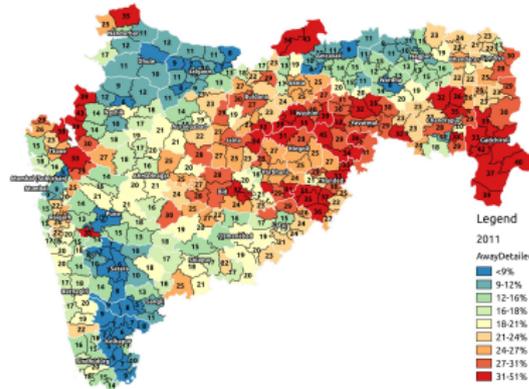
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- **Increase in strength!** Thanks to MoRD and HAL.

Rural Maharashtra: 2001 and 2011

Percentage of Rural Households with Primary Source more than 500m away (2001)



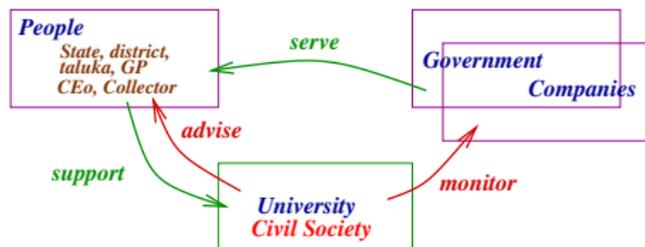
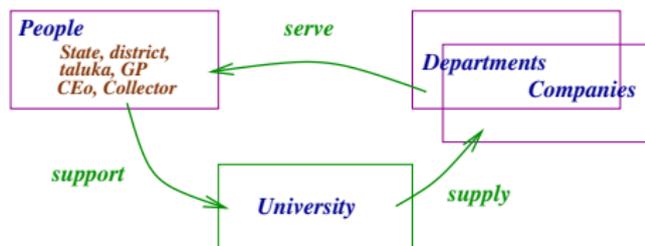
Percentage of Rural Households with Primary Source more than 500m away (2011)



- Serious, widespread and endemic. Needs more than technical solutions.
- The question of knowledge. Exhausted job definitions.
- New sites for knowledge. New roles. New mechanisms of delivery.

The role of the University

- The old model is inadequate—gross mis-allocation, poor practices, increasing inequality and instability.
- a new model of university as a nurturer of *civil society*.
- new professions—entrepreneur, innovator, advisor, consultant, evaluator, coordinator
- need for value-positive loops for society to migrate
- New knowledge, new mechanisms.



Our mechanisms

- **TDSC** Solutions and consultancy cell.
 - ▶ Launching future development consultants. Payment model.
 - ▶ Parbhani, Tembha, Mokhada, [Palghar](#), [Thane](#)
 - ▶ **TDSC is hiring.**
- **MoRD Fellowships**
 - ▶ **Professional development research.** Strategic engagement for CTARA and Gol.
 - ▶ NRLM, PMGSY, NREGA and others such as *chulhas*.
- **UBA:** MHRD program based on CTARA experience.
 - ▶ The *Technology PUSH model*.
- **RuTAG:** Development support to NGOs.
 - ▶ The technology delivery model through NGOS.
 - ▶ Fisheries, Food processing, livelihoods.

In the medium term

Closer Interactions with various partners.

- Govt. of Maharashtra-Key GRs in water and engineering education.
 - ▶ Key development role in Maharashtra State.
 - ▶ Role model for other universities in India.
- UC Berkeley-long collaboration in water and policy.
- Closer collaboration with other departments.

Upcoming areas of research/courses :

- Small/Micro enterprises, rural livelihoods. Food and nutrition.
- Rural electricity. Planning for small towns. Agricultural supply chains.
- Technology and Society. Development Theory.

Finally...

- Life is longhonesty, hardwork and humility pay.

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- Life is longhonesty, hardwork and humility pay. And sense of humour.

What do we expect?

- You will comprehend what others cannot.
- You will be the message and the messenger.
- That you will be in the in the public sphere, and not merely an employee or a consultant.

Finally...

- Life is longhonesty, hardwork and humility pay. **And sense of humour.**

What do we expect?

- You will **comprehend** what others cannot.
- **You will be the message and the messenger.**
- That you will be in the **in the public sphere**, and not merely an employee or a consultant.

- And yet **you will be successful in the usual measures as well!**

Development is indeed about comprehension, delivery, outcomes and role-models.

So lets keep trekking!

