Knowledge Infrastructure for Development
The beginning of a Public-Civil/University-Private (PUP) Partnership

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Outline

- The CAPART problem as posed.
  - Development Research Institutes

- The Development Agenda.

- Governance and people deficit-new knowledge and new job definitions.

- CTARA-knowledge products, agents and engagement.

- CAPART design: The 3-way engagement-state-VO-university.
  - convergence with other programs

- Elephants in the room.
CAPART’s brief

Vision and Mission

- Play a dynamic and catalytic role with the various governmental agencies and NGOs, influence public policy and contribute its share towards the many-sided development of Rural India.
- Work in close coordination with the rural NGOs and empower them.

Operational Steps:

- encourage and promote people’s action and voluntary efforts
- be the nodal center for rural technologies, conduit for appropriate technologies for govt. as well as voluntary agencies
- supply technology to small manufacturers, private, cooperative and state.
- strengthen existing institutions of research and develop or set up institutions, for largely rural interests
- to carry out research studies on the use of appropriate technology and to offer fellowships and prizes
Problem before CAPART (IRMA and other reviews)

- Improve development outcomes.
- Provide strategic inputs, not volume nor dependancy.
- Cross departmental boundaries. Become a knowledge player.
- Promote rural technology. Strengthen people’s action!
- Manage historical linkages with VO/NGO. Ensure feasibility within current organizational space.
- Explore new mechanisms and new partnerships. Preserve regional focus.

Development Research Institutes.
Provisioning for Development

Maharashtra’s Development Demands
Water, Public Transport, SME, Energy

⇒

Outcomes. Value
Need for Knowledge, New Practices, New Research
New Job Profiles, Avenues for Professionals.

⇒

The role of University, Higher Education and Civil Society
Knowledge Structures. Key Areas.
Trust. Role Models. Formality. Engagement

⇒

Mechanisms for a Partnership
Knowledge and how to pay for it.
Incentive Structures
Basic Well-being, Resources and Livelihoods

- Basic issues of water, food, health and *living*.
- Severe stress in natural resources. *Fodder, Firewood.*
The Data

Year-round drinking water availability.

<table>
<thead>
<tr>
<th>Year</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 per 1000</td>
<td>858</td>
<td>896</td>
</tr>
<tr>
<td>(69th NSSO)</td>
<td>858</td>
<td>896</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>745</td>
<td>931</td>
</tr>
<tr>
<td>2008</td>
<td>862</td>
<td>911</td>
</tr>
</tbody>
</table>

Also affecting livelihoods...

similarly about Milk, Electricity, Cooking Fuel.
Drinking Water and formal sector jobs

Transport and health also very important. Also see Kelkar Committee report.
Analysis - The Governance Gap

- **Under-staffing.** 2 RWS engineers, 0.5 field geologist per taluka.
  - delays, poor monitoring, no time for assessments.
  - No expansion possible for current job description.

- **Poor Data, Outdated procedures.** Example: Design of multi-village schemes, watershed treatment. Regional planning.
  - MEETRA, MERI, Yashada, GSDA. State Statistical Board

- **No new business models or space for professionals.** Disinterest of the private sector.

- **No identified institution for research, design, innovation, evaluation, assessment.**

  ↓

  **Severe Knowledge Shortage.**
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  Severe Knowledge Shortage.

Basic Question: *What are knowledge products?* Who will generate? Who will deliver?
Knowledge Structures-Examples from CTARA

Water Supply

- **Monitoring and Execution**: Actual performance of programs. Taluka and district-level assessments of NRDWP. Assisting GPs and ULBs during execution. Testing. Organizing information, material and financial flows.

- **Evaluation and Assessment**: Evaluation of Groundwater quality, design of WTPs. Assessment of MSNA for Parbhani.

- **Planning and Designs**: Economic models, GIS, Optimization frameworks. Jalyukta shivar. Irrigation and Water-use efficiency.

- **Failure Analysis**: Failed rural regional schemes. Failed bandharas. Testing.

Anjap-Sugave Multi-village scheme analysis, 2011

Schematic of infrastructure currently used for seasonal supply

Not to scale; Not all valve positions are shown
Regional Planning for villages in Shahpur
PUP Model: Parbhani Urban WS

MOU with Parbhani Municipal Corporation

- Energy and water losses.
- Overall system performance.
- Assisting in absorption of MSNA.

Research

Groundwater-Sanitation connection.
Watershed Planning for villages in Mokhada

- CSR consulting for Siemens and Aroehan.
- Livelihood, drinking and water for second-crop.
- 10-15 habitations, careful need assessment.
- Concrete structures, watershed treatment, well repairs
- Energy systems.

Also see:
www.gise.cse.iitb.ac.in/gsda
http://www.gise.cse.iitb.ac.in/upload/thanedb.html
www.ctara.iitb.ac.in/water/

The areas of interest

- **SME and Informal/Self-Employed Enterprises.** Benefits of technology, increasing efficiency and productivity, linkages, standards, branding and market access.

- **City and District Administration.** Improving planning, transport, infrastructure, logistics, optimization.

- **Core Sectors.** Water supply and sanitation, Electricity grid, Solar, Food, supply chains.
Processes at Ganapaty Factory in Pen
Solar-steam based *Istry* in Parbhani
Optimizing Irrigation in Shahpur, Thane
Our mechanisms

- **TDSC** Solutions and consultancy cell.
  - Launching future development consultants and innovators.
  - Parbhani, Tembha, Mokhada, **Palghar, Thane**. Payment model.

- **MoRD Fellowships**
  - Professional development research. Strategic engagement for CTARA and GoI.
  - NRLM, PMGSY, NREGA and others such as *chulhas*.

- **UBA**: MHRD program. *Technology PUSH model*. Support to regional academic institutions.

- **RuTAG**: Development support to NGOs.
  - The technology delivery model through NGOS.
  - Fisheries, Food processing, livelihoods. Supporting innovators.

 Supported by **clear** academic programs and coordination roles.

**Focus on pushing out Development Professionals.**
Knowledge and Delivery

- Standard knowledge products with a focus on outcomes.
- Aligned with state functions and programs.
- Accessible to regional, local agencies, NGOs and common citizen.
- Interesting and fruitful interactions with NGO world. BAIF, Aroehan, Shashwat.
- Open and transparent reporting. Improvement in evidence-based discourse. Formalization of the informal.
- Space for applied research in policy and practice. Development of long-term engagements. MoU with Thane ZP.
- Cross-disciplinary and multi-silo. The supply side as well as the demand side.
University as the Development Research Institute

- 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.

**People**
- district, taluka, GP
- CEO, Collector
- VO, SHGs, SME/SE

**Government**

**Companies**

**University−DRI**
- serve
- support
- advise, plan, assess

**employees**
- new job descriptions
- knowledge products
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Development Research Institutes.
Four Attributes

Any solution must provide for:

- **The Demand-side.** Presence and accessibility. Fidelity of posed problem.
- **The Knowledge side.** Ability to formalize problem. Access to professional resources. Ability to Design.
- **The Supply side.** Ability to translate design into actual solution. Provide support and hand-over skills. Ensure sustainability of solution.
- **Sustainability of the Agent.** Who will pay the change agent? How is the value created used to pay the agent?
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- How does the VO/NGO approach measure up? And the PMRDF/YP?
### The Options

<table>
<thead>
<tr>
<th>Solution</th>
<th>Demand</th>
<th>Knowledge</th>
<th>Solution</th>
<th>Sustain.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VO/NGO</td>
<td>Very Good</td>
<td>Patchy</td>
<td>Good but Informal</td>
<td>Perpetual Support</td>
</tr>
<tr>
<td>Govt. Dept. Research</td>
<td>Patchy</td>
<td>Good</td>
<td>Good</td>
<td>State role (shrinking?)</td>
</tr>
<tr>
<td>Old University</td>
<td>No</td>
<td>Good</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>New University</td>
<td>Partnership VO+PRI</td>
<td>Very Good</td>
<td>Partnership State+PRI</td>
<td>Novel</td>
</tr>
</tbody>
</table>
The Proposal: *After*

![Diagram showing the relationship between University, Civil Society, Development Agenda, State, Company, and VO NGO]
The Proposal: After

Regional College Civil Society

mentoring

UBA

Capart

District Collector ZP/DPC

Village ULB/PRI

VO NGO

IIT/NIT IISER Soc.Sc.

Rutag Capart

TEQIP
Key Actions-I

- Develop regional colleges and institutions.
  - to respond to local needs, to support SMA-SE-informal sector through standard case-studies. Palghar JSY evaluation.
  - to set up mechanisms for interaction and funding between state, VO and PRI. MoU with ZP, Thane.
  - to research and study state programs and to bring all of this into formal academic structures

- Perusade VOs and NGOs:
  - develop interactions with regional institutions. TDSC: Aroehan-Siemens CSR
  - formulate problem statements, give liaison. Rutag: Shashwat
  - to regard state as a partner.
Key Actions-II

- To persuade the state:
  - enable VO+college to work on regional problems: data + liaison. CMO meeting+GR.
  - provide funding mechanisms such as DIF, DPC, M&E
- Persuade elite universities to work as Development Research Institutes (DRI), i.e., research, coordinate, innovate, hand-hold and provide trust.

CAPART: The Unified Field Theory of Development

- Key agency to coordinate across ministries-demand-side as well as supply-side!.
- Maintain transparency, document case-studies, bring seed-funding, esp. from DST and other outcome-free sources.
- Identify problem areas, monitor development outcomes, seed and work through DRIs.
Elephants in the room

Current situation: Poorly aligned incentives

Students

Society

Faculty

Research, Funding

Prestige

Well-being

sadak, bijli, paani

security

Jobs

State, Private

The University

Development

The right intellectual antidote of real-life problems.
Elephants in the room

Current situation: *Poorly aligned incentives*

The right intellectual antidote of real-life problems.
The road to MIT (or global rankings) goes through *Gudwanwadi!*

![Image of a bullock cart]