Investing in the Development Professional

A teaching and research paradigm for national development\textsuperscript{1},.

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\textsuperscript{1}A detailed argument appeared in the journal \textit{Current Science}, vol. 102, no. 11June 2012, pg. 1510.
Organization of the talk

- The demands of development and the supply.
- The proposal
  - the Development Professional (DP)
  - the Development Research Institute (DRI)
- The knowledge and skills–case study
- Outcomes and the way forward.
The Development Demand

- Increasing aspirations
  - *sadak, bijlee, paani*-engineering services
- Scarce Resources
  - *climate change*-added unpredictability
- Rising Inequalities
  - asset and skill poverty, livelihoods
- **Wealth creation as well as wealth redistribution**

Governance under stress

- technical and applied social sciences skills
- stress on planning coordination, outcome orientation
- R&D needs for both day-to-day and long-term
The Governance Structure

The Demand
- People
- Sarpanch, MLAs
- Collector, CEO

The Supply
- Line Departments
- Programs
- Projects

Coordination and Monitoring
- Gram Sabha
- District Planning Comm.
- Jan Sunwai
The current status

- **The Demand**: People, Sarpanch, MLAs, Collector, CEO
- **The Supply**: Projects, Programs, Line Departments

**Coordination and Monitoring**
- Gram Sabha
- District Planning Comm.
- Jan Sunwai

- **The Supply**: Poor capacity to deliver
  - poor morale, poor conditions, poor institutional structure
- **The Demand**: Poor capacity of monitor
  - distracted by poverty, failing education system, failing resources
- **The Monitor**: Poor outcome, poor skills
  - no independent capacity, infrequent meetings, no new knowledge

July 15, 2012
Development and Education

- The development sector poses important problems worthy of research and active engagement of research and educational institutes.

- Current set of companies may not have sufficient incentives to address these problems.
- These companies also do not have the need for the 5,00,000 p.a. or so engineering aspirants.

- The training of engineers is biased to employee-training and not towards skills needed to participate in the development sector.
- The research, if at all, does not match development demands.

Thus there is a supply-demand mismatch in both the corporate and the development sector!
The Development Research Institute

- University/Institutional participation in regional development problem — formulation and solution.
- Curriculum modification to allow students to take projects with local content and a focus on R&D for regional needs.
- University as an important mediator.

The Demand
- People
- Sarpanch, MLAs
- Collector, CEO

The Supply
- Line Departments
- Programs
- Projects

Coordination and Monitoring
- Gram Sabha
- District Planning Comm.
- Jan Sunwai

The DRI
The Development Professionals

- The District Development Coordinator:
  - reports to planning body and Collector
- The Program Coordinator:
  - reports to program manager
- Monitor, coordinate and improve outcomes
- Formulate medium/long term R&D and interact with DRI
- The Social Entrepreneur
  - innovate in the energy, food, water, etc. development sectors.
  - mentoring and access by DRI

Belief

- These positions *will* deliver value.
- Collaboration with DRI will bring efficiency and new knowledge and practices.
Case studies from Drinking water
Mograj GP and habitations
Mograj GP - according to DDWS and actual!

<table>
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<th>Scheme Name DP</th>
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**Recommendations:** Technical review, watch the yield tests, protect source from competitive users.
Tanker-fed villages

Largely in the 4 tribal talukas: Jawhar, Mokhada, Murbad and Shahpur.

Fraction of ST population.

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<td>Taluka</td>
<td>0.97</td>
<td>0.91</td>
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Mean elevation (in m.):

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<td>123</td>
<td>197</td>
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<tr>
<td>Taluka</td>
<td>320</td>
<td>350</td>
<td>126</td>
<td>132</td>
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160 out of 1700 were tanker fed. 60 repeatedly so!
More analysis

Location of large rural regional drinking water schemes

Data from MRSAC, Census 2001, District administrative offices

Location of rivers and lakes
Applicable R&D with DRI
A Rural-Regional scheme design.

Latitude, longitude, elevation, population and growth rate.
The designed network

17 ESRs and a 2-loop network.
A close-up

Hundreds of nodes and edges. Pipes along roads.
Finally...

Estimated Net Investment for design population of 81,400.

<table>
<thead>
<tr>
<th>Norm</th>
<th>Per Capita Cost</th>
<th>Total Cost</th>
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<tbody>
<tr>
<td>200 lcpd</td>
<td>Rs. 7051</td>
<td>Rs. 57 crores</td>
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<tr>
<td>40 lcpd</td>
<td>Rs. 2119</td>
<td>Rs. 17 crores</td>
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Energy costs (at Rs. 5 per unit, pumping efficiency 75%)

- 200 lcpd - Rs. 400 per capita per annum
- 40 lcpd  - Rs. 79 per capita per annum
- Energy cost per 1000 litre  Rs. 4.56

Net investment for piped water at both norms of 40/200 lpcd to north Karjat is economically feasible.
Karjat City—a small taluka town in Maharashtra

- Request from Municipal Council to analyse City Development Plan.
- **Ongoing work**—water, sewerage, solid waste, municipal budget and so on.
- **Skills**: GIS, simulations, social and governance analysis

3 zones OK but higher capital costs, 1 zone poorly designed.

- Pump efficiencies lower (51%, 60%) than standard (70%).
- Financial stress—unmetered connection, commercial and residential
- Competition with private bore-wells
The Development Research Institute

- Broad research and teaching—both engineering and applied social sciences
- Commitment to excellence in R&D
- Interest in and knowledge of governance, development
- Flexible academic programs

Foremost

- Have a rigorous program to train the development professional!
- Recognize the importance of inter-disciplinarity and field work.
- Use the best tools and methods to further development.
Snapshots
Snapshots
Snapshots
Snapshots
Snapshots
The Proposal

- 10 2-year fellowships for Development Professional.

- Rs. 5.00 lakhs p.a., of which Rs. 3.6 lakhs to DP, Rs. 1.4 lakhs to DRI.
  - Expected that Collector/Program Managers to top-up and add amenities.

- DRI to set eligibility.

- DRI to publicize with State administrations and help DPs and collectors meet and arrive at contract.

- DRI to assist in consultancy and R&D.

- 2 faculty positions and support-staff.
Long-term outcomes

- A profession aligned to development needs and a training to suit it.
- A multitude of DRIs–IIT Mandi, RIT Islampur and so on.
- A development discourse within engineering and applied social sciences academia
- **A betterment in the lives of our people.**
Thanks