The CTARA-Habitat Center water project

Jal-Swarajya Review

Jal-Swarajya-Overview

- Maharashtra-a water profile.
- Jal-Swarajya, the background and broad objectives
- Main features-options, choices and documentation
- Monitoring framework
- A critique-plusses and minuses
- A research proposal
  - A pointed district-wise approach
  - Larger technical issues

Data Sources:

- *Jal-Swarajya*-Project Implementation Plan, WSSD, September 2003.
- Various new clippings from IE, Sakal etc.

Maharashtra-Demographics

Districts	33
Panchayat Samities	378
Gram Pachayats	27626
Habitations	86000
Rural Families	1.1 crores
Growth rate (decadal)	22 %
Area	307 lakh ha.
Population density	314 /sq.km. 3.1 /ha.
Grain requirement[1]	1130 kg./ha.
Percentage BPL	23.7

[1] at 1kg/person-day

Land and Irrigation

Area	307 lakh ha.
Cultivable	225 lakh ha. (73 %)
Irrigated	39 lakh ha. (18 %)
Ground-water based irrigated	$>$ 50 %
Country-wide average	43 %
Max. Irrigable	85 lakh ha.
Drought-prone	32 %

Watershed sub-units	2415
Average size	120 sq. km.
Critical and worse	460
Safe	1874

"*Even in the safe category ... a large number ... become dry in the summer...* "

Rural Drinking Water

Total habitats	86,000
$>$ 40 LPD	62,000 (68 %)
Dependence on ground-water	$>$ 80%
summer tankers	5,500
dug-wells	90,000
bore-well hand-pumps	2,20,000
non-functional	12,000
piped water supply schemes	18,500

"*Even those which are treated as fully covered, the service levels are reduced during summer months*"

Governance conclusions

Analysis of the past

- Hydro-geological and agro-ecological challenges to sustainability of water sources.
- Supply led approach-costly and not amenable to management by PRI. About 3.5 projects per village already done!
- lack of community ownership-poor O&M, poor recovery of water charges.
- Huge gap in the availability of financial resources for new investments and in the O&M of existing facilities.

The future, July 2000, GoM policy:

- Demand-driven approach which is participatory.
- cost-sharing in both rural and urban setting.

The July 2000 GoM policy-in detail

- composite, water and sanitation.
- 10% towards capital costs and 100% of O&M.
- Govt. to shift from supply of service to policy and support.
- Information, Education and Communication campaign to prepare beneficiaries.
- Inclusive and participatory-women and weaker sections.
- 3-pronged strategy : conservation, preservation and utilization through demand-management and regulating extraction of ground-water.
- Ensure independent monitoring by reputed institution/agencies

Jal-Swarajya Objectives

- Community Development
  - Community capacity building
  - Women empowerment and tribal development
  - Village Panchayat strengthening
- Infrastructure building
  - Ground-water recharge and source strengthening
  - Water Supply schemes
  - School and sanitation link-up
- Institutional strengthening
  - District level HRD and project management
  - IEC-sanitation and hygeine
  - Monitoring and learning-transparency, non-confrontation and information flow and usage.

Jal-Swarajya Objectives (contd.)

- Sector Development and strengthening
  - knowledge management for policy support
  - Water quality measurement
- Pilot Component
  - Local government incentive fund
  - Ground-water aquifer management pilot
  - O&M Pilot

- No mention of independent institutions/agencies
- Presumably, O&M implementation after pilot, though there in the water-supply fine-print.
- great stress on knowledge generation, documentation and access

Institutional and Implementation arrangements

- At the village level-village water and sanitation committee (VWSC).
- Support Organization (SO) as hand-holding agency which will taper off.
- SO will help VWSC prepare Village Action Plan (VAP).
- VWSC final implementer and also does subsequent O& M.
- VWSC is the expression of demand
  - demands support, IEC from panchayat and district
  - demands money for infrastructure
  - demands payments from villagers.

The service

- 40 LPD at village standpost
- Majority of schemes to be ground-water based
- Average investment per household-Rs 8968/-
- 10% capital and 100 % O&M

No provision for:

- Cattle, incidental uses such as house repair, livelihood use

Liter-wise needs	
Drinking	3
Cooking	5
Bathing	15
Wash. uten./house	7
Ablutions	10

Investment/household	
Supply	3678
Source Str.	440
Env. Sanitation	1320
Software	3330

The Infrastructure building

Options for sources are: (Attachment 2.5)

- combinations of *dug-well, bore-well, pumps and pipeline*.
- *surface lift* if available.

Options for source strengthening (Attachment 2.6)

- Earthen weirs, to impound water.
- Contour trenching
- Gabion, Vanrai and underground bandharas
- Ponds and percolation tanks

Two important documents (Pre-implementation)

- Selection of village panchayats (Attachment 2.4)
  - Existing water availability (25%)
  - Contamination (25%)
  - Implementation of Ground-Water act (10%)
- Village Action Plan (Attachment 5.5)
  - Demographic data
  - Choice of water-management option (largely about water supply and O&M)
  - Choice of source strengthening and development procedure.
  - Details of environmental mitigation measures

Three important documents (During and Post-implementation)

- Joint Field Appraisal (Attachment 5.8)
  - A vetting of the Village Action Plan by ZP.
  - covers all fields in VAP
- Risk and Mitigation Report (Attachment 5.9)
  - A Report prepared during project implementation by **Para-Professionals**
- Project Component Indicators
  - prepared by DAMT and OMT.
  - Project summary indicators

Good Features

- A sound holistic framework with clear objectives
- Clear documentation, work-sheets and formats suitable for implementation
- Welcome stress on community development and education
- Laudable design in terms of transparency-accountability-participation
- Identifies the connection with ground-water stress
- Pilot project with sound objectives

Of course, ...

The proof of the pudding is in its eating.

Criticisms (Engg.)

- Project depends crucially on ground-water, a resource which is already under stress.
  - Should have a separate phase for source stabilization. This would have clarified above point.
- Even when successful, project relies on better extraction of ground-water and does not ensure that sufficient recharge has taken place.
  - Mitigation and sustainability procedures should be result-oriented.
- 40 LPD norm too low to create meaningful assets.
  - Must match 200 LPD urban norm, at the very least.
- Even at 40 LPD, inadequate investment to source and supply systems.
  - Urban norm: Rs. 70-100/cu.m., while here it is Rs. 40!

Questions

- Is Year-long 40 LPD norm is really met for 62% households?
  - Outside irrigation command and head areas, summer stress probably widespread.
- Net consumption per house-hold: 70 cu.m. per year.
- Expected net payments (O&M): 20% of investment (Rs. 5000): Rs. 1000
- Thats Rs 15/cu.m. which exceeds urban rates by 50%.
- That exceeds irrigation water rates by 1500 %.

More serious

Scheme fails to address livelihood issues of rural people on non-irrigated lands (82%)

More Questions

What exactly is the "supply-side" paradigm?

- departmental planning, execution and service provision
- Minimal role for beneficiary

These two features of pre-reform systems are *independent*.

New paradigm plans to change both.

- Isnt Supply-side paradigm attributed with too much blame?
  - Try supply-side with as much IEC and t-a-p.
- Can PRI really be made duty-bound to provide service?
  - Can one try district-level service provision as a pre-cursor?

Advantages of departments:

- duty to deliver service
- right to collect charges
- technical expertise to maintain systems

Are PRI institutions ready to assume these roles?

Research Plan A

Our own pilot study-*Thane district*- 60 in O&M phase and 40 in implementation.

- Analyse outcome of project in above 60
  - source stability, ground-water recharge
  - supply system and metering infrastructure
  - O&M institutional system and execution
- Acquire village-level Documentation
  - various forms listed earlier
- Obtain district-wise documentation, output of pilot project.

Research Plan B

Investigate a composite livelihood-security and food-security approach to rural water supply.

- The 200 LPD norm
  - What is the economic basis for different rural and urban norms?
  - What would a 200 LPD norm mean to rural households?
  - What are economic and engineering solutions to enable the 200 LPD norm?
- Engineering
  - Study of micro-hydro-geological systems
  - interactions of ground and surface waters
  - What are possible structures for impounding water at Rs. 100 /cu.m. price-point.
- Cases and Studies
  - A survey of other states and their rural suply systems
  - Wider still, what is the economic interaction between irrigated and non-irrigated systems?

Reports to be acquired

- GoM Ground-water survey
- *Jal-Swarajya Technical Manual*
- *Jal-Swarajya Pilot project report*
- *Sukhtankar Committee Report*, January 2000.

Thank you.