

ANIL AGARWAL DIALOGUES

Excreta does matter

Sustainable Waste-water re-use

A strategic necessity for Indian cities

Delhi

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Rapid urbanisation/industrialization and constrained availability make waste re-use a strategic necessity

- ❑ Pace of urbanisation magnifying infrastructure deficits
 - India could add over 200 million to urban population within two decades
 - Glaring infrastructure deficits; less than 40% of waste-water even treated

- ❑ Industrial water demand could triple in three decades
 - 5 X increase in water required for power generation

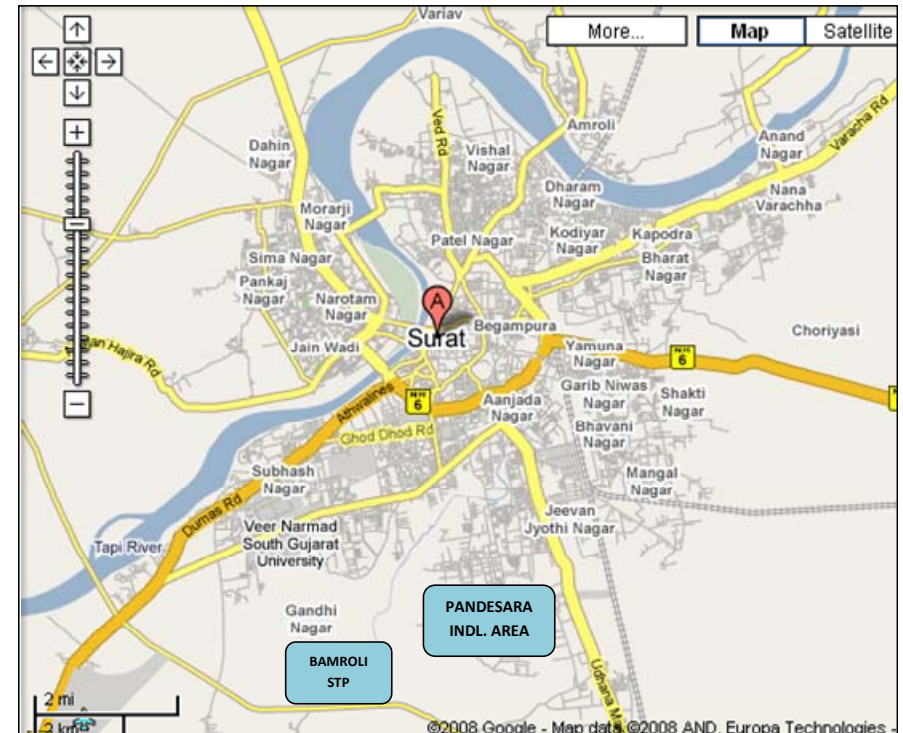
- ❑ Growing costs/ difficulty in source development / conveyance
 - Over-exploitation of ground water and dwindling of city water reservoirs
 - Pumping / conveying from far-off sources / desalination options being evaluated

“Pump water from far-off, dump waste-water, pollute water sources” clearly not sustainable!!

Industrializing urban centers well placed to create win-wins from waste-water re-use

Surat Municipal Corporation

- ❑ One of the fastest growing cities in India
 - Population ~ 4.5 million
 - 3% CAGR since 1980
- ❑ Good basic infrastructure provision
 - 100% water supply / sewerage in old city
 - Infrastructure provision in extended areas was underway.
- ❑ Among the progressive ULBs in country
 - Ranked high on water, sanitation indicators
 - Investment Grade rating
 - Won 4 National level Urban awards under the JNNURM in 2009.



Project drivers

1. Water shortage as an impending threat

- Dependence on River Tapi
- Shortage as early as 2015

2. High Industrial water demand

- Pandesara ~100 MLD (~ 13% of total)
- High TDS in ground water
- SMC supply only 55 MLD; remaining from tanker/ other sources

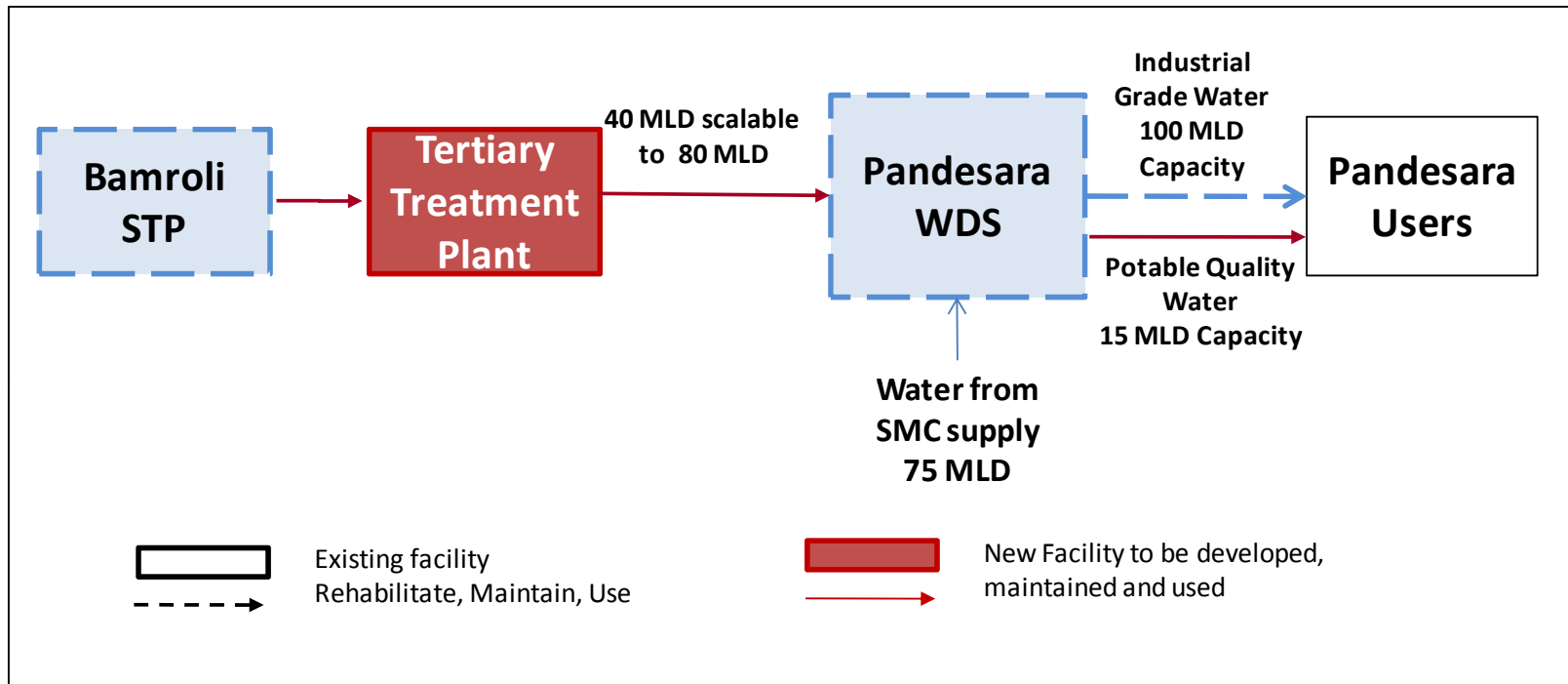
3. Bamroli STP just 5 km from Pandesara

- 100 MLD capacity / 65% capacity utilisation



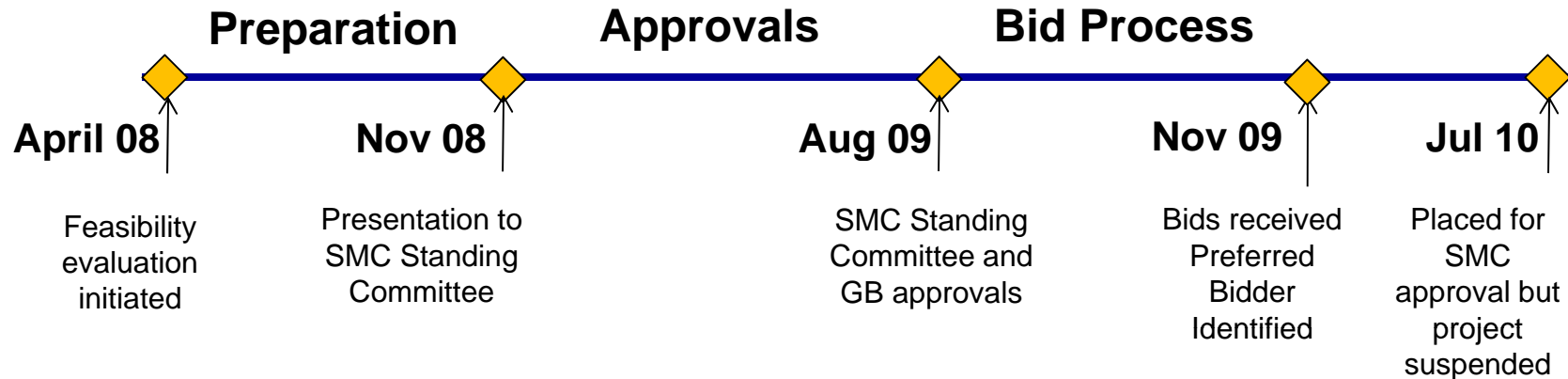
Recycling the Secondary Treated Water and supplying to Pandesara Industrial Estate emerged as a logical win-win project to look at

Project Scope



1. Operation and Maintenance of Bamroli STP.
2. Construction, O&M of Tertiary Treatment plant.
3. Construction, O&M of Transmission networks.
4. Rehabilitation, O&M of existing sumps at Pandesara
5. Rehabilitation, O&M of existing distribution network at Pandesara
6. Construction, O&M of potable water network

Project development timeline

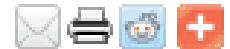


- ❑ Transparent, competitive and successful bid process;
- ❑ 5 bids received; 4 qualified after shortlisting and technical evaluation
 - Triveni Engineering - Rs. 18.2
 - Vatech Wabag - Rs. 21.9
 - JUSCO - Rs. 24.9
 - ILFS Water - Rs. 39.6
- ❑ Two unsuccessful bidders sent in written appreciation to SMC on the process

Project suspended after bid evaluation...

The Times of India 1 July 2010

No tertiary water treatment plant for units under PPP



Himanshu Bhatt, TNN Jul 1, 2010, 10.19pm IST

SURAT: The standing committee's decision to reject the present proposal of setting up a tertiary water treatment plant to supply 40 MLD of industrial grade water to industrial units based at Pandesara has brought the issue of the industry's water requirement in the limelight again. In the weekly meeting of the standing committee on Thursday, a decision was taken to reject the present proposal and go for re-tendering as it felt the cost to be on the higher side. It wants the whole project to be done by Surat Municipal Corporation (SMC) and not under public private partnership (PPP).

...but is being implemented as an EPC project at present

The Times of India Jan 18 2012

SMC plans 2 tertiary water treatment plants

TNN Jan 18, 2012, 10:41PM IST

Tags: water treatment plants | Surat

SURAT: After dumping the project half year ago, the Surat Municipal Corporation has approved the construction of Rs 100 crore.

Two plants with a capacity of 200 mld of water will be set up at Dindoli.

The Bamroli plant will supply water to Pandesara and other places. SMC will also set up two plants at these industries.

The screenshot shows a web browser window with the URL articles.timesofindia.indiatimes.com/2012-06-16/surat/32268692_1_treatment-plant-mld-of-potable-water-industrial-units. The page header includes "THE TIMES OF INDIA | Surat" and a search bar. A navigation menu lists various categories like Home, City, India, World, Business, Tech, Sports, Entertainment, Life & Style, Women, Hot on the Web, Spirituality, NRI, IPL 2012, Photos, Times Now, Videos, and LIVE TV. Below the menu, there are city-specific links for Mumbai, Delhi, Bangalore, Hyderabad, Chennai, Ahmedabad, Allahabad, Aurangabad, Bhubaneswar, Bhopal, Chandigarh, Coimbatore, Goa, Gurgaon, Guwahati, Hubli, Indore, Jaipur, Kanpur, Kolkata, Kochi, Kozhikode, Lucknow, Ludhiana, Madurai, Mangalore, Mysore, Nagpur, Nashik, Noida, Patna, Pune, Raipur, Rajkot, Ranchi, Thane, and Surat. The main content area features the article title "Surat MC approves tertiary water treatment plant" by Melvyn Thomas, dated Jun 16, 2012, 03:43PM IST. The article text states: "SURAT : The Surat Municipal Corporation's (SMC) prestigious project of tertiary water treatment plant, which is first of its kind project in the country, has received a nod from the ruling BJP at the standing committee meeting on Friday. Industrial units, especially the textile processing units in Pandesara have welcome the decision taken by the SMC's standing committee for approving the construction of tertiary water treatment plant for satisfying the rising water needs of the industries." The page also contains two advertisements: "1015 Laptops" from Dell and "QuickBooks Online" from Intuit.

Pointers for policy

1. Wastewater reuse not just 'desirable'; but a **'strategic water security imperative'**
 - Mandatory targets for re-use may be necessary;
 - SLB norm of 20% wastewater re-use a good starting point; larger cities should do more
 - Pumping water from further and further away or tertiary treatment & re-use.

2. Rational pricing is a pre-requisite to promote wastewater reuse
 - Recover at least O&M costs from 'residential' users;
 - Limit groundwater abstraction;
 - Fix fresh water tariffs for industry higher than cost of recycling

3. At a Project level, appropriate risk sharing is critical; In general,
 - ULBs / utilities should not bear Technology / Operating risk
 - Off-take/ Demand risk should ideally be retained with the ULB or User;

For any clarifications on this document, please contact:

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