



**Investment & Technology:  
Cooperation in Water Sector in India  
Embassy of India, The Hague. 28 March 2011**

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# **Practical Models for Investment and Technology Cooperation**

**Ravi Jambagi**

**Indus Technologies BV**

Technology Business Consulting  
Technology Services  
[www.indus-tec.com](http://www.indus-tec.com)



# This PPT

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*Investment Opportunities (Quick recap)*

*Investment and Technology cooperation models*

*Some recent example*

*Leveraging each others strengths*

*India-NL- A strong case for cooperation*



# A snapshot of part of municipal sector

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- ~ 40 cities with a million or more people
- 600 + “Districts”, with number of municipalities each
- Numerous new private sector developments and SEZs
- Existing drinking water, domestic water and sanitation systems under major revamp
- Surface water, ground water scarce and needs treatment. Supplementary desalination in coastal areas.
- In addition to treatment , management, measuring, QA/QC, education and secondary services are needed
- Citizens quality expectation, awareness and ability/willingness to pay fast changing



# Major industries with significant water/waste water profile

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- 18 world scale petroleum refineries.; 21 petrochemical complexes and > 100 fertilizer plants
- Jamnagar is the worlds largest integrated refinery + petrochemical site.
- At least 200 power plants with > 500 MW generation
- 6 Mega food parks, > 5000 fruit and vegetable processing plants, > 300 milk processing units, > 400 sugar mills
- More than 50 licensed breweries producing beer and potable alcohol
- Massive mining sector. E.g 750 million t of coal. CIL plans 1 bn USD investment in coal washeries.
- New water concessions are almost impossible to get; recycle and waste water treatment obligatory to get new permits



# International presence in India

- Indian water sector has engaged with many countries since independence
- With changing character of Indian water sector, the focus of international involvement has moved from development assistance and govt-to-govt, agriculture /infrastructure related to private investment and industry
- Water sector has attracted lot of international private sector attention in recent years. Several Dutch water co. are also active in India.
- Apart from regular missions and delegations, we see targeted efforts from some countries and water sectors



# Investment and technology cooperation models in use

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- State water sector policy strongly encourages pvt sector and PPP model
- Direct investment by international enterprises
  - Fully owned subsidiary, outright acquisition, JV
- Project limited investments / SPVs
- PPP options – BOOT/DBOOT/O&M and similar, often with guaranteed revenue streams
- Technology licensing on project basis is also possible
- Royalty based agreements with local manufacturers
- Partial or total subcontracts
- Water and sanitation sectors enjoy federal and local govt. incentives



# Example of large private sector housing projects-Tata Housing

- Completely developed in private sector. Total investment approx 2 bn USD
- Developing 4 million sq m. of land in metros, tier 1 and tier 2 cities. Independent townships.
- Typically integrated water and waste management solutions will be implemented.
- Limited ground and surface water availability. Often ground water needs treatment.
- Packaged systems, outright purchased and/or managed O&M basis , will be required.



# Example of Large desal plant with Spanish participation/technology

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- India's largest Desal unit, serves mostly industrial consumers and 500,000 people near Chennai, started up in 2010.
- 100 mld, all unit operations, Global design
- Over 500 equipment, 8600 RO units, 33 km pipeline. Indian, EU and international sourcing
- DBOOT project with 75-25 % SPV of IVRCL (Indian infra co.) + Abengoa
- Bulk purchase agreement with local authority for 25 yrs at approx 1 usd /m<sup>3</sup>
- Contract – to - commissioning - 5 yrs.
- Several new units planned on India's long coastline





# Example Asian challenge : Manila water co. in India !

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- Manila Water Co is a relatively small water and waste water services co. in Philippines.
- Tied up with private group Jindal in India
- Manages one of the most talked about water treatment plants – Tirupur, the textile city of India
- Have been prequalified for a number of large water and sewerage projects
- Is making a bid for managing unmetered water and sewage treatment services of Bangalore city for 6 yrs.



# Example- Malaysian Ranhill in India

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- Ranhill set-up Indian pvt. Ltd and collaborating with Indian co's.
- Project- 25 MGD water supply contract for 25yrs. Includes a water treatment plant
- Total investment about 75 m USD
- Consortium SPV – consortium of Ranhill , Tata and IDFC. 33% each.
- BOT and O&M contract with guaranteed revenue stream



# Other international enterprises with range of engagement models

- Several Dutch co's are in India. Phillips has recently launched a successful domestic water unit
- German machinery major WILLO acquired Mather and Platt Pumps India and set up R&D centre
- French Veolia acquired Doshion, a resin and chemical manufacturer.
- IDE and other Israeli enterprises in India well entrenched , mainly with JVs.
- GE and NALCO have been in India for many years and have own manufacture/formulation plants
- More and more of Chinese presence is seen in water infra, supply of chemicals, membranes etc



# Accessing Indian market - some observations

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- India will invest nearly 200 bn US in water and waste water projects in next 20 years. Funding is usually not a problem.
- The utility-quality-price relationship can be complex and product / technology value proposition has to be tailored.
- India is a very diverse landscape, difficult to pigeon hole.
- Very competitive market with aggressive local and international players. One needs to react quickly and some staying power is needed.
- Local capabilities are vast and varied. Need to be leveraged.
- IP regime is subject to international obligations. Several measures are possible to protect non-patented knowledge.



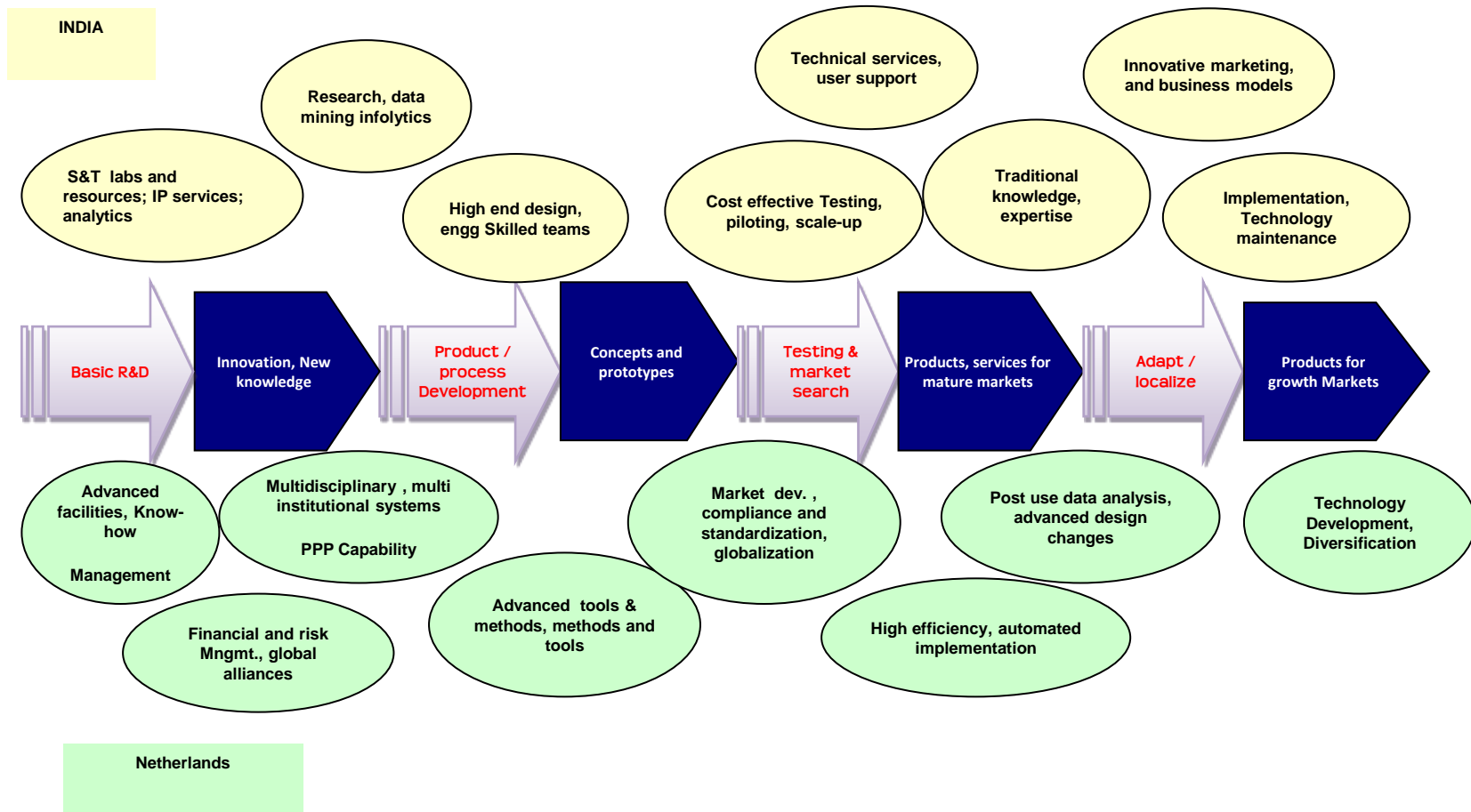
# India as a source - skills / resources not fully tapped by water sector

- The S&T infrastructure is huge. High end R&D, technology and engineering services are international quality. Other industries e.g. pharma, biotech, process, aerospace etc. have been using them for decades.
- Indian fabrication industry is sophisticated and follows global standards.
- Indian components industry- e.g. valves, instruments,- is also globally competitive.
- Several Indian enterprises – even small and midsized- are able to invest at home and abroad and have international /3<sup>rd</sup> country expertise.



# S&T partnership - a mapping of possibilities

## TECHNOLOGY COOPERATION – FROM R&D TO END-OF- PRODUCT LIFE



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# A global case of closer India-NL cooperation

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Total water earth- 1.4 bn cu. KM

Only 2.5% of this is Potable



Of this ~ 70% is locked in glaciers

The rest 30% is scattered all over



Only 3% is available for use by humans



# Shape of things to come...

Surely, water is a major challenge in India  
but India is moving with speed !

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**THANK YOU !**

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