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# Investment Opportunities in Water Sector India

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India

# THE NEW OIL MAY BE WATER



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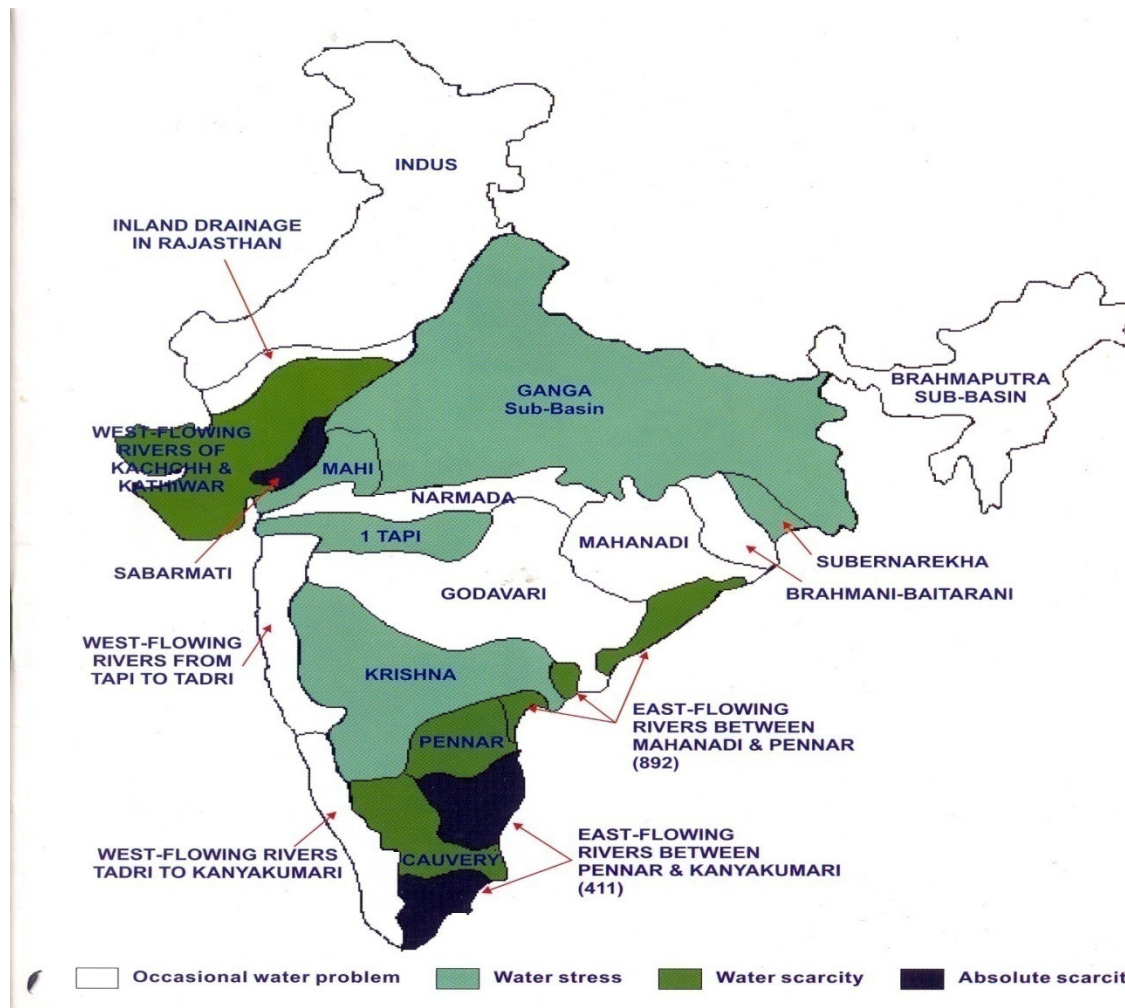




# INDIA – WATER SCARCITY MAP



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Source :  
Indian Water Works Association

# WHY WATER STRESS?



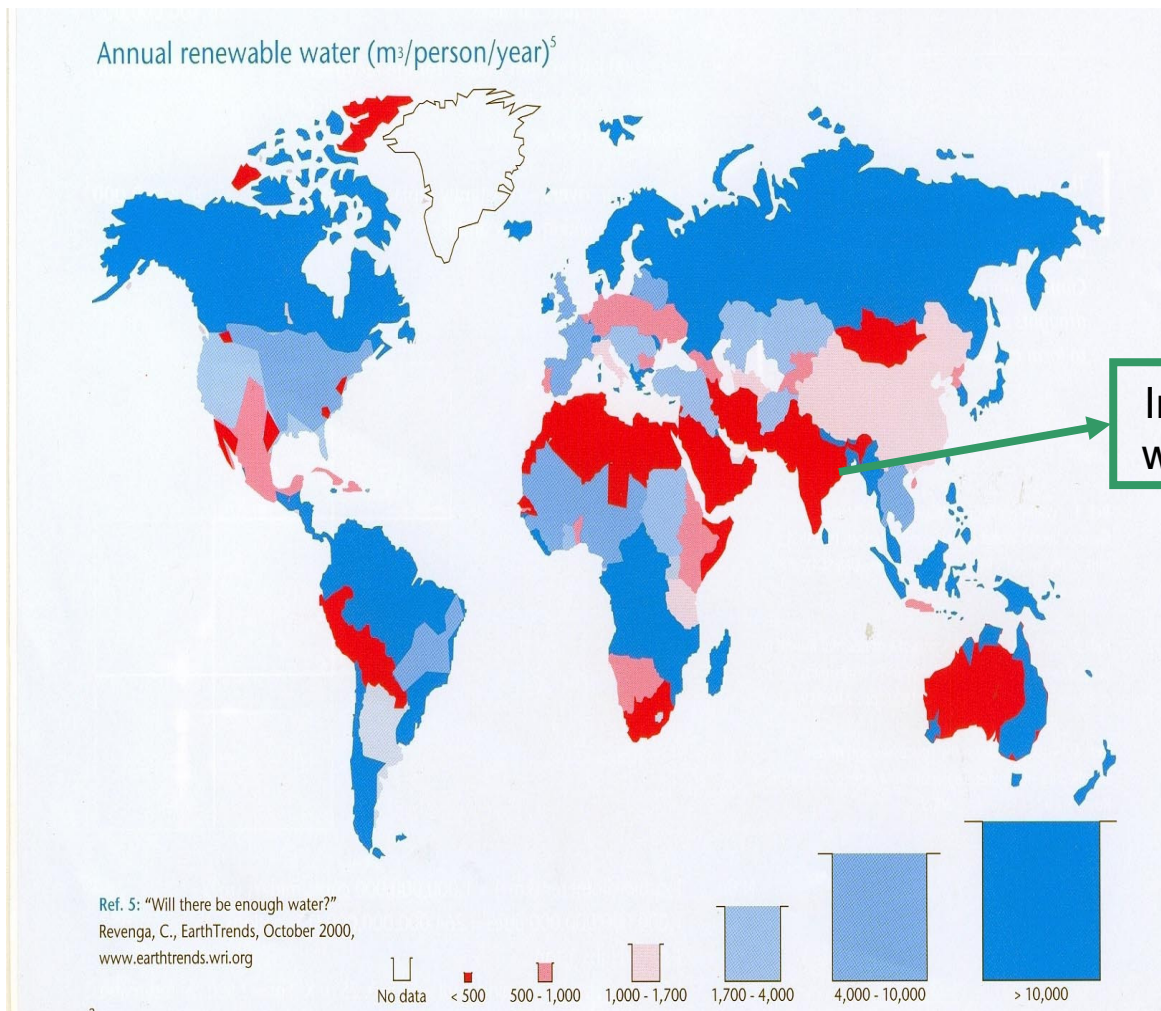
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# INDIA UNDER WATER STRESS



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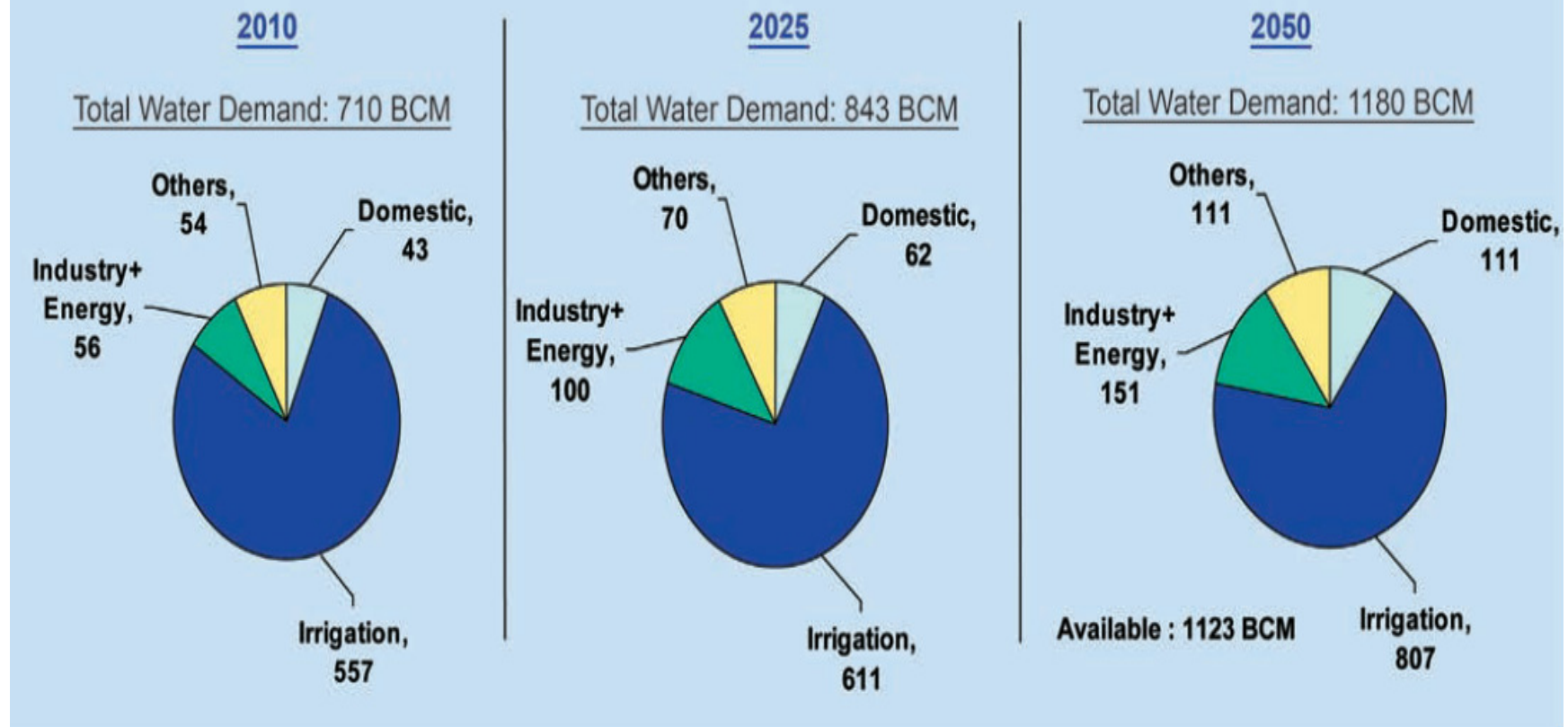
India under water stress

# SEGMENT WISE WATER DEMAND



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## Segment - Wise Demand (in BCM)



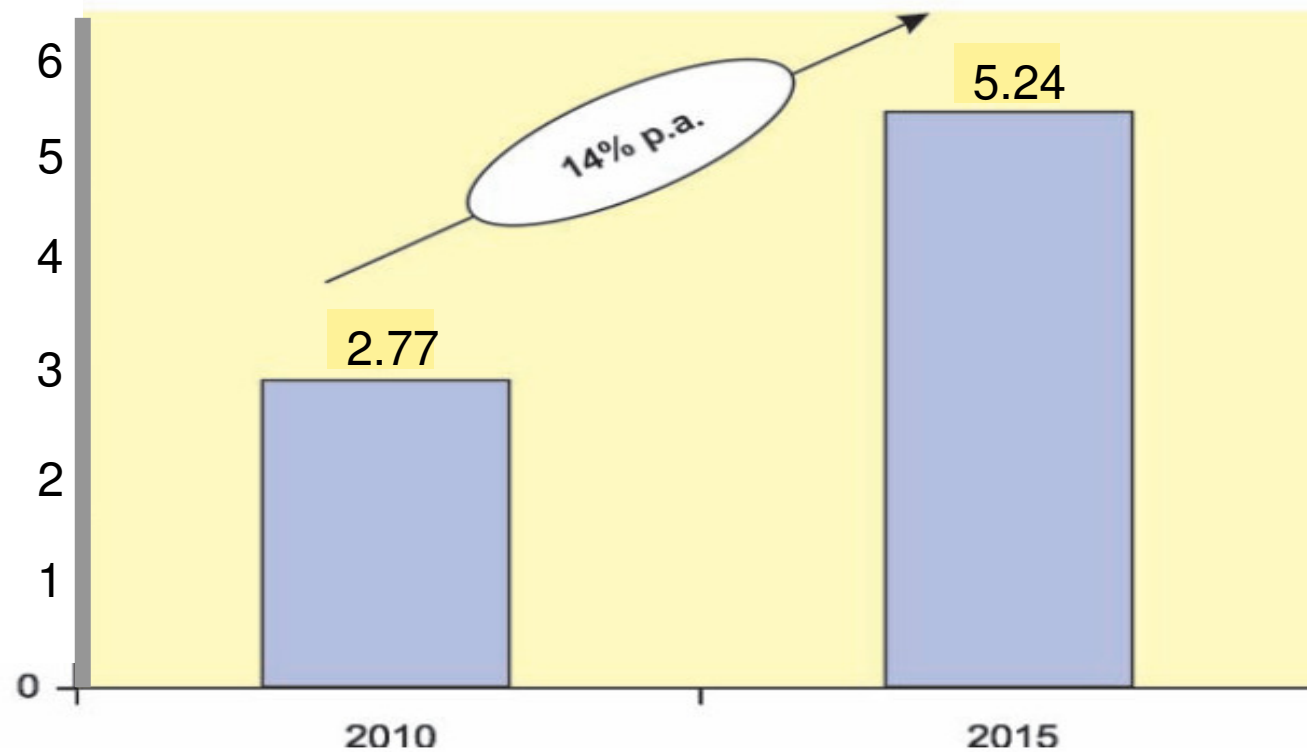
Source:  
Ministry of Water Resources, GOI

# EMERGING WATER INFRASTRUCTURE



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**Annual Investment Potential In Water Infrastructure (SG\$ Bn.)**



Source :  
Planning Commission and Tata Strategic Analysis Infrastructure Today Issue Feb 2009.

# EXAMPLES OF OTHER WATER MARKETS



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## Privatization of Water Supply in UK

United Kingdom fully privatized the entire water supply and sewage disposal systems in 1989. The major benefits accrued due to privatization are:

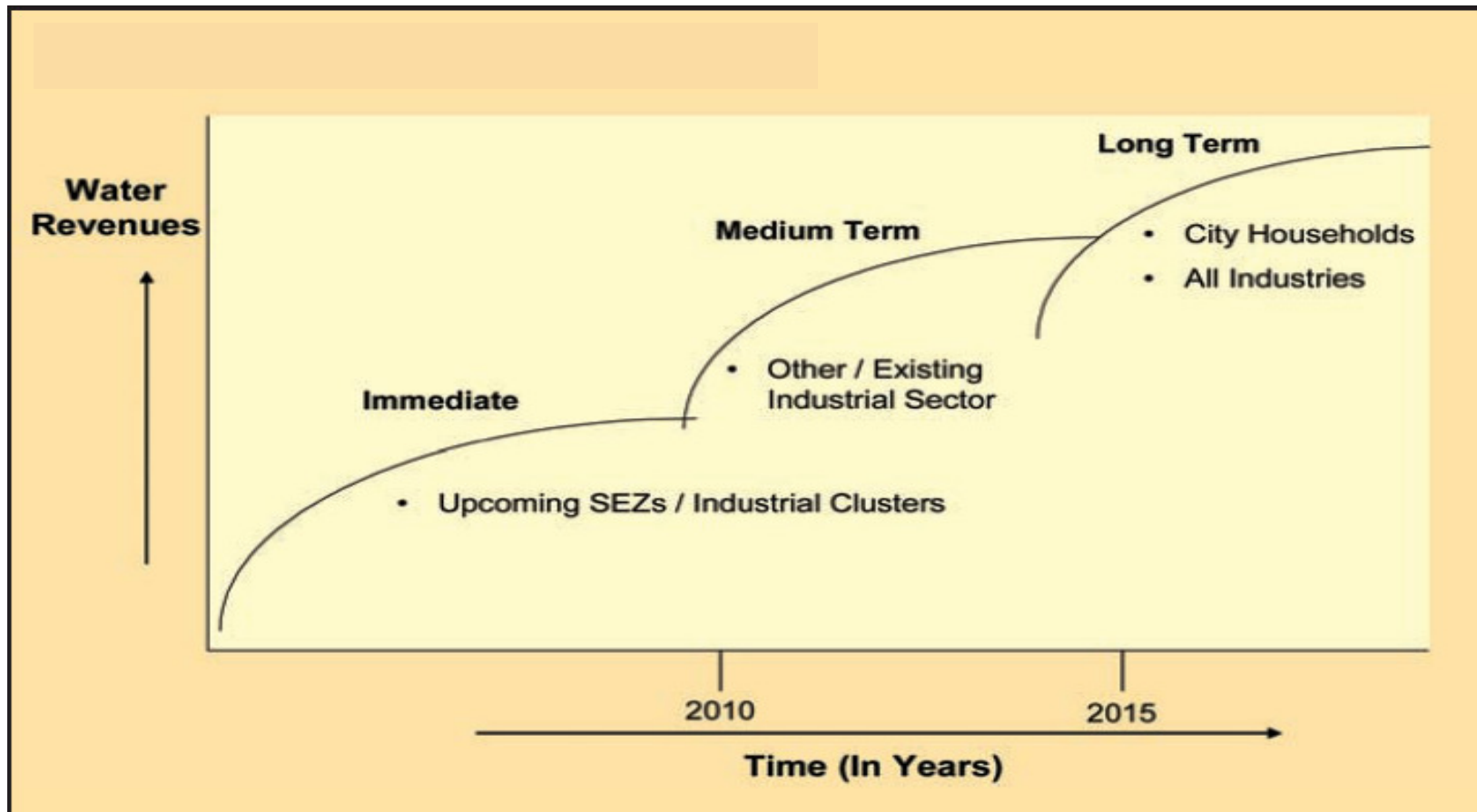
- Improved infrastructure due to large capital investments
- Improved quality and availability of water
- Improved efficiency (reduction in leakage)

However, water companies are quite unpopular among citizens largely due to continuous increase in water charges. Although a section of population in UK blame privatization for increased prices, British prices remain reasonable compared with the rest of Europe and Scotland where governments run the utilities.

# EMERGING WATER MARKET IN INDIA



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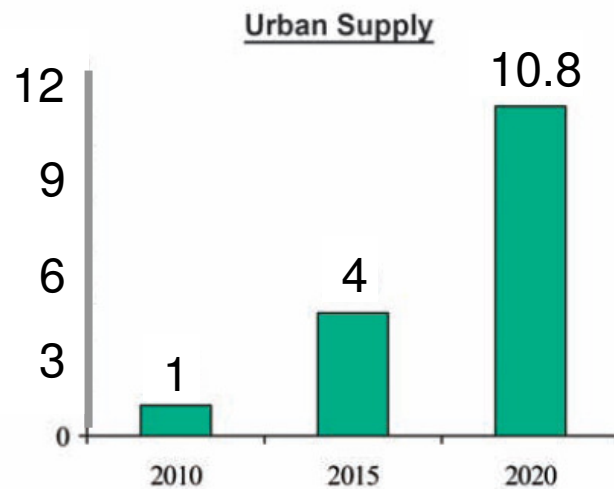
Source:  
Ministry of Water Resources, GOI

# WATER REVENUE POTENTIAL AT EXISTING PRICES IN INDIA

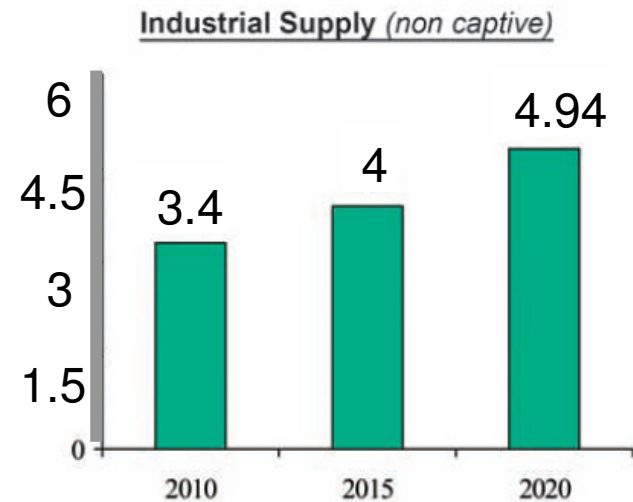


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## Revenue Potential at Existing Prices in **SG\$ Bn.**



2010-15: Subsidised Tariff  
Post 2015: Rationalised Tariff



2010-15: Rationalised tariff for upcoming SEZ and industrial clusters  
Post 2015: Rationalised tariff for all industries

Source :  
Planning Commission and Tata Strategic Analysis Infrastructure Today Issue Feb 2009.

# OBLIGATIONS AND CHALLENGES



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- Providing Drinking Water to increasing population and urban areas
  - Providing Industrial Utility Water for growing industry
  - Providing increasing water to irrigation and agriculture
- 
- Drought and Flood Cycles
  - Excess drawing on water resources
  - Water Quality Concerns
  - Political and Regulatory Conditions from currently insufficient resources of water

# AVENUES OF INVESTMENT IN INDIA



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- River Interlinking schemes which will divert water from “water excess areas” to “water scarce areas”
- Water Table and Rainwater Conservation Projects at every district level
- Desalination projects
- Water supply and treatment projects at urban and rural levels
- Addressing the power shortage needs for water projects through solar pump based water supply and treatment schemes
- Sewage and Industrial waste water recycling projects
- Public – Private Partnership Projects through BOOT / BOT route

# RISKS



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- Difficult trade-off between cost and the ability to meet design parameters
- Imperfect knowledge of demand catchments
- Tight deadlines for completion and commissioning, with risks borne by contractor
- Lack of Political Will.

# A GLANCE AT THE WATER PROJECTS REQUIRING INVESTMENTS IN INDIA



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Project Type	Water Supply, Treatment and Distribution		Sewage and Effluent Treatment		Desalination	
	No. of Projects	Invetsment (\$\$ Mn.)	No. of Projects	Invetsment (\$\$ Mn.)	No. of Projects	Invetsment (\$\$ Mn.)
<b>Nascent Total</b>	10	563	6	190	0	0
<b>Planning Total</b>	746	10600	410	3513	7	552
<b>Grand Total</b>	756	11163	416	3703	7	552

# FUND REQUIREMENTS FOR URBAL WATER SUPPLY, SEWAGE, SANITATION AND URBAN DRAINAGE ('07 TO '12)



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Urban Water Supply	
Purpose	Fund Required (S\$ Mn)
Additional Popln to be provided with water supply facilities	14,022
Augmentation/rehabilitation facilities for covered population	2,535
<b>Total</b>	<b>16,556</b>
Sewerage and Sanitation Facilities	
Purpose	Fund Required (S\$ Mn)
Funds required for providing new sewerage facilities	12,844
Funds required for augmentation facilities for sewerage	3,558
<b>Total</b>	<b>16,402</b>
Urban Drainage	
Purpose	Fund Required (S\$ Mn)
Funds required for providing new drainage facilities for additional	4,682
Funds required for providing rehabilitation of drainage facilities for	1,541
<b>Total</b>	<b>6,224</b>

# PROPOSED FUND FLOWS FOR WATER SECTOR IN INDIA

FROM 2007 TO 2012... As Projected



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Proposed fund flow for water supply and sanitation  
sector during Eleventh Plan

Source of Funding	Amount (S\$ Bn)
Central Sector Outlay	21.59
State sector outlay	10.80
Institutional financing	3.07
Assistance from ESA	3.07
FDI and Private sector	0.62
<b>Total</b>	<b>39</b>

# INVESTMENT OPPORTUNITY MODELS



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- Sub-contracting of discrete services (e.g. metering, repairs, revenue collection)
- Contracts for operation and management of a system (flat fee or performance-related)
- A leasing systems from the public owner in return for a rental fee, with revenues retained by the lessee
- Take over and operate a system for a number of years, making required and necessary new investments, retaining revenues, and eventually returning assets to the public owner
- Joint ventures with a municipal or public partner for operation or ownership (or both) of a system or water facility
- Full divestiture of a publicly owned asset to a private company

# WILL HE CURSE US WHEN HE GROWS UP?



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“We need business leaders and governments to recognize this upcoming water crisis to be an emergency issue to be dealt with. There is a dire need to invest now, not later”  
-----Dr. David Tickner , Head of World Wild Life Fund

