

Community Participation in Water Supply and Sanitation Schemes around Hyderabad (Sindh), Pakistan

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Map of Pakistan



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“Public Participation in Water Supply and Sanitation & Solid Waste Management
20-21 January 2004, Kitakyushu (Japan)

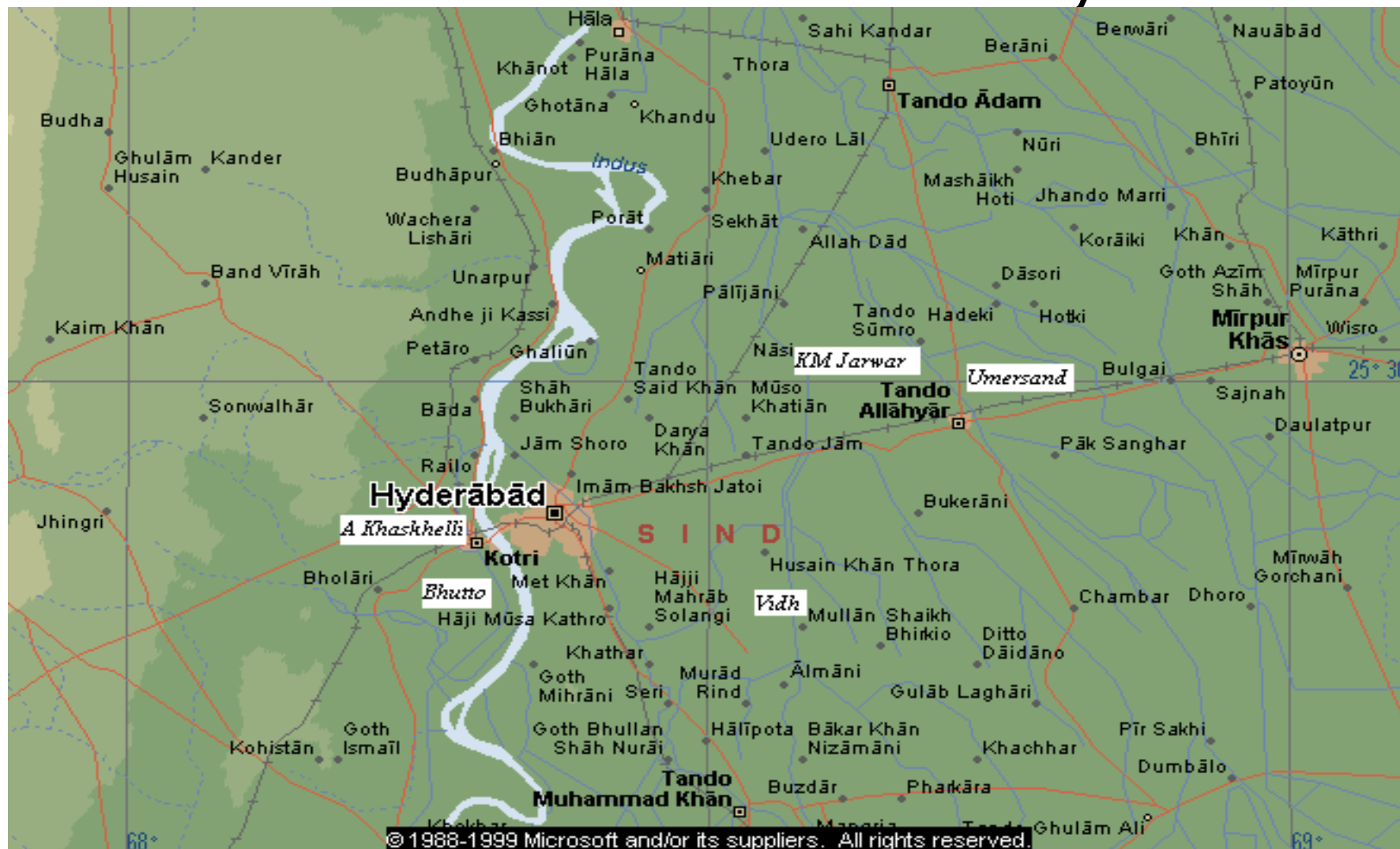
Map of Sindh Province (Pakistan)



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Selected Communities around Hyderabad



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Water related Health Impacts

Sickness	Morbidity (Episodes/year)	Mortality (Death/year)
Diarrhea	1,000,000,000	3,300,000
Malaria	400,000,000	1,500,000
Schistosomiasis	200,000,000	200,000
Infection (helminthes)	1,500,000,000	100,000
Dengue Fever	1,750,000	20,000
Trypanosomiasis	275,000	130,000
Onchocerciasis	17,700,000	40,000
Bancroftian Filariasis	72,800,000	-

Source: WHO (1996)

Water related Socioeconomic Impacts

Reduced labor quality

- Disability caused by water-related diseases
- Physical damage caused by carrying water
- Nutritional and energy effects of carrying water
- Lost schooling due to water-related diseases

Reduced labor quantity

- Time lost to water-related diseases by disabled
- Time lost by those who care for disabled person
- Time spent collecting water from distant source
- Time spent maintaining the water source

Economic Implications at Household and National Level

Source: Adapted from Rosen and Vincent (1999)

Millennium Development Goals

Goal 1: Eradicate extreme poverty and hunger

Goal 2: Achieve universal primary education

Goal 3: Promote gender equality and empower women

Goal 4: Reduce child mortality

- Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

Goal 5: Improve maternal health

Goal 6: Combat HIV/AIDS, malaria and other diseases

Goal 7: Ensure environmental sustainability

- Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources
- Halve, by 2015, the proportion of people without sustainable access to safe drinking water
- By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers

Goal 8: Develop a Global Partnership for Development

Water Supply & Sanitation in Public Sector

Problem:

Inadequate household willingness to pay (WTP) to meet the running costs (government subsidies are required to run water supply and sanitation schemes)

Reasons:

Unreliability, inefficiency, and inadequate quantity and quality from public sector water supply and sanitation

Solution:

Community based water supply and sanitation
(Community organization to own, operate, and maintain the scheme by collecting water fee from the households)

Public versus Community based Schemes

1. Blue print vs. learning process:

Blue print is a traditional bureaucratic style, where all the planning had been done at hand before implementation. Learning process is flexible with changing demands or outcomes during the implementation.

2. Centralization vs. decentralization:

Centralized bureaucratic management provides no room for involving communities in the projects; therefore, change in institutional structures, rules and incentives through decentralization is essential.

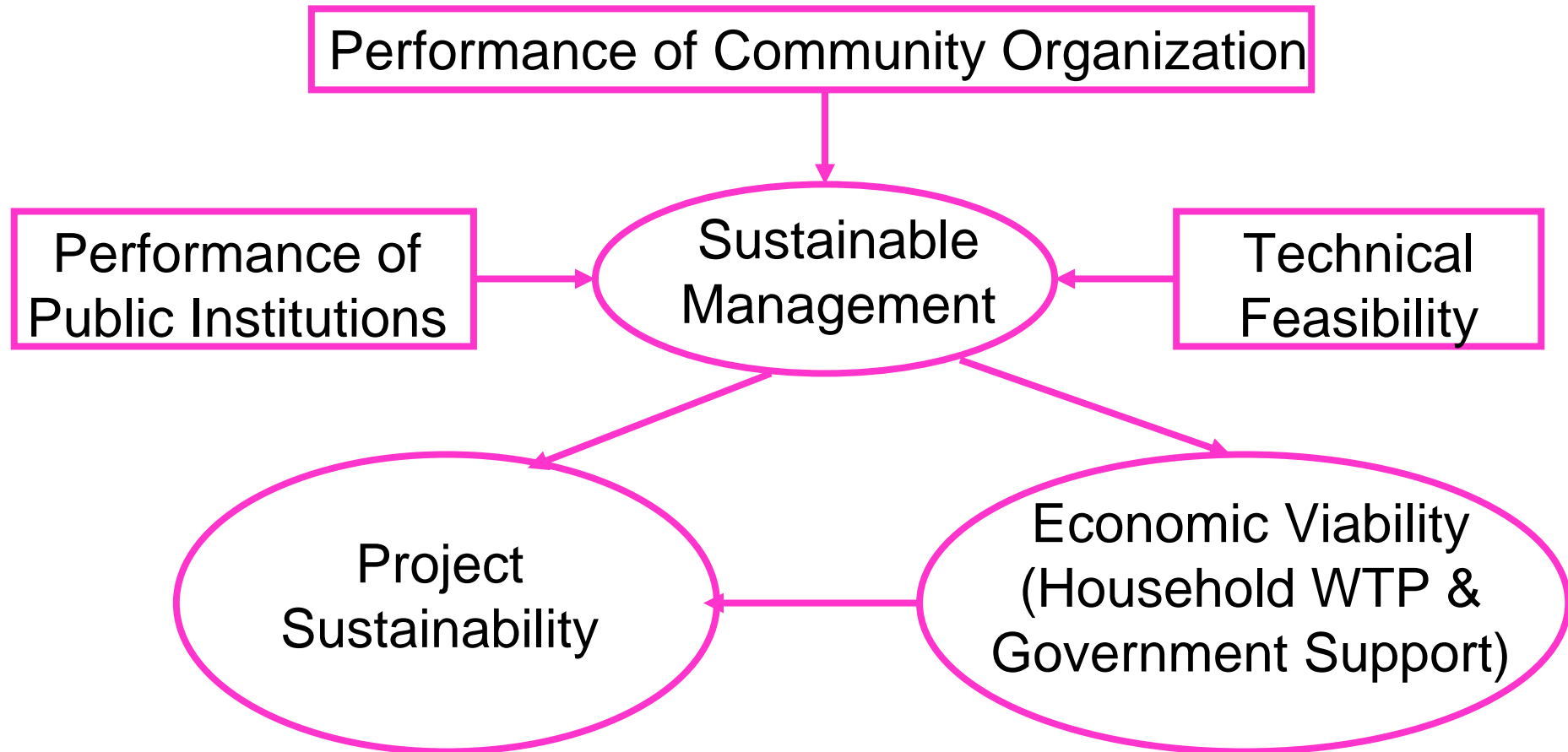
3. Community participation:

A process by which people from all sects of community (rich, poor, man, women, uneducated, educated, and so on) can influence or control those decisions, which affect them (Voice & Choice)

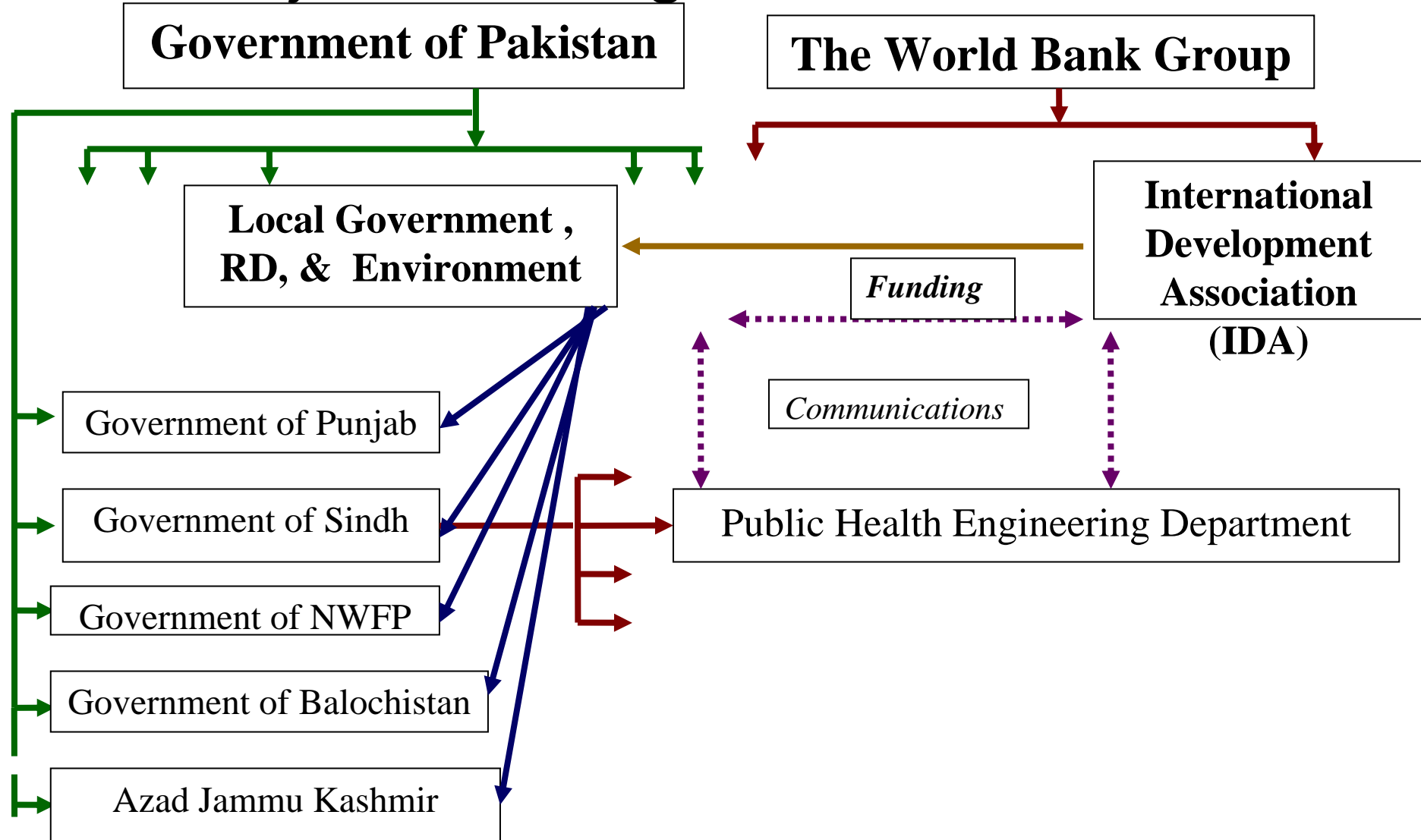
Community Participation

- Overall beneficiary participation
- Overall women's participation
- Participation in design
- Participation in construction
- Participation in O&M

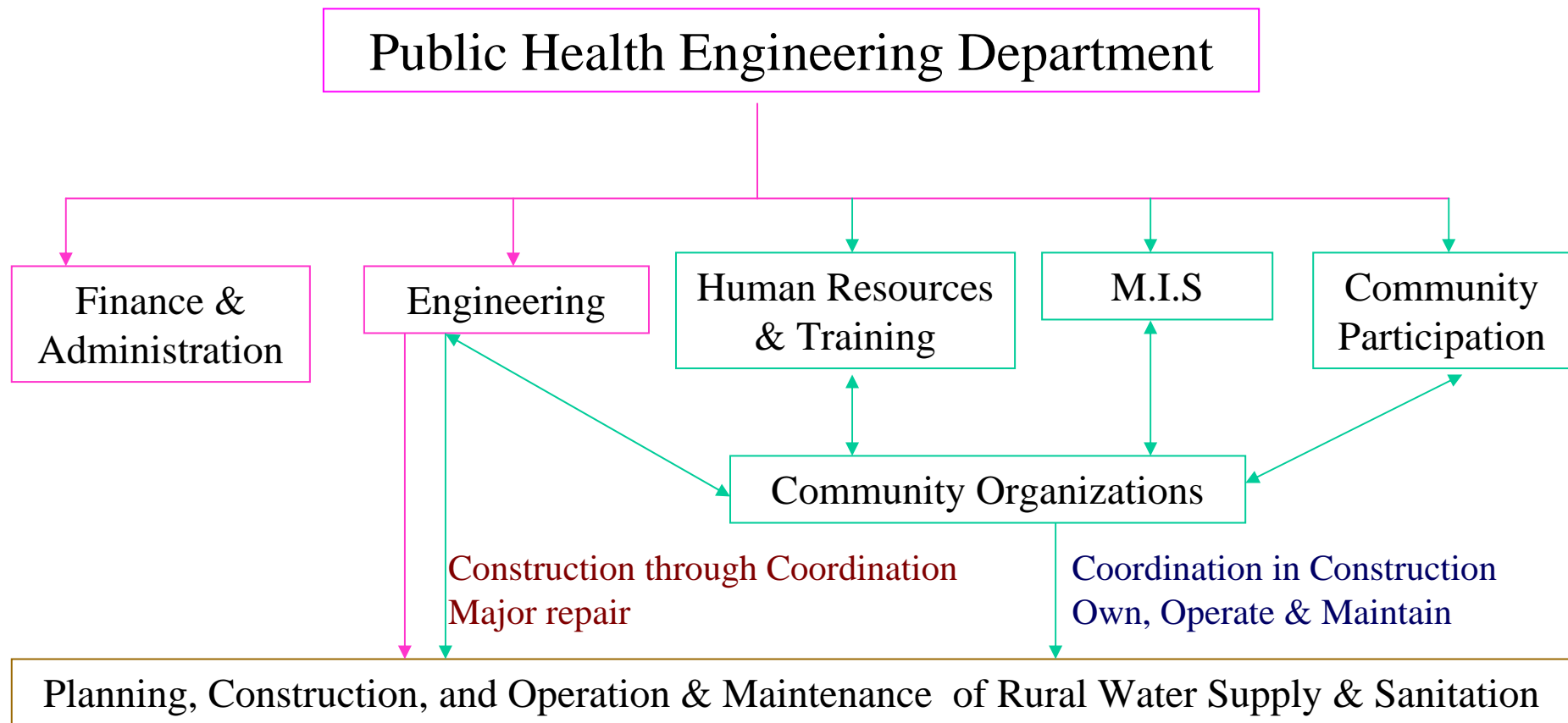
Participation & Project Sustainability



Project Funding and Coordination



Institutional Changes



Community Participation (CP) Process

1. Based on the request: Briefings on the Process

CP team to visit the communities and provide detailed briefing on the overall CP process leading to identification, construction, and operation and maintenance of water supply and/or sanitation schemes

2. Formation of community and women organizations:

Based on democratic and representative norms, community organization were to be established. This had to meet regularly and maintain the record of the meetings. Women organizations were also required to be established to carryout health and hygiene education

3. Collection of fees, maintaining health and hygiene:

Prior to approval of the schemes, community organizations are required to collect monthly fees and deposit in the bank. The health and hygiene practices were also to be adapted

Overall Project Implementation Process

Communities

- Community & women organizations
- Bank account, collection of fees, and health & hygiene education
- Maintaining records of meetings and health & hygiene practices
- Procurement of land free of charges
- Provide in kind contributions
- Select operators
- Own the scheme and carry out O&M and collect the fees regularly

Government

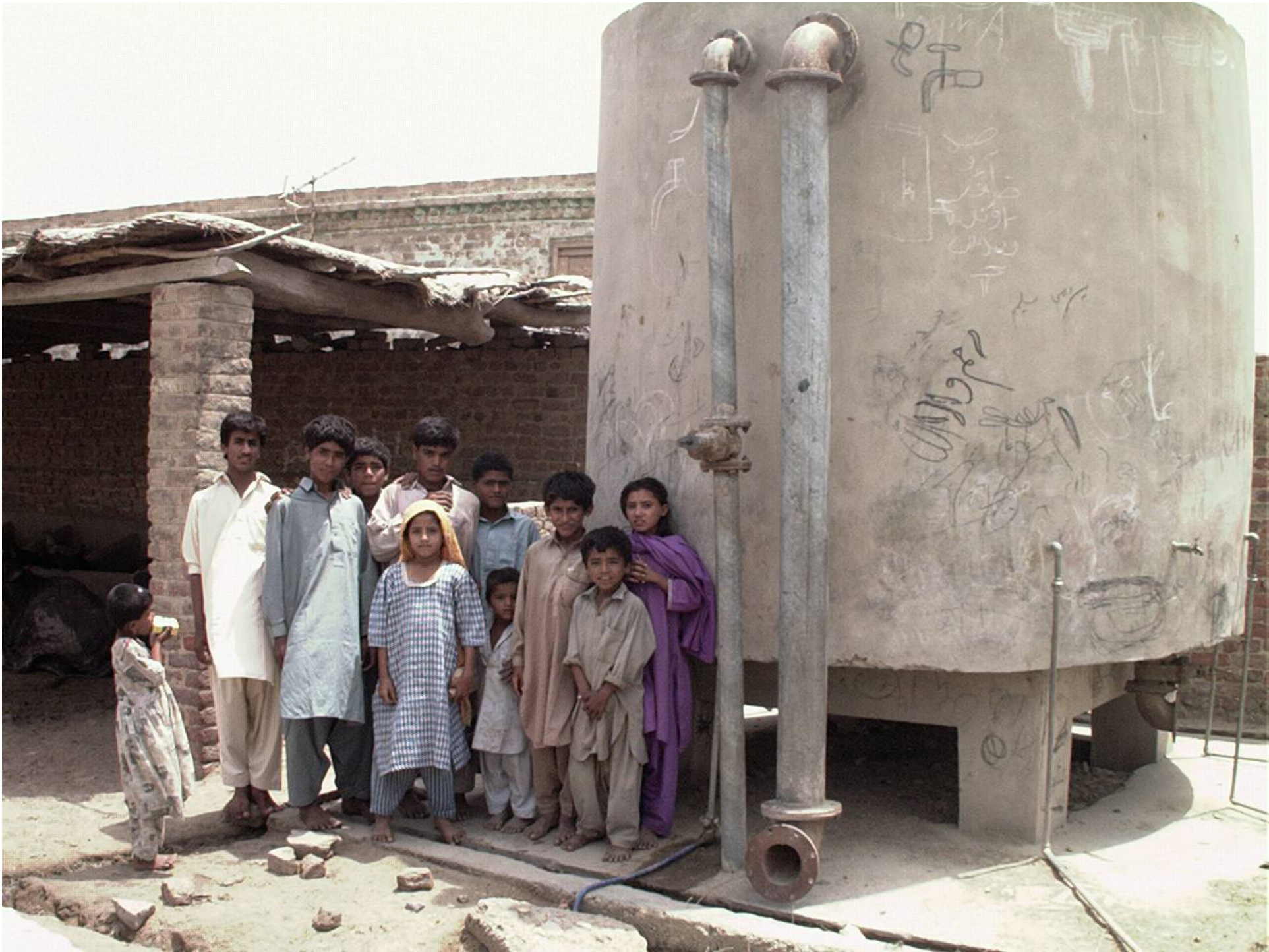
- Facilitate community participation process, provide essential training and health & hygiene education
- Oversee activities of community & women organizations
- Site selection for water supply and/or wastewater treatment in coordination with the community
- Construction of the scheme
- Operators' training
- Transfer of schemes to the communities







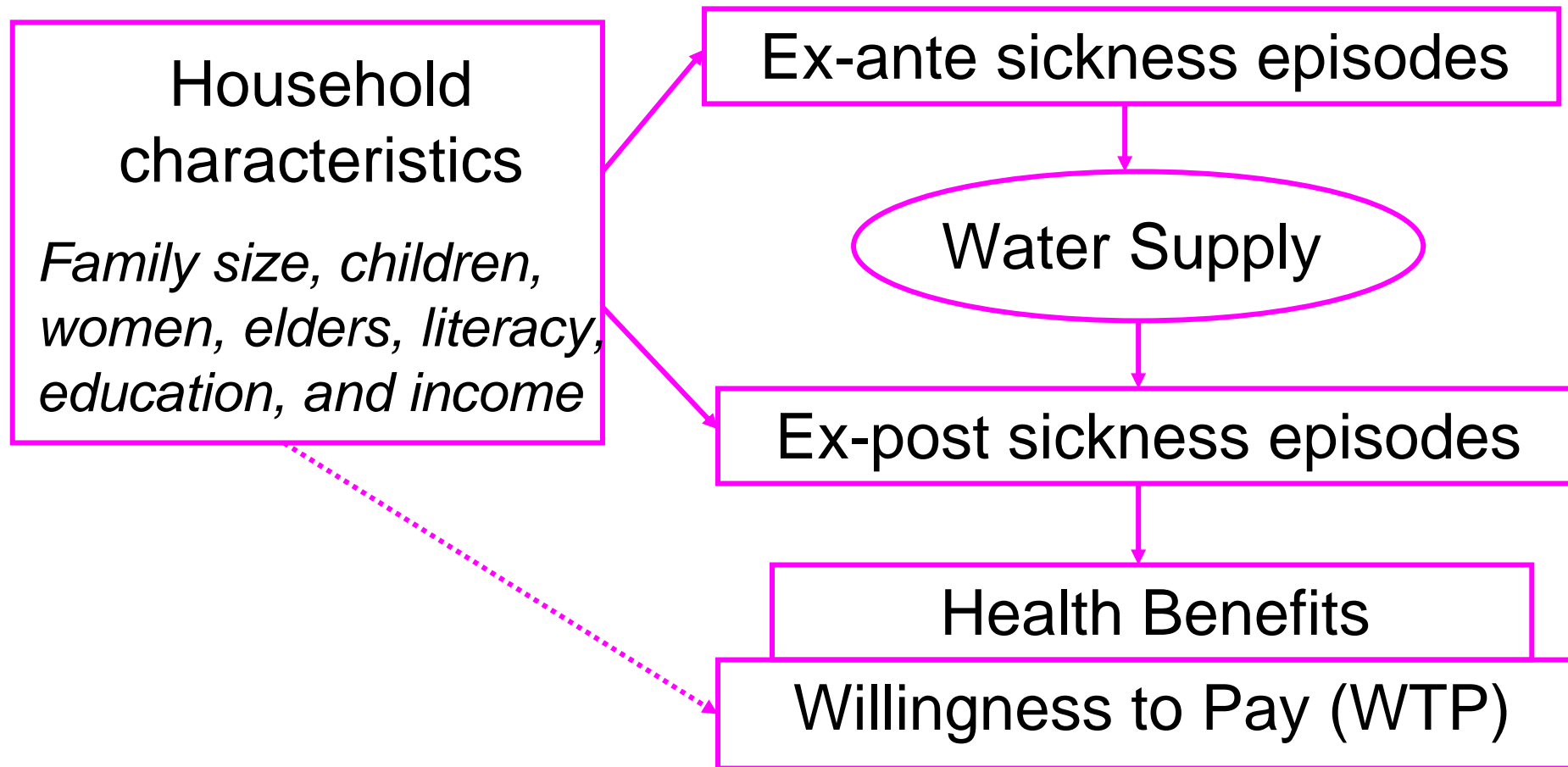




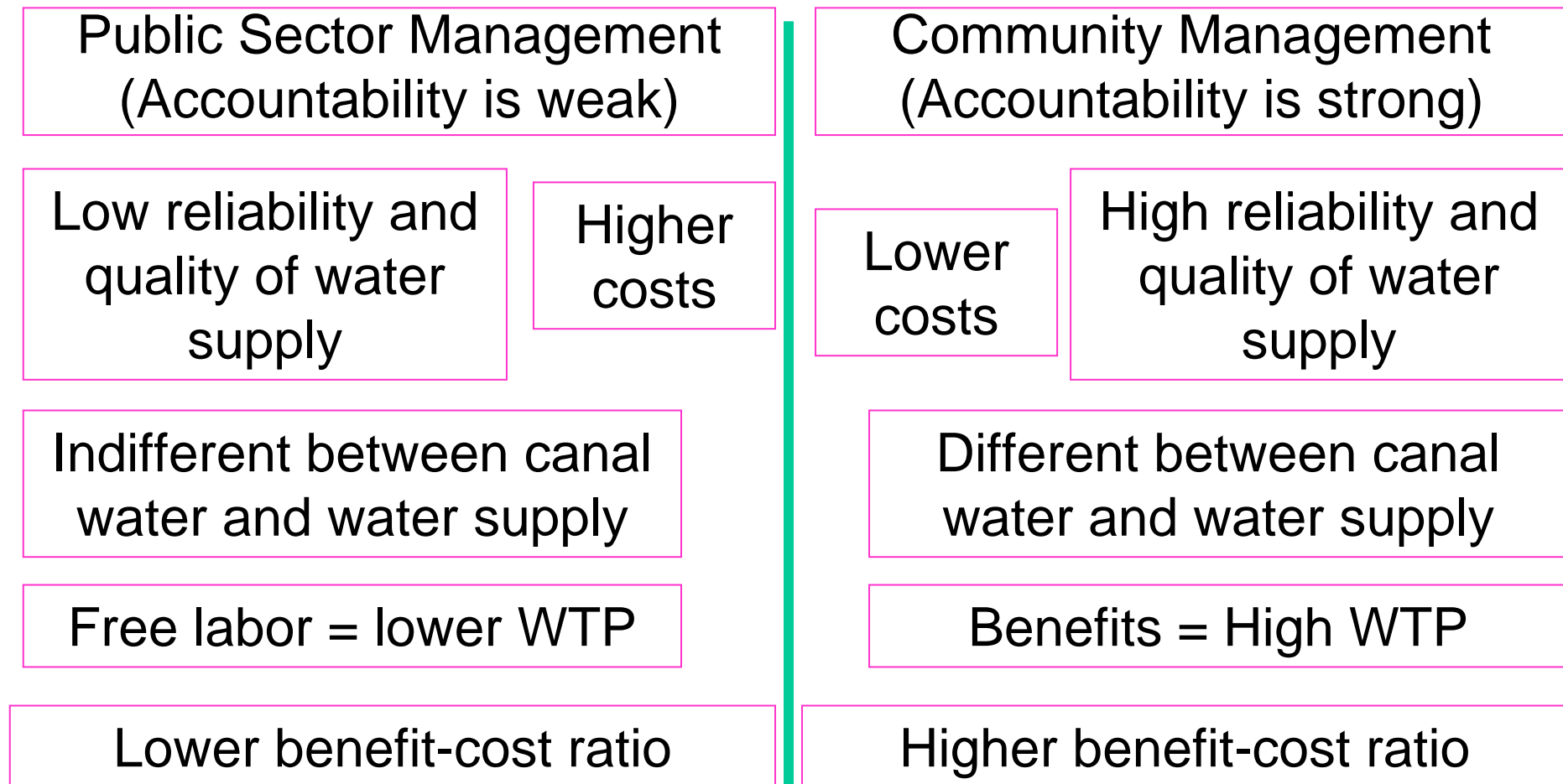




Assessing the Impact of Participation



Cause & Effect Analysis



Results of Previous studies on WTP

Study	Family size	Children	Women	Elders	Literacy	Income	Brackish
Altaf et al (1997)	+	-	-		+	+	+
Lauria et al. (1999)					+	+	
Choe et al. (1996)				-	-		

- I. 'Children' was a negative factor as they provide free labor for water collection. However; for health benefits, magnitude of reduced sickness depends on the number of children. Hence it could be a positive factor for WTP.
- II. 'Women' gain choice and voice in community projects and they are the primary beneficiaries. Moreover, they usually take care of sick children. Hence that also be a positive factor for WTP.
- III. Literate households can easily adapt hygienic practices, taught through health & hygiene education, and increase their health benefits resulting into higher WTP.

Basic Data from Selected Communities

Community	Family size	Children % in family	Women % in family	Elders % in family	Literate persons % in family	Average Income (Rs./m)	Reduced sick episodes %	WTP Rs./m US\$= Rs.50
Vidh	9.4	49.3	25.9	4.8	48.9	3416	47.2	58.5
Jarwar	8.4	44.4	18.5	5.6	43.1	3633	31.6	24.5
Umer	9.2	45.6	23.7	6.6	40.6	4283	32.3	41.3
Bhutto	8.1	46.7	17.8	4.8	42.5	4083	34.9	39.8
Khaskeli	8.7	39.3	23.3	9.6	52.7	4200	35.8	41.2

Results of WTP Analysis

Dependent (Ln WTP)		Constant=1.018 ***
Children (proportion)	3.749E-03***	R ² =0.606
Women (proportion)	7.534.E-03**	Shapiro-Wilk Test = 0.981
Elders (proportion)	5.036E-05	(p-value for SW Test=0.435)
Literacy (proportion)	1.233E-03**	
Ln (income per capita)	0.325***	
Brackish water zone	0.255***	
Sever brackish zone	0.412 ***	

Total number of sample (N) = 150

Mean = 41.07 rupees per month

Median = 40.00 rupees per month

Other Indicators of the Impact

Water Supply & Sanitation

Schemes are working since their management by the community organizations

Collection rate of the water/sanitation household fee is satisfactory and the routine costs are being met

There are very few complains about the quality and reliability of the service in comparison with the complains during the public sector management

Co-benefits

Community organizations also started other projects including community schools, medical clinics, and solid waste management.

In some cases micro-finance for the business, with special focus on the women, were also introduced

Traditional conflicts between various ethnic groups were reduced, as they started working together, and this platform provides them opportunity to resolve the various issues

Conclusion

- Community participation improves the quality and outreach of environmental services
- Proper planning and implementation process is required for promotion of community participation
- Top-down or government initiative can also work well.
- Community participation improves the financial viability and overall sustainability of the environmental services even in the poorer communities
- With the co-benefits, vicious circle can be transformed into virtuous circle